SIGN COMPONENTS MANUAL (SAM)

For use by manufacturers covered under UL's Listing and Follow-Up Services for Electric Signs (UXYT/7) and Field-Assembled Skeletal Neon Sign and Outline Lighting Systems (UZBL/7), and for use by UL Representatives performing UL Follow-Up Service inspection.

This Manual authorizes manufacturers to use certain UL Recognized Components, Classified Components and other non-Listed products*, when they are used under 1) the conditions expressed for the components in this Manual, 2) the installation instructions for the component, and 3) the requirements expressed in the Follow-Up Service Procedure, the associated Follow-Up and Inspection Instructions (FUII Pages) and the UL Standard for Electric Signs (UL 48).

*** Not covered by this manual, are non-Listed component materials that do not require additional authorization because requirements regarding their suitability and conditions of use are found in the UL Standard for Electric Signs (UL 48). Some examples are sheet metal, glass and thermoplastic diffusers (except those used to enclosure wiring and current-carrying parts).**

UL continuously updates this manual and makes the current version available. Updated versions of this manual are distributed periodically to all subscribers to UL's Listing Service and Follow-Up Services for Electric Signs (UXYT/7), Field-Assembled Skeletal Neon Sign and Outline Lighting Systems (UZBL/7), and subscribers to UL's Recognition Service and Follow-Up Services for Sign Accessories (UYMR2).

March 25, 2015 Edition

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Introduction

This document is issued by UL LLC and is intended only to be used in conjunction with the Follow-Up Service Procedure and the UL Standard for Electric Signs, UL 48, by Manufacturers covered under UL's Follow-Up Services and by UL Representatives conducting UL Follow-Up Service Inspections.

This Manual contains the names of companies authorized to use the Recognized Marking on or in connection with components which have been evaluated by UL and found to be in compliance with UL's requirements. These companies, as well as the manufacturers and submitters of the products, have entered into an Agreement with UL to use the Recognized Marking only on or in connection with products manufactured in compliance with UL's requirements. It should be noted that Recognized products of different makes or model designations are not necessarily equivalent in quality or performance.

Where products are identified as being Recognized or Classified, the appearance of catalog or model numbers or other specific product designations in this Manual signifies, among other things, that: 1) representative samples of these products have been submitted to UL and found to comply with the applicable requirements, and that 2) the manufacturer has been authorized to use the Recognized Marking on production that continues to comply with UL's requirements and is subject to UL's Follow-Up Service. Manufacturers are not obligated to use the Recognized Marking on all of their production, and products which do not bear the Recognized Marking are not required by UL to comply with UL's requirements. Accordingly, the appearance of a company's name or a specific product designation in this Manual does *not* in itself assure that the products so specified or identified are subject to UL's Follow-Up Service. The manufacturer's products are not subject to UL's Follow-Up Service unless they bear the Recognized Marking. Only those products bearing the Recognized and Classification Marking should be considered as covered by UL's Recognition, Classification and Follow-Up Service.

This Manual contains Component Recognitions in effect as of **March 25, 2015**. Records of Component Recognitions and Classifications issued or withdrawn after this date will be found in UL's Listing Information database or historical records. In addition, Component Recognition's and Classifications issued after this date will appear in future revisions of this Manual.

Use of the Sign Components Manual

UL's Follow-Up Service Procedure authorizes manufacturers covered under UL's Listing and Follow-Up Services for Electric Signs (UXYT/7), and Field-Assembled Skeletal Neon Sign and Outline Lighting Systems (UZBL/7) to apply the specified UL Listing Mark to products which comply with the requirements expressed in the Follow-Up Service Procedure, the associated Follow-Up and Inspection Instructions (FUII Pages) and the UL Standard for Electric Signs (UL 48). Compliance with these documents requires that manufacturers primarily use component products that are UL Listed. This Manual authorizes manufacturers to use certain UL Recognized Components, Classified Components and other non-Listed products, when they are used under 1) the conditions expressed for the components in this Manual, 2) the installation instructions for the component, and 3) the requirements expressed in the documents noted above.

This Manual is intended to assist manufacturers who may wish to use a Recognized Component or other non-Listed products in their UL Listed Electric Signs, Field Assembled Skeletal Neon Sign and Outline Lighting Systems. For all components, consult the Product Category Guide (General) Information preceding the individual component listings as well as the individual listings themselves for use conditions and ratings, as well as the required Recognized Marking.

This Manual provides the following:

- authorization to use all components listed when the component is used according to the requirements of the Follow-Up Service Procedure, the UL Standard for Electric Signs, UL 48, the associated Follow-Up and Inspection Instructions (FUII Pages), and the specified limitations or conditions of use;

- names of companies which are authorized to provide components bearing a Recognized Marking as of the date noted in the Introduction on page ii;

- information about the form and nature of the Recognized Marking to be used by a specific manufacturer or for a specific class or category of product;

- information relating to limitations or conditions of use applying to the component;

Component Recognitions are arranged alphabetically in this Manual by product category and, when included, individual Recognitions are arranged alphabetically by company name under each category. Products which are neither Listed nor Recognized by UL are grouped under the category titled "Miscellaneous" and identified by the initials MISC, and are arranged alphabetically by their common name.

When individual Recognitions are not listed following the category title, refer to the UL's Recognized Component Directory for names of companies authorized to use the Recognized Marking and for components that are authorized to bear the Recognized Marking. The products are to be marked by Company name or UL File Number and catalog designation and, when Recognized for use in Canada, Recognized Component Mark for Canada, c.

When included, Product Category Guide (General) Information at the beginning of each product category, except MISC, provides important information regarding the scope and limitation of the Component Recognitions and a general description of the Recognized Marking authorized for Component Recognition in that category. Unless otherwise noted, the limitations and conditions of use provided in the Product Category Guide (General) Information are to be applied to all components having Recognition in that category.

Some companies may be authorized to use a trade name or trademark for identification of Recognized Components in place of their company name, in such cases, refer to UL's Recognized Component Directory for a reproduction of the trade name or trademark.

Products listed under the category identified by the initials MISC may be produced by any manufacturer. Such products are neither UL Listed nor Recognized by UL, and, UL in no way has established Agreements with the manufacturers of such products that may be used as a basis to insure their uniformity or performance.

All components must be used for only the purpose intended by their manufacturer and as may be identified in this Manual, and under the conditions of use identified in this Manual. However, even when the conditions of use and all other applicable requirements are met, UL reserves the right to evaluate specific constructions incorporating these products and determine suitability.

FLEXIBLE METAL CONDUIT (DXUZ2)

Shall be used within a metal sign body and polymeric sign face.
Not to be relied upon for grounding or bonding.

GASKETS AND SEALS (JMLU2) & GASKET MATERIALS (JMST2)

1. Suitable for use in an outdoor sign as a weather seal, such as for a door or removable cover of a sign body or enclosure.
2. Adhesive alone is not suitable to secure a gasket unless the adhesive has been separately authorized for that application.
3. A gasket material designated to be used in a UL 1598, UL 508, UL 50 application is considered to be suitable for use in an outdoor sign.

MISCELLANEOUS NON-RECOGNIZED DEVICES (MISC)

"Christmas Tree" Fasteners

1. Only suitable for use in indoor signs.
2. Only suitable to secure lightweight decorative parts or neon tube supports.

Velcro

1. Only suitable for use in indoor signs.
2. Not suitable for completing an electrical enclosure.
3. Adhesive alone is not suitable to secure Velcro to non-flat surfaces when Velcro is used to secure parts weighing more than 4 lbs.

INSULATING BUSHINGS (NZMT2)

1. Suitable for use as mechanical protection of insulation on low-voltage wiring.
2. Suitable for use as low-voltage wiring strain relief. The strain relief test shall be conducted as described in UL48 Section 34 for each new unit design. The manufacturer shall keep a record of each test. The Field Representative shall witness the test.

NEON TRANSFORMERS & NEON POWER SUPPLIES (PWIK2, PWIK8)

This category covers neon transformers and power supplies for use with end products employing gas-filled glass tubing identified as neon or electric discharge tubing.

CONDITIONS OF ACCEPTABILITY

Each Recognized Component has Conditions of Acceptability that define the parameters of use for the component in an end-use product. Conditions of Acceptability are identified in the individual Recognitions by one or more letters appearing next to the model designation or catalog number under the heading "Conditions of Acceptability." The letters that appear identify which of the Conditions of Acceptability apply to the particular model or catalog number. Where the Conditions of Acceptability require testing or are unique to the component, the letters "TR" appear next to the model designation or catalog number under the heading "Conditions of Acceptability" and reference will need to be made to the individual Recognition Report.

- **A** - Intended for use only in applications that comply with the requirements of the end product.
- **B** - Suitable for use only indoors.
- **C** - Suitable for use outdoors where protected from rain, snow and water spray.
- **D** - Suitable for use only where the neon tubing between the neon supply electrode receptacles is either; a) one continuous length of tubing or b) multiple lengths of tubing interconnected only with Listed more than 1000 V lampholders (see OJOV) of the lamp-to-lamp type. Listed or Recognized Component Sign Accessories (UYMR/2) and Listed Gas Tube Sign and Ignition Cable (GTO Cable) (ZJQX) are not acceptable for interconnecting neon tubing lengths in any part of the secondary circuit.
- **E** - Suitable for use only where contained in an end-use product compartment that is suitable as an electrical enclosure.
- **F** - Suitable for use only where made inaccessible to contact by users during user maintenance while energized.
- **G** - Provided with connection means suitable for factory wiring only; not for field wiring.
- **H** - Not provided with a means of connection in accordance with NFPA 70, "National Electrical Code," therefore, suitable means needs to be provided in the end-use product.
- **TR** - Requires testing or other evaluation in the end product; refer to individual Recognition Report.

PRODUCT MARKINGS

Transformers and power supplies covered under this category are marked "Indoors," "Outdoors," "Weatherproof" or "WP." Products marked "Indoors" are only suitable for use indoors, and products marked "Outdoors" are suitable for use indoors or outdoors sheltered from rain, snow and the like by being located within a sign body, enclosure and the like. Products marked "Weatherproof" or "WP" do not need to be additionally sheltered from rain, snow and the like.
Transformers and power supplies covered under this category are marked with a Type number from 1 to 8 in association with the location designation "Indoors," "Outdoors," "Weatherproof" or "WP." These Type numbers identify particular construction features associated with a particular transformer or power supply as identified below:

- **Type 1** - Open core-and-coil neon transformer or unenclosed neon power supply with body of the unit and input and output terminals or leads that should be enclosed in accordance with end-product requirements.
- **Type 2** - Neon supply with input and output terminals or leads that should be enclosed in accordance with end-product requirements.
- **Type 3** - Neon supply with input terminals or leads enclosed and intended for connection to a permanent wiring system, and with output terminals or leads that should be enclosed in accordance with end-product requirements.
- **Type 4** - Neon supply with input and output terminals or leads enclosed and intended for connection to a permanent wiring system.
- **Type 5** - Neon supply with input terminals or leads enclosed and intended for connection to a permanent wiring system and provided with integral receptacles for output connection.
- **Type 6** - Cord-connected neon supply provided with integral receptacles for output connection.
- **Type 7** - Cord-connected neon supply with output terminals or leads that should be enclosed in accordance with end-product requirements.
- **Type 8** - Cord-connected neon supply with enclosed output terminals or leads.

ALLANSON INTERNATIONAL INC E39591

33 CRANFIELD RD
TORONTO, ONTARIO CANADA M4B 3H2

Neon Power Supply, Indoor Type 7, Cat. No. SS935B-18.

Transformers, Outdoor Type 5

Applicable Conditions of Use - C, D, E.

Cat. Nos. 960EK120, 960EK277, 960EK347, P960EK120, P960EK277, P960EK347, 960EKF120, 960EKF277, 960EKF347, P960EKF120, P960EKF277, P960EKF347, 7560EK277, 7560EK347, P7560EK120, P7560EK277, P7560EK347, 7560EKF277, P7560EKF120, P7560EKF277, P7560EKF347, 660EK120, 660EK277, 660EK347, P660EK120, P660EK277, P660EK347, 660EKF120, 660EKF277, 660EKF347, P660EKF120, P660EKF277, P660EKF347, 560EK120, 560EK347, P560EK120, P560EK277, P560EK347, 560EKF120, 560EKF347, P560EKF120, P560EKF277, P560EKF347, 460EK120, 460EK277, 460EK347, P460EK120, P460EK277, P460EK347, 460EKF120, 460EKF277, 460EKF347, P460EKF120, P460EKF277, P460EKF347, 360EK120, 360EK277, 360EK347, P360EK120, P360EK277, P360EK347, 360EKF120, 360EKF277, 360EKF347, P360EKF120, P360EKF277, P360EKF347.

Transformers, Outdoor Type 5

Applicable Conditions of Use - C, D, E.

Cat. Nos. Mini 330EK, Mini 430EK, Mini 530EK.

Power Supplies, Indoor Type 7

Applicable Conditions of Use - A, C, G.

Cat. No. SS935B-18,Cat. No. 630FNI.

Transformers, Outdoor Type 2

Applicable Conditions of Use – A, B.

Cat. Nos. 330CI120, P330CI120, 330CI277, P330CI277, 330CI347, P330CI347, 430CI120, P430CI120, 430CI277, P430CI277, 430CI347, P430CI347, 530CI120, P530CI120, 530CI277, P530CI277, 530CI347, P530CI347, 630CI120, P630CI120, 630CI277, P630CI277, 630CI347, P630CI347.

Transformers, Outdoor Type 4

Applicable Conditions of Use – A, B.

Cat. Nos. 330FI120, P330FI120, 330FI277, P330FI277, 330FI347, P330FI347, 430FI120, P430FI120, 430FI277, P430FI277, 430FI347, P430FI347, 530FI120, P530FI120, 530FI277, P530FI277, 530FI347, P530FI347, 630FI120, P630FI120, 630FI277, P630FI277, 630FI347, P630FI347.

1. The secondary circuits of these transformers are not to be interconnected in series or parallel.
2. The secondary circuits of these transformers are not to be connected to ground.

*May or may not be provided with a suffix “T”.

EVERBRITE LLC E122656

4949 S 110th
PO BOX 20020
GREENFIELD, WI 53220

Transformers, Outdoor Type 7.

Applicable Conditions of Use - A, C, G - Series 2612, Model 800-0128; Indoor Type 2, Series "NuAUX", Models 800-0174, 800-0175, 800-0176, 800-0177; Series 3612, Models 800-0232, 800-0233

1. The "Animotion" system consists of the following components: Series 2612, Model 800-0128 or Series 3612, Models 800-0232 or 800-0233, Series "NuAUX," Models 800-0174, 800-0175, 800-0176, and 800-0177, and Animotion Controller Model 800-0066, 800-0067, or 800-0068.
2. Series "NuAUX," Models 800-0174, 800-0175, 800-0176, and 800-0177 are only for use with Series 2612, Model 800-0128 or Series 3612, Models 800-0232 and 800-0233.
3. Each Class 2 output on Series 2612 Model 800-0128 and Series 3612, Models 800-0232 and 800-0233 shall not exceed 2.4 A.
4. A maximum of two “NuAux” transformers may be connected directly to each Model 800-0128, Model 800-0232 or Model 800-0233 Class 2 output.

FRANCE A SCOTT FETZER CO E10092

726 FAIRVIEW BLVD W
PO BOX 300
FAIRVIEW, TN 37062

Power Supplies, Indoor Type 7
Applicable Conditions of Use - A, C, G.
Cat. Nos. 6000-FE1G-2, 6000-FE1G-D2, 6000-FS1G-2, -FS1G-D2, 9000-FE1G-2, 9000-FS1G-2, 9000-FE1G-D2, 9000-FS1G-D2, 12000FE1G-D2, 12000FS1G-D2.
1. Power supply cord is a minimum of 18 in. in length. Suitability of length of power supply cord to be evaluated in end use product.

Transformers, Outdoor Type 5
Applicable Conditions of Use - C, D, E.
Cat. Nos. 3030 PBKMG 734, 3030 PBKMG 751, 4030 PBKMG 734, 4030 PBKMG 751, 5030 PBKMG 734, 5030 PBKMG 751.

Transformers, Outdoor Type 5
Applicable Conditions of Use - A, C, D.
Cat. Nos. 3030 PBKMAG 51, 4030 PBKMAG 51, 4060 PBKMAG 51, 4060 PBKMAG 51 277, 5030 PBKMAG 51, 5030 PBKMAG 51 277, 5060 PBKMAG 51, 5060 PBKMAG 51 277, 6030 PBKMAG 51, 6030 PBKMAG 51 277, 6060 PBKMAG 51, 6060 PBKMAG 51 277, 7530 PBKMAG 51, 7530 PBKMAG 51 277, 7560 PBKMAG 51, 7560 PBKMAG 51 277, 9030 PBKMAG 51, 9030 PBKMAG 51 277, 9060 PBKMAG 51, 9060 PBKMAG 51 277.

Transformers, Outdoor Type 5
Applicable Conditions of Use - C, D, E.
Cat. Nos. 3030 PBKMG 51, 3060 PBKMG 51, 4030 PBKMG 51, 4030 PBKMG 51 277, 4060 PBKMG 51, 4060 PBKMG 51 277, 5030 PBKMG 51, 5030 PBKMG 51 277, 5060 PBKMG 51, 5060 PBKMG 51 277, 6030 PBKMG 51, 6030 PBKMG 51 277, 6060 PBKMG 51, 6060 PBKMG 51 277, 7530 PBKMG 51, 7530 PBKMG 51 277, 7560 PBKMG 51, 7560 PBKMG 51 277, 9030 PBKMG 51, 9030 PBKMG 51 277, 9060 PBKMG 51, 9060 PBKMG 51 277, 12030 PBKMG 51, 12030 PBKMG 51 277, 15030 PBKMG 51, 15030 PBKMG 51 277.

Transformers, Outdoor Type 5
Applicable Conditions of Use - C, D, E.
Cat. Nos. 4030 PBKMCG 51, 4060 PBKMCG 51, 5030 PBKMCG 51, 5060 PBKMCG 51, 6030 PBKMCG 51, 6060 PBKMCG 51, 7530 PBKMCG 51, 7560 PBKMCG 51, 9030 PBKMCG 51, 9060 PBKMCG 51.

Transformers, Outdoor Type 5
Applicable Conditions of Use - C, D, E.
Cat. Nos. 4030PBKMG34, 4060PBKMG34, 5030PBKMG34, 5060PBKMG34, 6030PBKMG34, 6060PBKMG34, 7530PBKMG34, 7560PBKMG34, 9030PBKMG34, 9060PBKMG34.

Transformers, Outdoor Type 5
Applicable Conditions of Use - C, D, E.
Cat. Nos. 4030PBKMCG34, 4060PBKMCG34, 5030PBKMCG34, 5060PBKMCG34, 6030PBKMCG24, 6060PBKMCG34, 7530PBKMCG24, 7560PBKMCG34, 9030PBKMCG34.

Transformers, Indoor Type 1
Applicable Conditions of Use - A, B, E, F, H.
Cat. Nos. 6025 SEG-U and 3020 SEG-U.
1. The need to perform a Strain Relief test shall be determined in the end product.

HEICO LIGHTING, DIV OF EMD TECHNOLOGIES CO — E145519
400 RUE DU PARC
ST EUSTACHE, QC J7R 0A1 CANADA

Power Supply, Indoor, Type 7
Applicable Conditions of Use - A, C, G.
Models Platinum-5000-20-SPT.

Tradename "HEICO lighting" or trademark

VENTEX TECHNOLOGY LLC — E187585
1020A Idlewilde Blvd
Columbia, SC 29201

Neon Power Supply, Indoor Type 7
Applicable Conditions of Use - A, C, G - Model VT9030-120C, VT9030D-120C, VT9030F-120C, "Y" Cord - Model WA0022, Accessory for use with Models VT9030-120C, VT9030D-120C, VT9030F-120C.

COMPONENT SIGNS (UXYT2)

COOPER WHEELOCK INC — E318141
273 BRANCHPORT AVE
LONG BRANCH, NJ 07740

LED message readout display sign, Cat. Nos. Series LEMD.
1. This product is only suitable for connection to a UL Listed or Recognized Class 2, 24 Volt dc or less power source.
2. This product have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited supplies.
3. This Class 2, low voltage, low energy LED controllers when connected to a Class 2 circuit, are not to draw a total wattage of greater than the secondary or output rating of the Class 2 circuit.
4. This product is suitable for use in indoor, dry locations only.

POLYMER COMPOSITE ASIA SDN BHD — E310995
ARAB-MALAYSIAN INDUSTRIAL PARK

PLOT 3266 JALAN AM 1
71800 NILAI, NEGRI SEMBILAN MALAYSIA

LED Light Bar, Cat. Nos. RED BAR.

1. These products are only suitable for connection to a Class 2 power source rated max. 60 V DC or less for indoor applications and rated max 30V dc or less for outdoor application. 30 Vrms and 42.4 V peak in dry and damp locations, or 15 Vrms and 21.2 V peak in wet contact locations.
2. When units are connected to a Class 2/"LPS" circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2/"LPS" supply.
3. These products are suitable for use in dry, damp and wet locations.
4. These products described in this section have a minimum length of 1.4 m (4.59 ft) and a maximum length of 2.7 M (8.86 ft) per manufacture installation instructions.
5. The LED Light Cat. No. Red Bar has not been evaluated as enclosure or diffuser. Suitability shall be determined in the end use product.
6. When these products are used in applications other than signs or Outline lighting, the need to conduct a temperature test shall be considered.
7. These Class 2 LED modules are only suitable for use in Canada, when marked with Class 2 input voltage of less than 42.4 V DC rating.
8. Spacings between low voltage wiring and uninsulated live parts of the LED Light Cat. No. Red Bar and any line voltage in the end product shall comply with the spacing requirements in the end use application.

PROCESS DISPLAYS CO **E361442**
7125 SANDBURG RD
MINNEAPOLIS, MN 55427

Electric Signs, Class 2, Light Box Assembly; Model No. AS2.0.

1. This product is only suitable for connection to a UL Listed or Recognized Class 2, 24 Volt dc or less power source.
2. This product has not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited supplies.
3. This product is suitable for use in indoor, dry locations only.
4. The suitability of the mounting means is to be determined in the final application.

RTC INDUSTRIES INC **E164925**
2800 GOLF RD
ROLLING MEADOWS, IL 60008

LED Portable Signs, Model Nos. L-i-8-3.8, L-i-14-4.5, L-i-19-8.5, L-i-31-13.8.

1. These products shall be used within its Recognized ratings as specified above.
2. These units are only suitable for use in indoor Portable Electric Signs.
3. The units were submitted and tested for a maximum manufacturers recommended ambient of 25ºC. Consideration should be given for a temperature test when spaced closer than 1 in. end-to-end or 4 in. in any other direction.
4. Do not exceed 300 Watts total power and 3Amps when interconnecting adjacent LED Light Fixtures.
5. Suitable grounding is considered necessary for sign application and shall be evaluated in the end use product evaluation.
6. The product is suitable for use in dry or damp locations.
7. The maximum distance between interconnected LED Light Fixture, must not be more than 2m (79 in.)
8. Suitability of the cord length shall be determined in the end use application.

LED Edge Lit Panels, Model Nos. LEP, LDP Series.

1. These LED Modules are only intended for use with a LPS or Class 2 output power sources.
2. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. These products shall be used within its Recognized ratings as specified above.
4. These LED Modules are suitable for use in dry and damp locations.
5. These LED Modules are not provided with a mounting means. The suitability is to be determined in end product use.
6. The suitability of supply means shall be determined in end product.
7. The panel shall not function as an enclosure in the end use.

LED Strip, Models SL-xxV-YY-zzzK where xx is 12 or 24, YY is 12, 24, 36, or 48, and zzzz is 2700, 3000,3500, 4000, 4500, 5000, 5700, or 6500.

1. These LED strips are only intended for use with a LPS or Class 2 output power sources.
2. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. These LED strips are suitable for use in dry and damp locations.
4. These LED strips are not provided with a mounting means. The suitability is to be determined in end product use.
5. The suitability of supply means shall be determined in end product.
6. The LED strip shall not function as an enclosure in the end use.

CHANGING MESSAGE SIGNS (UYFS2, UYFS8)

A component is suitable for the end-use product, if the Conditions of Acceptability identified by the letters (A, B, C, etc.) next to the model designation or catalog number in the individual Recognitions. The following is a list of Conditions of Acceptability that may be applicable to each component covered under this category.

A. Suitable for use outdoors when so designated and only where located to prevent rain, snow and the like from coming into direct contact as determined by the Water Exclusion Test in UL 48.

B. Suitable for use only when contained in an end-product compartment that is a complete electrical enclosure.

C. Suitable for use only when spaced from heat producing components at least:
1. One inch from transformers, ballast, high output fluorescent electrodes and electric discharge tubing;
2. Two inches from incandescent and HID lampholders;
3. Nine inches from incandescent and HID lamps rated 250 watts or less; and,
4. Twelve inches from incandescent and HID lamps rated 251-400 watts.

D. Suitable for use only when made inaccessible to contact by users during user maintenance while energized.
E. Not provided with supply and/or output connection means suitable for field wiring.
F. These components are suitable for use with no spacing between themselves.
Z. Refer to additional Conditions of Acceptability included in the individual Recognition report for this component.

CHAINZONE TECHNOLOGY CO LTD E302683

NANXIN YI RD
GUICHENG
NANHAI DISTRICT
FOSHAN, GUANGDONG CHINA

Changing Message Sign, Models MO13, M016, MO18, MO20, MO25, MO32, MO40 may be followed xxx, where xxx may be replaced by any alphanumeric characters.

Applicable Conditions of Use – A, B, E, Z.

The following are the additional "Z" conditions of use:
1. The materials provided in the module are suitable for use in permanently connected signs when a suitable enclosure around the sides of the LED module is provided in the end use application. The operating temperature of the polymeric materials and printed wiring board shall not exceed 110□C in the end product.
2. Wiring and means of connection between modules shall be investigated in the end product requirements.
3. The power supply to power the LED module is to be provided in the end product. Therefore, testing of these Modules will need to be conducted in the end product.

Changing Message Sign, Models VFO Series, may be followed by XX-YYYYY-ZZZZZZZ, where these can be any alphanumeric characters.

Applicable Conditions of Use – Z.

The following are the additional "Z" conditions of use:
1. The side of the LED module is rated V0. A suitable enclosure around the side of the LED module shall be considered in the end product.
2. Acceptability for multiple connections (daisy chain) not exceeding 16 A shall be determined by the end product requirements.
3. This product was tested for use at room ambient temperature of 25°C. Testing was conducted in the following conditions:
   a. Unit operating with ventilation fans operating.
   b. Unit operating with ventilation fans disconnected.
   c. Unit operating with ventilation fans operating and branch circuit loaded with 16 Amps resistive load simulating through wiring.
   At higher ambient temperatures consideration for conducting temperature shall be considered by the end product requirements. The temperature of the polymeric housing shall not exceeding 115°C.
4. The suitability of the mounting means shall be determined in the end use.
5. The Rain Test per UL 879 was performed with the product in vertical upright position. Suitability for outdoor use when installed shall be considered by the end product requirements.
6. The Abnormal Test (Component Fault and Locked Fan) was performed on the product. Consideration to perform additional components for Fault Test shall be determined by the end product requirements.

DAEHAN ULTRAVISION CO LTD E205267

596-3 JANG HANG-DONG, ILSAN-KU
KOYANG-SHI
KYONGGI-DO 411-834, KOREA

LED Changing Message Sign Modules, Cat. Nos. DE-320-UP, DW-320-UP.

Applicable Conditions of Use – E, Z.

The following are the additional "Z" conditions of use:
1. The suitability of these components must be evaluated in the end product. This includes the applicable tests, such as input, Temperature, Leakage Current or Dielectric Voltage Withstand and Abnormal Tests.
2. The materials provided in the module are suitable for use in permanently connected signs when the operating temperature of the polymeric materials and printed wiring board do not exceed 105°C.
3. No wiring is provided with these modules.
4. These modules are suitable for use in outdoor signs when the sign has been determined to comply with the Water Exclusion Test in UL 48.

LED Changing Message Sign Modules, Cat. Nos. DW-160-UP, DW-160-UF, DW-500-UP.

Applicable Conditions of Use – E, Z.

The following are the additional "Z" conditions of use:
1. The suitability of these components must be evaluated in the end product. This includes the applicable tests, such as input, Temperature, Leakage Current or Dielectric Voltage Withstand and Abnormal Tests.
2. The materials provided in the module are suitable for use in permanently connected signs when the operating temperature of the polymeric materials and printed wiring board do not exceed 105°C.
3. No wiring is provided with these modules.
4. These modules are suitable for use in outdoor signs when the sign has been determined to comply with the Water Exclusion Test in UL 48.

FUTUREMEDIA DISPLAYS INC E215616

#800 2120 HUTTON DR

CARROLLTON, TX 75006

Changing Message Sign, Models FMD followed by 9, 12, 15, 18 or FMD24 may be followed by suffixes.

Applicable Conditions of Use – A, B.

Changing Message Sign, Models FMTNNH-AAC-X-GG where "T" can be any letter, "NN" can be any number from 0 to 9, "H" can be blank or any alphanumeric character, "AA" can be any letter, "C" can be any letter, "X" can be blank, 3, 5, 7 or 9, and "GG" can be blank or any alphanumeric character.

Applicable Conditions of Use – A, B.

OLSEN GAMING INC, DBA SPECTRONIX E257157

SUITE G
6285 S MOJAVE RD
LAS VEGAS, NV 89120

Changing Message Sign Module, Cat. Nos. Model LED "Dot Matrix Display XX Series", where XX may be replaced by any letters of alphabet from A to Z or numbers from 0 to 9 or combination.

Applicable Conditions of Use – Z.

The following are the additional "Z" conditions of use:

1. These products are not provided with enclosure. The suitability of electrical enclosure shall comply with enclosure requirements of end product Standard.
2. No temperature test is considered necessary when this product is provided in an enclosure box with dimensions not less than 90 by 22 by 21 cm.
3. Suitable for use only when all live parts made inaccessible to contact by users during user maintenance while energized.
4. Suitable for use in dry location only.
5. The products shall be grounded in the end product.
6. Power supply spacing to other heat producing components shall be minimum 4 inches when minimum spacing to sidewalls and top of enclosure is kept at minimum 2 inches.
7. Power supply spacing to other heat producing components shall be minimum 2 inches when minimum spacing to sidewalls and top of enclosure is kept at minimum 6 inches.

OPEN NV E243613

GELAAGSTRAAT 53
9150 RUPELMONDE
BELGIUM

LED Display Unit, Cat. Nos. Zephyr_04SSRU, Zephyr_04FSRU, Zephyr_04SDRU, Zephyr_04FDRU, Mistral_15SSRU, Mistral_15FSRU, Mistral_15SDRU, & Mistral_15FDRU with suffix "_wwww.hhhh.ddd".

Applicable Conditions of Use – A, C.

OPTEC DISPLAYS INC E204188

716 S NOGALES ST
CITY OF INDUSTRY, CA 91748

LED Display Unit, Cat. No. 24VGABOXZZZZ2.1ZZZ

Applicable Conditions of Use – Z.

The following are the additional "Z" conditions of use:

1. The suitability of this controller to control a changing message sign shall be determined in the end use.

PALTRONICS INC E250835

9246 TRINITY DR.
LAKE IN THE HILLS, IL 60156

Changing Message Sign Main Power Supply, Controller, Alternate Controller and Sign Display

Cat. Nos. SP320-5N-CASE-R1, CTRL580-IGT, CTRL580-PAL, & DP48X6-4 F.

Applicable Conditions of Use – Z.

The following are the additional "Z" conditions of use:

1. The materials provided in the module are suitable for use in cord connected indoor use signs.
2. The power supply and controller have been evaluated for use in a indoor dry location.
3. The suitability of these components must be evaluated in the end product. This includes the applicable tests, such as input, Temperature, Leakage Current or Dielectric Voltage Withstand and Abnormal Tests.
4. The insulation system for the transformer in the power supplies is Class A.

SHENZHEN LIANTRONICS CO LTD E334083

1-5/F 4 BLDG ANTONGDA
INDUSTRIAL ZONE 3RD LIUXIAN RD
68 BLK, BAO'AN DISTRICT
SHENZHEN, GUANGDONG 518101 CHINA

LED Changing Message Sign Unit, Model No. Models PH16, and PH25. Indoor LED Changing Message Sign PH5.08.

Applicable Conditions of Use E, F, Z.

The following are the additional "Z" conditions of use:

1. The suitability of the mounting means shall be determined in the end use.
2. The devices are for connection to a 20 A maximum branch circuit.
3. The suitability of the module data and power supply connections shall be determined.

4. The need for a temperature test of the complete sign when provided with an additional enclosure should be determined.
5. The Model PH-5.08 modules are suitable for indoor use only.
6. The Model PH-16 and PH-25 modules are for outdoor use but can only have the sign face exposed to weather. The back of the sign assembly shall be housed to prevent water entry as determined by the Water Exclusion Test.
7. Suitability of gaskets between adjacent modules should be determined.

YOUNG ELECTRIC SIGN CO **E176781**
5119 S CAMERON ST
LAS VEGAS NV 89118

Changing Message Sign Module, Cat. No. Price Changer.

Applicable Conditions of Use – Z.

The following are the additional "Z" conditions of use:

1. Suitable for use only when all live parts made inaccessible to contact by users during user maintenance while energized.
2. Front area of sign suitable for use in wet location only, the rest of the unit including the supply connection suitable for dry and damp locations only.
3. When installed, the back of sign shall be recessed to prevent any exposure to wet location or rain.
4. Power supply spacing to other heat producing components shall be minimum 4 inches when minimum spacing to sidewalls and top of enclosure is kept at minimum 2 inches.
5. Power supply spacing to other heat producing components shall be minimum 2 inches when minimum spacing to sidewalls and top of enclosure is kept at minimum 6 inches.
6. The device and wirings are intended for use in a suitable electrical enclosure which prevents mechanical abuse, such as impact, terminal stress or current interruption.
7. Bonding test should be considered in the end product investigation. The Power Supply proper bonding to the end-product main protective earthing termination is required.

Changing Message Sign Module, Cat. No. Booter Model NP-02.

Applicable Conditions of Use – Z.

The following are the additional "Z" conditions of use:

1. These components should be installed in accordance with the manufacturer's installation instructions.
2. In the end product, the spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
3. These products are suitable for use in dry locations.
4. These power supplies are rated as the following:

Model Designation	Input Voltage (Vac)	Max. Input Current (A)	Input Frequency (Hz)
Booter model NP-02	120	12	60

SIGN ACCESSORIES (UYMR2, UYMR8)

3A COMPOSITES USA INC **E101623**
208 W 5TH ST
PO BOX 507
BENTON, KY 42025

Structural Panel, designated "ALUCOBOND" made 3 mm, 4 mm or 6 mm of polyethylene laminated on two sides with aluminum.

1. This product is intended as an outer decorative covering, has not been investigated for use as an electrical enclosure.
2. The use of this product is limited to only decorative and sign body applications.
3. The suitability of the "fit" of the face material and the "secureness" of the clamp mechanisms on the sign, will be judged in the end use sign application.
4. This product is acceptable for use in dry, damp and wet locations
5. The water exclusion must be determined in the end product.
6. This product suitable for use in terminating conduit.
7. All components other than neon standoffs or small decorative parts must be secured to the panel by bolts, nuts and washers of minimum 7/16-in diameter.
8. All exposed edges of a structural panel, including drilled holes, etc., are be treated with two coats of outdoor paint or wood coating.
9. A letter made from a structural panel shall have at least two points of support and shall have no point more than 10 in from a point of support.
10. These panels shall be attached with screws, bolts or rivets to the structural framework so as to cause bonding to both conductive surfaces to ground, and to adequately secure each panel in place.
11. ALUCOBOND" panels provided with letter cutouts, in which 1/8 in. thick thermoformed acrylic shaped letters are pushed through the panel cutout, have an additional 1/8 in. flange around the periphery to prevent the acrylic face from falling out of the sign enclosure. These acrylic letters are mechanically attached to the backside of the "ALUCOBOND" on 1/4-20 threaded studs. The studs are swaged or welded to a 2 by 2, No. 16 gauge perforated galvanized steel plate. The stud assembly is, in turn, secured with bolts, screws, rivets or welding, to the "ALUCOBOND" panels.

Structural Panel, designated "DIBOND" made 2 mm, 3 mm, or 4 mm of polyethylene laminated on two sides with aluminum.

1. This product is intended as an outer decorative covering, has not been investigated for use as an electrical enclosure.
2. The use of this product is limited to only decorative and sign body applications.
3. The suitability of the "fit" of the face material and the "secureness" of the clamp mechanisms on the sign, will be judged in the end use sign application.
4. This product is acceptable for use in dry, damp and wet locations
5. The water exclusion must be determined in the end product.

6. This product suitable for use in terminating conduit.
7. All components other than neon standoffs or small decorative parts must be secured to the panel by bolts, nuts and washers of minimum 7/16-in diameter.
8. All exposed edges of a structural panel, including drilled holes, etc., are be treated with two coats of outdoor paint or wood coating.
9. A letter made from a structural panel shall have at least two points of support and shall have no point more than 10 in from a point of support
10. These panels shall be attached with screws, bolts or rivets to the structural framework so as to cause bonding to both conductive surfaces to ground, and to adequately secure each panel in place.

Structural Panel, designated Sintra Material.

1. This product is intended as an outer decorative covering, has not been investigated for use as an electrical enclosure.
2. The use of this product is limited to only decorative and sign body applications.
3. The suitability of the "fit" of the face material and the "secureness" of the clamp mechanisms on the sign, will be judged in the end use sign application.
4. This product is acceptable for use in dry, damp and wet locations
5. The water exclusion must be determined in the end product.
6. This product suitable for use in terminating conduit.
7. All components other than neon standoffs or small decorative parts must be secured to the panel by bolts, nuts and washers of minimum 7/16-in diameter.
8. All exposed edges of a structural panel, including drilled holes, etc., are be treated with two coats of outdoor paint or wood coating.
9. A letter made from a structural panel shall have at least two points of support and shall have no point more than 10 in from a point of support
10. These panels shall be attached with screws, bolts or rivets to the structural framework so as to cause bonding to both conductive surfaces to ground, and to adequately secure each panel in place.
11. The proximity of heat producing parts (i.e: transformers, power supplies, ballasts, electrode receptacles, etc.) to this material shall comply with the requirements of UL 48.

3M COMPANY 3M COMMERCIAL GRAPHICS DIV E65361
BLDG 207-BW-09
3M CENTER
ST PAUL MN 55144

Flexible sign face material, **Flexible sign face** systems for use in electric signs designated 3M™ Panaflex™ Awning and Sign Facing 945 GPS; 3M™ Panaflex™ Awning and Sign Facing 945GPS; GPS with Built-in Color; 3M™ Panaflex™ Plus Awning & Sign Facing Series 3000, Series 4000, Series 4050 HG Pre-decorated products.

1. Suitable for use in outdoor signs.
2. Not suitable for use as an electrical enclosure.
3. Suitable for use with Recognized Component Securement and Tensioning systems.
4. Securement and tensioning systems shall reliably secure the face to the sign and pull the face taut in all directions.
5. Clamps, hooks, etc., individually attached to the Panaflex and sign cabinet shall be spaced around the sign perimeter at maximum 3 ft. intervals.

Flexible sign face systems, designated 3M(TM) PANAGRAPHICS (TM) II Intermediate Flexible Substrate, 3M™ Panagraphics™ III Wide Width Flexible Substrate , 3M™ Envision™ Flexible Substrate FS-1.

1. The suitability of the Panagraphics II or III or Envision™ Flexible Substrate FS-1 when used on an outdoor sign to prevent entrance of water shall be determined in the end application.
2. The suitability of the mounting and securing of the product shall be determined in the end product.
3. The Panagraphic II or III or Envision™ Flexible Substrate FS-1 shall comply with the external decorative face spacing requirements of UL 48.
4. The Panagraphics II or III or Envision™ Flexible Substrate FS-1 has not been investigated for use as an electrical enclosure.
5. When the Panagraphics II or III or Envision™ Flexible Substrate FS-1 materials are used in sections in excess of 6 feet, suitable internal bracing of the signs should be employed to provide the necessary mechanical support for the tensioned face and prevent the material from contacting arcing or heat sources.

Flexible Sign Face systems, 3M(TM) PANAGRAPHICS (TM) III Wide Flexible Substrate .

1. The suitability of the Panagraphics II or III when used on an outdoor sign to prevent entrance of water shall be determined in the end application.
2. The suitability of the mounting of the and securing of the product shall be determined in the end product.
3. The Panagraphic II or III shall comply with the external decorative face spacing requirements of UL 48.
4. The Panagraphics II or III has not been investigated for use as an electrical enclosure.
5. When the Panagraphics II or III materials are used in sections in excess of 6 feet, suitable internal bracing of the signs should be employed to provide the necessary mechanical support for the tensioned face and prevent the material from contacting arcing or heat sources.

Flexible Sign Face systems, Light enhancement film material, designated 3M(TM) Light Enhancement Film 3635-100.

1. The use of this reflector system shall be employed in applications wherein the limitations as set forth in Table A are not exceeded.
2. This system may be used for securement to any combination of surface listed in Table A, provided the use temperature is not higher than the lowest temperature rating of any element of the combination.
3. This system may be used for any illuminated product provided with high output fluorescent, fluorescent, compact fluorescent, and neon at zero clearance.
4. This system is also suitable for indoor and outdoor use within a housing where exposed to high humidity or occasional exposure to water. The minimum temperature rating is -35 C.
5. This system is suitable for application to clean, flat surfaces identified below. Other surfaces require further evaluation.
6. This material has been evaluated for adhesive compatibility, stability, and flammability (94HB). No electrical tests have been performed. The engineer must consider the need to investigate the part of other than the properties investigated, in accordance

with the applicable UL end-product standard or requirements outlined in the Standard for Polymeric Materials - Use in Electrical Equipment Evaluation, UL 746C.

7. The suitability of the film for use when exposed to oil, chemicals, refrigerant, soaps, x-rays, ultraviolet light and the like has not been determined by this investigation.

TABLE below

Substrates	Max.Temp. Rating, C
Aluminum painted with acrylic paint	90
Bare Aluminum	90
Steel painted with acrylic paint	90
Polycarbonate	90
Acrylic	90

Note - Polycarbonate and acrylic substrates additionally must have suitable temperature ratings for each application.

Flexible Sign Face systems, Light reflecting film designation 3MTM Daylighting Film DF2000MA.

1. The use of this reflector system shall be employed in applications wherein the limitations as set forth in Table below are not exceeded.
2. This system may be used for securement to any combination of surface listed in Table A, provided the use temperature is not higher than the lowest temperature rating of any element of the combination.
3. This system may be used for any illuminated product provided with high output fluorescent, fluorescent, compact fluorescent, neon, and LED at the thermal spacings specified in UL 48. Additionally, LED drivers, fluorescent ballasts, fluorescent lampholders, LED modules or strings and neon supplies may be mounted at zero clearance to the reflective film when applied to metal.
4. This system is also suitable for indoor and outdoor use within a housing where exposed to high humidity or occasional exposure to water. The minimum temperature rating is -35(C.
5. This system is suitable for application to clean, flat surfaces identified below. Other surfaces require further evaluation.
6. This material has been evaluated for adhesive compatibility, stability, and flammability (94HB). No electrical tests have been performed. The engineer must consider the need to investigate the part of other than the properties investigated, in accordance with the applicable UL end-product standard or requirements outlined in the Standard for Polymeric Materials - Use in Electrical Equipment Evaluation, UL 746C.
7. The suitability of the film for use when exposed to oil, chemicals, refrigerant, soaps, x-rays, ultraviolet light and the like has not been determined by this investigation.

Substrates	Max. Temp. Rating, °C
Aluminum painted with acrylic paint	90
Bare Aluminum	90
Steel painted with acrylic paint	90
Polycarbonate	90
Acrylic	90

Note - Polycarbonate and acrylic substrates additionally must have suitable temperature ratings for each application.

8. The kraft paper adhesive liner is to be removed prior to application and the clear film provided to protect reflective surface is to be removed prior to final assembly of the product.

Flexible sign face material, Decorative Sign Face Material, 3MTM Chrome Graphic Film, 3635-110.

1. The use of this decorative system shall be employed in applications wherein the limitations are set forth in this report.
2. This system may be used for securement to any combination of surface provided it is adhered outside the sign body.
3. For use inside a sign body, the material will have to be evaluated per Item 4 below.
4. This material has been not evaluated for adhesive compatibility, stability, and flammability (94HB). No electrical tests have been performed. The engineer must consider the need to investigate the part of other than the properties investigated, in accordance with the applicable UL end-product standard or requirements outlined in the Standard for Polymeric Materials - Use in Electrical Equipment Evaluation, UL 746C.
5. The suitability of the film for use when exposed to oil, chemicals, refrigerant, soaps, x-rays, ultraviolet light and the like has not been determined by this investigation.

Polymeric adhesive systems, electrical equipment, pressure-sensitive adhesive tapes, designated "3M™ VHB™ Acrylic Adhesive Transfer Tapes" or "3M™ VHB™ Double Coated Acrylic Foam Tapes", F-9460PC, F-9469PC, F-9473PC, 4611, 4615, 4646, 4655, 4905, 4910, 4914, 4919F, 4919P, 4920, 4922, 4926, 4930, 4936, 4936F, 4941, 4941F, 4945, 4946, 4947F, 4947P, 4950, 4956, 4956F, 4979F, 4991, 5915, 5925, 5930, 5952, 5962, 9460PC, 9469PC, 9473PC.

1. The use of these adhesive systems shall be employed in applications wherein the limitations as set forth in Tables A through G are not exceeded.
2. These adhesive systems may be used for securement to any combination of surfaces listed in the following Tables, provided the use temperature is no higher than the lowest temperature rating of any element of the combination.
3. These systems are suitable where exposed to high humidity or occasional exposure to water. This would include construction of outdoor sign cabinets where the joint is not subject to standing water. The minimum temperature rating is -35°C (-31°F).
4. These systems are suitable for application to smooth, flat, clean surfaces. Application to textured or rough surfaces requires engineering evaluation.
5. The adhesive dynamic bond strength specified in the Tables includes a safety factor of four. When considering the use of any adhesive covered by this Report, the strength of the adhesive joint used to position parts shall be capable of withstanding the maximum force that might be applied to the joint in the end application. This is called the dynamic bond strength and includes wind loading. The minimum square inches of adhesive tape to use is determined by dividing the maximum dynamic load in pounds by the adhesive bond strength in the Tables to obtain.
6. The adhesive static bond strength is 0.25 pounds per square inch, which is the ability to support the dead weight of a sign panel. Where the total weight of the panel is supported by other mechanical means such as by a flange, lip, or channel, the static bond

strength calculation is not applicable. The minimum square inches of adhesive tape to use is determined by dividing the maximum static load in pounds by 0.25 pounds per square inch.

7. After determining the amount of tape required in square inches for the static load and for the dynamic load, the largest number is the minimum amount of tape that shall be used.
8. The materials have been evaluated for adhesive compatibility and stability only. No electrical or flammability tests have been performed. Additional evaluation is required for uses not specifically identified herein.
9. The suitability for use when exposed to oil, chemicals, refrigerant, soaps, X-rays, ultraviolet light and the like, has not been determined by this investigation.
10. The adhesive shall be applied in accordance with the manufacturer's instruction. All surfaces shall be clean and dry. The manufacturers instructions regarding cure time shall be followed. For Tables "NT" – Not Tested.

TABLE A

Substrate	Bond Strength Lbs./inch^2	Max Temp Rating, °C Adhesive Grade 5952	5925 5962
Acrylic	10	90	NT
Polycarbonate	10	90	90
Cellulose Acetate Butyrate	7	90	NT
Aluminum	10	90	90
Acrylic/Polyurethane paint	10	90	90
Galvanized steel	10	90	90
Rigid PVC	8	75	75
Polyester paint	10	90	90

TABLE B

Substrate	Bond Strength Lbs./inch^2	Max. Temp Rating, °C Adhesive Grade 4922	4945
Acrylonitrile-Butadiene-Styrene (ABS)	10	90	90
Polycarbonate	10	90	90
Phenolic	10	110	110
Aluminum	10	110	110
Galvanized Steel	10	110	110
Stainless Steel	10	NT	90
Enameled Steel	10	110	110
Unplasticized Polyvinyl Chloride (UPVC)	10	75	75
Polyamide Type 6/6 (Nylon)	10	90	90
Acrylic/Polyurethane Paint	10	NT	90
Polyester Paint	10	NT	90

TABLE C

Substrates	Bond Strength Lbs./inch^2	Maximum Temperature Rating, °C Adhesive Grade 4914	4920 4930 4950	4905 4910
Acrylonitrile-Butadiene-Styrene (ABS)	10	75	75	NT
Polycarbonate (PC)	10	75	75	90
Aluminum	10(8 for 4905 & & 4910)	110	110	90
Galvanized Steel	10	110	110	NT
Enameled Steel	10	110	110	NT
Stainless Steel	10	110	110	NT
Rigid Polyvinyl Chloride (PVC)	10	75	75	NT
Glass/Epoxy (Grade G-10, FR-4)	10	110	110	NT
Ceramic	10	110	110	NT
Polybutylene Terephthalate (PBT)	10	90	90	NT
Acrylic	10	NT	90	NT
Acrylic/Polyurethane paint	10	NT	NT	90

TABLE D

Substrates	Bond Strength	Maximum Temperature Rating, °C Adhesive Grades

	Lbs./ inch^2	4919F, 4919P, 4926, 4936, 4936F, 4941, 4941F, 4956, 44956F, 4979F, 4946, 4947F, 4947P	4991
Acrylonitrile-Butadiene-Styrene (ABS)	10	75	NT
Polycarbonate (PC)	10	90	90
Aluminum	10	90	90
Galvanized Steel	10	90	NT
Enameled Steel	10	90	NT
Stainless Steel	10	90	NT
Nickel coated ABS	10	90	NT
Rigid Polyvinyl Chloride (PVC)	10	90	NT
Glass/Epoxy (Grade G-10, FR-4)	8	90	NT
Ceramic	8	110	NT
Polybutylene Terephthalate (PBT)	8	90	NT
Glass (with and without silane coating)	8	90	NT
Acrylic/Polyurethane paint	10	90	90
Polyester paint	10	90	90

TABLE E

Substrate	Bond Strength	Maximum Temperature Rating, °C
	Lbs./inch^2	Adhesive Grade 4611, 4646, 4655
Stainless Steel	10	110
Aluminum	10	110
Galvanized Steel	10	110
Glass (not silane coated)	10	110
Glass/Epoxy - FR4	10	110
Phenolic	10	110
Nylon	10	90
Polycarbonate	10	90
Acrylonitrile Butadiene Styrene - ABS	10	75
PVC Rigid	10	75

TABLE F

Substrate	Bond Strength	Maximum Temperature Rating, °C
	Lbs./inch^2	Adhesive Grade 4615
Acrylonitrile-Butadiene-Styrene (ABS)	10	75
Polycarbonate (PC)	10	90
Aluminum	10	110
Galvanized Steel	10	110
Enameled Steel	10	110
Stainless Steel	10	110
Polyvinyl Chloride (PVC)	10	75
Glass/Epoxy (Grade G-10, FR-4)	10	110
Polybutylene Terephthalate (PBT)	10	90

TABLE G

Substrates	BondStrength	Maximum Temp. Rating, °C Adhesive Grades		
	Lbs./inch^2	9473PC, F-9473PC	9460PC, F-9460PC	9469PC, F-9469PC
Acrylonitrile-Butadiene- Styrene (ABS)	10	90	90	90
Polycarbonate	10	90	90	90
Phenolic	10	110	110	110
Aluminum	10	110	110	110
Galvanized Steel	10	90	90	90
Enameled Steel	10	110	110	110
Ceramics	10	110	110	110
Nickel Plated Iron	10	NT	NT	110
Stainless steel	10	110	110	110
Glass/epoxy (G-10, FR-4)	10	110	110	110
Rigid polyvinyl chloride (PVC)	10	75	75	75

Polymeric adhesive systems, electrical equipment, pressure-sensitive adhesive tapes, designated No. 7965MP, 8153LE, EAD217, 467MP, 467MP, 467MPL, 468MP, 468MPF, 468MPL, 9667MP, 9668MP, 9668MPL, 7952MP, 7952MPL, 7955MP, 7955MPL, 7962MP, 7962MPL, 9172MP, 9172PT, 9185MP, 9679MP, 7945MP, 7953MP, 7956MP, 7956MWS, 7956WDL, 7957MP, 7959MP, 7961MP, 9045MP, 9056MP, 9057MP, 9057MPW, 9059MP, 9061MP, 7966MWS, 7966WDL.

1. The use of these adhesive systems shall be employed in applications wherein the limitations specified in Table A are not exceeded.
2. These systems may be used for securement to any combination of surfaces Listed in Table A, provided the use of temperature is no higher than the lowest temperature rating of any element of the combination
3. The materials have been evaluated for adhesive compatibility and stability only. No electrical or flammability tests have been performed on the adhesive by itself. The Engineer must consider the need to investigate the part of other than the properties investigated, in accordance with the applicable UL-end product Standard or requirements outlined in the Standard for Polymeric Materials - Use in Electrical Equipment Evaluations, UL 746C.
4. The suitability for use when exposed to oil, chemicals, refrigerant, soaps, X-rays, ultraviolet light and the like, has not been determined.
5. When considering the use of any adhesive covered by this Report, the strength of the adhesive joint used to position critical parts shall be capable of withstanding at least four times the maximum force in the as-received condition that might be applied to the joint in the end application.
6. These systems are suitable for application to smooth flat surfaces. The need for adhesive bond strength test when applied to another surface or configuration shall be determined in the particular end use application.
7. These systems are also suitable where exposed indoors or outdoors to high humidity or occasional exposure to water. The minimum temperature rating is -35°C (-31°F).
8. The adhesive static bond strength is 0.25 pounds per square inch, which is the ability to support the dead weight of a sign panel. Where the total weight of the panel is supported by other mechanical means such as by a flange, lip, or channel, the static bond strength calculation is not applicable. The minimum square inches of adhesive tape to use is determined by dividing the maximum static load in pounds by 0.25 pounds per square inch.
9. The adhesive shall be applied in accordance with the manufacturer's instruction. All surfaces shall be clean and dry. The manufacturer's instructions regarding cure time shall be followed.
10. The adhesive dynamic bond strength specified in Table A includes a safety factor of four.
11. When considering the use of any adhesive covered by this Report, the strength of the adhesive joint used to position parts shall be capable of withstanding the maximum force that might be applied to the joint in the end application. This is called the dynamic bond strength and includes wind loading. The minimum square inches of adhesive tape to use is determined by dividing the maximum dynamic load in pounds by the adhesive bond strength specified in Table below.
12. After determining the amount of tape required in square inches for the static load and for the dynamic load, the largest number is the minimum amount of tape that shall be used.

Adhesive Type (1)	Adhesive Product	Dynamic Bond Strength Pounds/square inch	Substrate	Max-Temp Rating, °C
5 mil 200MP on different liners.	7965MP, 468MP, 468MPF, 9668MP, 9668MPL, 9185MP	5	Urethane Paint - PTI XUG-0467	60
		5	Polyester Paint - Govesan RPB-6547	
		33	Acrylic Paint - E-Coat	
200MP group. Adhesive caliper includes 1.5 mil, 2 mil and 5 mil.	467MP, 467MPF, 467MPL, 468MP, 468MPF, 468MPL, 9667MP, 9668MP, 7952MP, 7952MPL, 7955MP, 7955MPL, 7962MP, 7962MPL, 7965MP, 9172MP, 9172PT, 9185MP, 9679MP, EAD217, 7945MP, 7953MP, 7956MP, 7956MWS, 7956WDL, 7957MP, 7959MP, 7961MP, 9045MP, 9056MP, 9057MP, 9057MPW, 9059MP, 9061MP, 7966MWS, 7966WDL	14	Polycarbonate	85
		24	Acrylic/Urethane coated Polycarbonate	
		26	PVC	75
1.5 mil and 2 mil 200MP Adhesive.	467MP, 467MPF, 467MPL, 9667MP, 7952MP, 7952MPL, 7955MP, 7955MPL, 7962MP, 7962MPL, 9172MP, 9172PT, 9679MP, EAD217, 7945MP, 7953MP, 7956MP, 7956MWS, 7956WDL, 7957MP, 7959MP, 7961MP, 9045MP, 9056MP, 9057MP, 9057MPW, 9059MP and 9061MP	14	Polycarbonate	85
		24	Acrylic/Urethane coated Polycarbonate	
		35	Aluminum, Aluminum coated Steel	
		11	Stainless Steel	
		6	Galvanized Steel	
300 LSE Adhesive	8153LE	6	Urethane Paint - PTI XUG-0467	60
		2	Polyester Paint - Govesan RPB-6547	
		56	Acrylic Paint - E-Coat	

Class 2 LED Module, designated 3M™ Flexible Light Mat Model 3635-1XXX

1. These products are only suitable for connection to the provided UL R/C Class 2 DC power source according to the power source's UL conditions of acceptability.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited supplies.
3. These products may be cut to create voids or segments through any portion on the sheet.
4. Suitable for dry and damp locations.
5. These products are required to be enclosed or protected from weather.
6. These products are intended only for factory installation in new signs.

Class 2 LED Module, Cat. Nos. 3M™ LED High Efficiency Light Panel

1. These products have been evaluated for use only when connected to a power source that complies with Class 2 or LPS requirements for energy limited power supplies.
2. Suitable for dry and damp locations.
3. These products are required to be enclosed or protected from weather.
4. These products are intended only for factory installation in new signs.
5. Grounding of frame to supply ground is required. Suitability of bonding for grounding connection is to be determined in final application.
6. Suitability of LED panel mounting shall be determined in final application.
7. Suitability of LED power source shall be determined in the final application.

Polymeric adhesive systems, Cat Nos. DP-810 and DP-810 Black designated "Scotch-Weld"

1. The use of these adhesive systems shall be employed in applications wherein the limitations specified in Table A are not exceeded.
2. These systems may be used for securement to any combination of surfaces Listed in Table A, provided the use of temperature is no higher than the lowest temperature rating of any element of the combination
3. The materials have been evaluated for adhesive compatibility and stability only. No electrical or flammability tests have been performed on the adhesive by itself. The Engineer must consider the need to investigate the part of other than the properties investigated, in accordance with the applicable UL-end product Standard or requirements outlined in the Standard for Polymeric Materials - Use in Electrical Equipment Evaluations, UL 746C.
4. The suitability for use when exposed to oil, chemicals, refrigerant, soaps, X-rays, ultraviolet light and the like, has not been determined.
5. These systems are suitable for application to smooth flat surfaces. The need for adhesive bond strength test when applied to another surface or configuration shall be determined in the particular end use application.
6. These systems are also suitable where exposed indoors or outdoors to high humidity or occasional exposure to water. The minimum temperature rating is -35°C (-31°F).
7. The adhesive shall be applied in accordance with the manufacturer's instruction. All surfaces shall be clean and dry. The manufacturer's instructions regarding cure time shall be followed.
8. The adhesive bond strength specified in Table A includes a safety factor of four.
9. When considering the use of any adhesive covered by this Report, the strength of the adhesive joint used to position parts shall be capable of withstanding the maximum force that might be applied to the joint in the end application. This is called the bond strength and includes static load as well as wind loading(dynamic load). The minimum square inches of adhesive to use is determined by dividing the maximum load in pounds by the adhesive bond strength specified in Table A.

TABLE A

Cat. Nos.	DP-810, DP-810 Black	Thickness: 0.076 mm (0.003 in)	
Substrate Combination		Max. Operating Temp. °C (°F)	Adhesive Bond Strength(PSI)
Stainless Steel to Stainless Steel		60	1000
Aluminum to Aluminum		60	980
Polycarbonate to Polycarbonate		60	180
Magnesium to Magnesium		60	870
Acrylonitrile Butadiene Styrene to Acrylonitrile Butadiene Styrene		60	310
Cat. Nos.	DP-810, DP-810 Black	Thickness: 0.254 mm (0.010 in)	
Substrate Combination		Max. Operating Temp. °C (°F)	Adhesive Bond Strength (PSI)
Stainless Steel to Stainless Steel		60	940
Aluminum to Aluminum		60	900
Polycarbonate to Polycarbonate		60	190
Magnesium to Magnesium		60	690
Acrylonitrile Butadiene Styrene to Acrylonitrile Butadiene Styrene		60	430

3M COMPANY INDUSTRIAL ADHESIVES & TAPES DIV **E464624**
3M CENTER
BLDG 230-3G-07
ST PAUL, MN 55144

Adhesives, designated DP84005NS, DP8805NS, DP8810NS.
1. These systems are also suitable for use outdoors where exposed to high humidity or water. The minimum temperature rating is -35°C (-31°F).
2. Temperature rated to 90C maximum.
3. Means need to be provided for grounding metal parts that may become energized.
4. This adhesive system is suitable for application to smooth flat surfaces, except where another surface configuration is noted.
5. The adhesive at a nominal thickness of 0.25mm may be used for securement of any combination of the following surfaces; aluminum and stainless steel.
6. Adhesive shall be applied in continuous bead when used as water seal.
7. These adhesives are produced in a 10:1 mix ratio by volume (10 parts “B” (base) to 1 part “A” (accelerator).
8. The bond strength values shown in Table A were determined in accordance with ASTM D 1002.
9. The materials have been evaluated for adhesive compatibility and stability only. No electrical or flammability tests have been performed. The engineer must consider the need to investigate the part for other than the properties investigated, in accordance with the applicable end-product standard and/or the requirements outlined in UL 746C, Standard for Material Used in Electrical Equipment Evaluations.
10. The suitability for the use when exposed to oil, chemicals, refrigerant, soap, x-rays, ultraviolet and the like has not been determined by this investigation, unless otherwise noted.
11. The bond strength value in Table A has been divided by safety factor of four for mechanical strength and specifies the maximum shear tension load in pounds per square inch of adhesive.

TABLE A

Cat No.	Substrate	Max. Operating Temp. °C (°F)	Maximum Shear Tension Load PSI)
DP8405NS	Stainless Steel to Stainless Steel	90 (194)	807
	Aluminum to Aluminum	90 (194)	912
DP8805NS	Stainless Steel to Stainless Steel	90 (194)	727
	Aluminum to Aluminum	90 (194)	740
DP8810NS	Stainless Steel to Stainless Steel	90 (194)	659
	Aluminum to Aluminum	90 (194)	710

AA LED SUPPLY CORP E325964
9441 VALLEY BLVD.
ROSEMEAD, CA 91770

Class 2 LED modules, Models LS0723x, LS0766x, LS0769x, LS0776x, where that x may be R, G, B or Y indicating LED Color.
1. These products are only suitable for connection to the output of a UL Listed or R/C Class 2 Power Supply rated 12VDC.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 requirements.
3. These products are rated per the Table below. When units are connected to a Class 2 circuit, their number is to be limited to draw a total wattage of no greater than the secondary current rating of each Class 2 power supply.

Part No.	Operating Voltage	Current per module	Watts per module
LS0723x	12Vdc	40mA	0.48W
LS0766x	12Vdc	30mA	0.36W
LS1769x	12Vdc	75mA	0.90W
LS0776x	12Vdc	60mA	0.72W

4. These products are suitable for use in dry, damp and wet locations without additional enclosures.

Class 2 LED Modules, Model AA-0766EC-XX, where XX can be any alpha characters or blank to represent different light color
1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit and which is rated greater than 12 V DC.
3. These Class 2 LED modules are each rated as noted in the electrical ratings tables. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.

Class 2 LED modules, Models LS-MZ0612B-2X, LS-MZ0612B-3X, where X can represent any color or with any means.
1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuits.
3. When these units are connected to a Class 2 supply circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.

ABC SIGN PRODUCTS E80767
2028 SE FRONTAGE RD
FT COLLINS, CO 80525

Lampholder adapter, Type LH.
1. This device is suitable for use in indoor or outdoor extruded aluminum awning frames.
2. This adapter is intended for use only with Listed, single or double contact, recessed lampholders (Cat. No. 530, Kulka) which snap-fit into, and are securely held by, the adapter. The lampholder shall be held securely with or without a lamp in place.
3. This adapter is intended to complete the enclosure housing of insulated live parts only.
4. This device shall be installed in an aluminum extrusion in accordance with the "Installation Instructions" supplied by the manufacturer in the smallest shipping container.

Sign Face Tensioning System, Model ABC.
1. The suitability of these tensioning systems in combination with any R/C (UYMR2) Flexible Sign Face Material to prevent entrance of water in outdoor sign applications shall be determined in the end product.
2. This product has not be evaluated for use as an electrical enclosure.
3. Tensioning clips shall be spaced as described in the Installation Instructions.
4. When employed in a sign with any frame dimension greater than 6 feet the sign shall be provided with a means to prevent billowing.
5. The mounted assembly of sign face material in these tensioning systems shall comply with the electrical and thermal spacing requirements of UL 48.
6. These clips have been determined to be suitable with any R/C Flexible Sign Face Material of min. 0.020 inches (0.51mm) thick, suitability for use with a material of lesser thickness shall be determined in the end product.

ABLE APPLIED TECHNOLOGIES LTD E329973
BOUNDARY HOUSE BUSINESS CENTER
BOSTON MANOR RD
LONDON, W7 2QE UNITED KINGDOM

Class 2 LED Modules, Model XS-P40XXX-XX series, where XS can be either SS or MS that relates to LED count/resolution and XXX-XX may be any alphanumeric characters.
1. These LED panel of these products are powered by Class 2 power source rated at max. 15 VDC, 5 amps.
2. These products are suitable for use in dry and damp locations.
3. In the end product, power supply spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
4. When provided with a power supply, in the end product the power supply spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
5. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 limits.

ACROSENTEC CO LTD E363566
253-9 GOCHUN-DONG
UIWANG-SHI , GYEONGGI-DO
437-801 REPUBLIC OF KOREA

Class 2 LED Modules, Models ASPCH-@-#-24-$-%-&, ASFCH-@-#-24-$-%-&, and ASMX-@-^-24-*-!, where @ can be any 2 to 4 alphanumeric code, # can be any 3 to 5 alphanumeric code, $ can be any 2 or 3 alphanumeric code, % can be any 1 to 4 alphanumeric code, & can be any 3 to 9 alphanumeric code, ^ can be any 3 to 5 alphanumeric code, * can be any 3 to 6 alphanumeric code, ! can be any 2 to 9 alphanumeric code.
1. These products are only suitable for connection to a Class 2 power source rated 27 V DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuit limits and is rated 27 V DC or less.
3. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 27 V DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.

ACRYLIC DESIGN ASSOCIATES E467004
6050 NATHAN LANE
PLYMOUTH, MN 55442

Class 2 LED Panels, designated "BVX-F-GWY-Q-RHJKDPS" where B may be any number from 1-24; X may be any numeric characters; F may be 0, 1 or 2; G may be any numeric characters; Y may be any numeric characters; Q may be 0, 1 or 2; R may be any numeric characters; J may be any numeric characters; D may be any numeric characters; S may be any numeric characters.
1. These products are suitable for use in dry, damp and wet locations when supplied with a Class 2 power source rated 24 Volt DC or less.
2. Suitable only for connection to a Class 2/LPS circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. These products are not required to be enclosed or protected from the weather in the end product.
4. These products may be secured in place in the end product by any means available.
5. Class 2/LPS circuits shall not be connected together in series or parallel.

ADHESIVE SYSTEMS INC E350958
9411 CORSAIR RD
FRANKFORT, IL 60423

Polymeric adhesive system, Cat. No. MP55420.

1. The use of these adhesive systems shall be employed in applications wherein the limitations specified in Table A are not exceeded.
2. These systems may be used for securement to any combination of surfaces Listed in Table A, provided the use temperature is no higher than 71°C.
3. The materials have been evaluated for adhesive compatibility and stability only. No electrical or flammability tests have been performed on the adhesive by itself. The Engineer must consider the need to investigate the part of other than the properties investigated, in accordance with the applicable UL-end product Standard or requirements outlined in the Standard for Polymeric Materials - Use in Electrical Equipment Evaluations, UL 746C.
4. The suitability for use when exposed to oil, chemicals, refrigerant, soaps, X-rays, ultraviolet light and the like, has not been determined.
5. These systems are suitable for application to smooth flat surfaces. The need for adhesive bond strength test when applied to another surface or configuration shall be determined in the particular end use application.
6. These systems are also suitable where exposed indoors or outdoors to high humidity or occasional exposure to water. The minimum temperature rating is -35°C (-31°F).
7. The adhesive shall be applied in accordance with the manufacturer's instruction. All surfaces shall be clean and dry. The manufacturer's instructions regarding cure time shall be followed.
8. The adhesive bond strength specified in Table A includes a safety factor of four.
9. When considering the use of any adhesive covered by this Report, the strength of the adhesive joint used to position parts shall be capable of withstanding the maximum force that might be applied to the joint in the end application. This is called the bond strength and includes static load as well as wind loading(dynamic load). The minimum square inches of adhesive to use is determined by dividing the maximum load in pounds by the adhesive bond strength specified in Table A.

Polymeric adhesive system, Cat. Nos. 55305FS, 55305, 55300, and 55310.

1. The use of these adhesive systems shall be employed in applications wherein the limitations specified in Table A are not exceeded.
2. These systems may be used for securement to any combination of surfaces Listed in Table A, provided the use temperature is no higher than 71 °C.
3. The materials have been evaluated for adhesive compatibility and stability only. No electrical or flammability tests have been performed on the adhesive by itself. The Engineer must consider the need to investigate the part of other than the properties investigated, in accordance with the applicable UL-end product Standard or requirements outlined in the Standard for Polymeric Materials - Use in Electrical Equipment Evaluations, UL 746C.
4. The suitability for use when exposed to oil, chemicals, refrigerant, soaps, X-rays, ultraviolet light and the like, has not been determined.
5. These systems are suitable for application to smooth flat surfaces. The need for adhesive bond strength test when applied to another surface or configuration shall be determined in the particular end use application.
6. These systems are also suitable where exposed indoors or outdoors to high humidity or occasional exposure to water. The minimum temperature rating is -35°C (-31°F).
7. The adhesive shall be applied in accordance with the manufacturer's instruction. All surfaces shall be clean and dry. The manufacturer's instructions regarding cure time shall be followed.
8. The adhesive bond strength specified in Table A includes a safety factor of four.
9. When considering the use of any adhesive covered by this Report, the strength of the adhesive joint used to position parts shall be capable of withstanding the maximum force that might be applied to the joint in the end application. This is called the bond strength and includes static load as well as wind loading(dynamic load). The minimum square inches of adhesive to use is determined by dividing the maximum load in pounds by the adhesive bond strength specified in Table A.

ADVANCED LIGHTING CONCEPTS INC, E345129
DBA ENVIRONMENTALLIGHTS.COM
SUITE 102
11235 W BERNARDO CT
SAN DIEGO, CA 92127

Class 2 Power Supply, Models 4x60W12VDimX-120AC, 3x96W24VDimX-120AC.

1. These power supplies have been evaluated for use in LED signs.
2. The power supplies have outputs that individually comply with Class 2 circuit requirements.
3. These units are suitable for use in dry and damp locations without a need for an additional enclosure.
4. The output of this power source shall not be connected to any other power source or provide power to components connected to another power source.
5. These products shall have conductors entering, leaving or residing in the wiring compartment or junction box extending at least 150 mm (6 in) inside.

Class 2 LED modules, Cat. Nos. M133AA, M103AA, M113BA, M102BA.

1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit and which is rated greater than 12 V DC.
3. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp, and wet locations with supply sources rated at 12 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.
7. When these products are used in applications other than signs or outline lighting, the need to conduct a temperature test shall be considered.

Class 2 LED modules, Cat. Nos. M6XXXA, M6XXXB series; where the first X may be replace with 0 through 9, indicates product size or shape; the second X may be replaced with 1 through 9, indicates product LED quantity; the third X may be replaced with A through Z or XB, indicates product LED encapsulation types.

1. These products are only suitable for connection to a Class 2 power source, rated 12 Volt DC or less.

2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than electrical ratings.
3. These Class 2 LED modules are each rated as noted in the model list tables. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Vdc or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. For M601C series, three units are consisted one module.
7. The suitability of supply leads shall be determined in end use.

Class 2 LED Modules, Cat. Nos. Z6XXXXD, Z7XXXXD series. Where the first X may be replaced with 0 through 9 or A through Z, indicates product size or shape; the second and the third may be replace with 01 through 99 or when the second X may be replaced with A through Z, the third X may be replaced with 1 through 9, these digits or letters indicate LED quantity; the fourth X may be replaced with A through Z or XB, indicates LED encapsulation types.

1. These products are only suitable for connection to a Class 2 power source, rated 24 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than electrical ratings.
3. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 24 Vdc or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. The suitability of supply leads shall be determined in end use.

Class 2 LED Modules, Cat. No. MXXXXXX series. Where the first X may be replaced with A-Z or blank, indicates different customer; the second X may be replaced with 0, 1, 2, 3, 6, 8, 9 or A-G, indicates product type; the third may be replace with 0-9 or A-Z, indicates product size or shape; the fourth X may be replaced with 1-9, indicates LED quantity; the fifth X may be replaced with A-Z or XB, indicates LED encapsulation types; the sixth X may be replaced with A-E, M, N, Q or P, indicates input voltage. Cat. No. RXXXXXXX series. Where the first X may be replaced with A-Z or blank, indicates different customer; the second X may be replaced with 0, 1, 2, 3, 5, 6, 8, 9 or A-C, indicates product type; the third X may be replaced with 0-9 or A-Z, indicates size or radiant characteristic; the fourth and the fifth may be replace with 01-99 or when the fourth X may be replaced with A-Z, the fifth X may be replaced with 0-9, these digits or letters indicate LED quantity; the sixth X may be replaced with A-Z or XB, indicates LED encapsulation types; the seventh X may be replaced with A-E, M, N, Q or P, indicates input voltage. Cat. No. ZXXXXXXX series. Where the first X may be replaced with A-Z or blank, indicates different customer; the second X may be replaced with 0, 1, 2, 3, 5, 6, 7, 8, D, E indicates product type; the third X may be replaced with 0-9 or A-Z, indicates size or radiant characteristic; the fourth and the fifth may be replace with 01-99 or when the fourth X may be replaced with A-Z, the fifth X may be replaced with 0-9, these digits or letters indicate LED quantity; the sixth X may be replaced with A-Z or XB, indicates LED encapsulation types; the seventh X may be replaced with A-E, M, N, Q or P, indicates input voltage.

1. These products are only suitable for connection to a Class 2 power source, rated 24 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than electrical ratings.
3. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 24 Vdc or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. The suitability of supply leads shall be determined in end use.

LED Drivers, Class 2, Models LW30-0120250, LW30-0240125.

1. The power supply has been evaluated to Class 2 output requirements for dc circuits with a maximum of one Class 2 output.
2. The products are intended to be built-in, the suitability of enclosure, mounting, input / output connections shall be considered in the end product.
4. The products are intended for use in damp and wet locations.
5. These products are to be used in maximum ambient temperature (Ta) and Maximum case temperature (Tc) are as below :

Models	Wet location		Damp location	
	Ta	Tc	Ta	Tc
LW30-0120250	40	--	70	85
LW30-0240125	40	--	70	85

6. These LED drivers are of the constant voltage type that requires the proper number of LED modules and controllers that does not exceed the maximum output current.
7. These products are suitable for factory wiring only.
8. These products have been evaluated using a resistive load resulting in a maximum input and output.
9. The products are intended to be connected to a maximum 20 A branch circuit.
10. Humidity and Rain tests have been conducted for reference only. The need to repeat these tests shall be considered when mounted in the end-product.
11. In the end product, LED driver spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
12. In the end product, LED Drivers shall be located not less than 1 inch (25.4mm) apart when arranged end-to-end, and not less than 4 inches (102mm) apart when arranged otherwise.

LED Drivers, isolated, non-Class 2, Models LW60-0120500A, LW60-0240250A, LW100-0120833, LW100-0240416, LW150-0121250, LW150-0240625.

1. These units have an isolated Non-Class 2 output.
2. The products are intended for built-in, the suitability of enclosure, mounting, input / output connections shall be considered in the end product.
4. These products are suitable for use in damp and wet locations.
5. These products are to be used in maximum ambient temperature (Ta) and Maximum case temperature (Tc) are as below :

Models	Wet location		Damp location	
	Ta	Tc	Ta	Tc
LW60-0120500A	40	--	70	85
LW60-0240250A	40	--	70	85

LW100-0120833	40	--	65	85
LW100-0240416	40	--	65	85
LW150-0121250	40	--	50	75
LW150-0240625	40	--	50	75

6. The LED drivers are of the constant voltage type that requires the proper number of LED modules and controllers that does not exceed the maximum output current.
7. These products are provided with Input and Output cord. The grounding continuity shall be checked in end product.
8. These products are suitable for factory wiring only.
9. The product has been evaluated as isolated output rated Non-Class 2 using a resistive load resulting in a maximum input and output.
10. These products are intended to be connected to a maximum 20 A branch circuit.
11. In the end product, LED driver spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
12. In the end product, LED Drivers shall be located not less than 1 inch (25.4mm) apart when arranged end-to-end, and not less than 4 inches (102mm) apart when arranged otherwise.

LED Drivers, isolated, Class 2, Models LW60-0120500, LW60-0240250, LW100-0120833A, LW100-0240416A, CPW60-0120500, CPW60-0120500A, CPW60-0120500B, CPW60-0240250,CPW60-0240250A, CPW60-0240250B, CPW100-0120833, CPW100-0120833A, CPW100-0120833B, CPW100-0240416, CPW100-0240416A, CPW100-0240416B.

1. These power supplies have been evaluated to Class 2 output requirements for dc circuits with a maximum of one Class 2 output.
2. These products are provided with the following electrical ratings:

Model Number	Input Voltage (V)	Input Current (A)	Frequency (Hz)	Output Voltage (Vdc)	Output Current (mA)
LW60-0120500	100-240	0.78	50/60	12	5
LW60-0240250	100-240	0.78	50/60	24	2.5
LW100-0120833A	100-240	1.25	50/60	12	3.9 #
LW100-0240416A	100-240	1.25	50/60	24	4.0
CPW60-0120500	100-240	0.90	50/60	12	5
CPW60-0120500A	100-277	0.90	50/60		
CPW60-0120500B	277	0.35	50/60		
CPW60-0240250	100-240	0.90	50/60	24	2.5
CPW60-0240250A	100-277	0.90	50/60		
CPW60-0240250B	277	0.35	50/60		
CPW100-0120833	100-240	2.20	50/60	12	3.9 #
CPW100-0120833A	100-277	2.20	50/60		
CPW100-0120833B	277	0.85	50/60		
CPW100-0240416	100-240	2.20	50/60	24	4.0
CPW100-0240416A	100-277	2.20	50/60		
CPW100-0240416B	277	0.85	50/60		

- Two outputs: Each 12 Vdc, 3.9 A.

3. In the end product the power supply spacing to other power supplies shall be at least 25.4 mm (1 in.) from end-to-end, and 101.6 mm (4 in.) from side-to-side. When spaced closer, a temperature test is required.
4. These products shall be enclosed in the end product.
5. These products are intended for use in dry, damp or wet locations.
6. The suitability of input/output leads and the wiring shall be determined in end product use.
7. These products are provided with 18 AWG stranded, rated minimum 300 Vac, minimum 60 C (for wet location), minimum 105 C (for damp and dry location), for input and output connections. Acceptability of the leads relative to strain relief and secureness, is to be determined as part of the end device evaluation. The grounding continuity shall be checked in end product

AGILIGHT INC E255447
SUITE 108
1218 ARION PKY
SAN ANTONIO, TX 78216

Class 2 LEDs, Cat. No. “SideWinder” may be followed by (Standard) or “SideWinder BL” Cat Nos. LS-A-BBB-GZ; where A (model or series name, e.g. SideWinder) and BBB (color designation) may be replaced by alphanumeric characters; and Z may be replaced with alpha characters to denote generation number.

1. These products are only suitable for connection to a UL Listed or Recognized maximum Class 2, 12 V AC or DC power source.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 circuit limits.
3. These Class 2 LED modules, are each rated max. 40 Watts per unit, LED module. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp or wet locations.
5. These products are not required to be enclosed or protected from the weather.
6. These products may be secured in place in the end product by any means available.
7. When these products are used in applications other than signs or outline lighting, the need to conduct a temperature test shall be considered.

LED array drivers, Models AGI-LP1060-12-GG-240.

1. These power supplies have a single output that complies with Class 2 output requirements.
2. These products are suitable for use in dry, damp and wet locations only.
3. The primary sides of these power supplies are suitable for connection with threaded type conduit only.
4. Power supply spacing to other heat producing components shall be minimum 4 inches when minimum spacing to sidewalls and top of enclosure is kept at minimum 2 inches.

5. When not marked for indoor use only the power supply primary bracket shall be provided with min. 3.5 threads and tapered for connection to liquid tight conduit fitting.
6. When not marked for indoor use only, all models shall have liquid tight fittings on both primary and secondary circuits.

Class 2 LEDs, designated as "SIGNRAYZ" LS-A-YY-GZ Series, where A and YY may be replaced alphanumeric characters; and Z may be replaced with alpha characters.

1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuit.
3. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.
7. Models with designation of Z=2 are suitable for IP 68. Any other number aside from 2 is only suitable for IP 66.

Class 2 LEDs, designated as “SignRayz® PRO160”, “SignRayz® PRO215”, “SignRayz® PROCLR”, “SignRayz® PROMIN”, “SignRayz® PRO115” or “SignRayz® PROCLR” LS-PROXXX-YYY-#ZZ; where XXX, YYY, # and ZZ may be combinations of any alphanumeric characters.

1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuits.
3. When these units are connected to a Class 2 supply circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.
7. These products are suitable for IP 68 designation.

Class 2 LED modules, designated as "BoxRayz™ 400", BoxRayz 600 and LS-BOXXXX-YYY-#ZZ Series, where XXXX, YYY, # and ZZ may be combinations of any alphanumeric characters.

1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuits.
3. When these units are connected to a Class 2 supply circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.
7. These products are suitable for IP 68 designation.

AION LED INC E348513
SUITE 330
2325 3RD ST
SAN FRANCISCO , CA 94107

LED Lighting Modules, Cat. No. AION LED MODULE 200 SERIES.

1. These products are only suitable for connection to the output of a UL Listed or R/C (UYMR2), Component - Sign Accessory Class 2 LED power supply or UL Listed or R/C Class 2 Power Supply rated 12VDC.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 requirements.
3. When units are connected to a Class 2 circuit, their number is to be limited to draw a total wattage of no greater than the secondary current rating of each Class 2 power supply.
4. These products are suitable for use in dry, damp and wet locations without additional enclosures.

LED Lighting Modules, Model AION LED MODULE 100 SERIES.

1. These products are only suitable for connection to the output of a UL Listed or R/C (UYMR2), Component - Sign Accessory Class 2 LED power supply or UL Listed or R/C Class 2 Power Supply rated 12VDC.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 requirements.
3. When units are connected to a Class 2 circuit, their number is to be limited to draw a total wattage of no greater than the secondary current rating of each Class 2 power supply.
4. These products are suitable for use in dry, damp and wet locations without additional enclosures.

LED Lighting Modules, AION LED STRIP LIGHT X-X SERIES, where X-X can be any alpha-numeric combination denoting LED color.

1. These products are only suitable for connection to the output of a UL Listed or R/C Class 2 Power Supply rated 12VDC.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 requirements.
3. When units are connected to a Class 2 circuit, their number is to be limited to draw a total wattage of no greater than the secondary current rating of each Class 2 power supply.
4. These products are suitable for use in dry, damp and wet locations without additional enclosures.

LED Lighting Modules, AION LED MODULE 500 SERIES.

1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuit and is rated greater than 15 V DC.
3. These products are each rated max. 1.5 watts per module. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Volts DC or less.

5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.

LED Lighting Modules, Cat. No. AION LED MODULE 600 SERIES.

1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuit and is rated greater than 12 V DC.
3. These products are each rated max. 0.72 watts per module. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.

Class 2 output LED drivers, Models D60-M1, D60-M.

1. These products are to be used in maximum 50ºC ambient.
2. These products are provided with Class 2 output.
3. These products are intended for used in a maximum 20 A branch circuit.
4. These products are intended for use in dry and damp locations only.
5. These models are provided with 18 AWG input and output leads. The suitability of the wire shall be considered in end product use.
6. These LED drivers shall be grounded through its mounting ears when used in end products.
7. These LED drivers are to be used in fixed wiring equipment only.
8. In the end product, LED driver spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
9. In the end product, LED Drivers shall be located not less than 1 inch (25.4 mm) apart when arranged end-to-end, and not less than 4 inches (102 mm) apart when arranged otherwise.

Class 2 output LED drivers, Models D100-M-24, D60-M-24,

1. When used in end product, the maximum temperature on case surface shall not exceed the temperature note as below:

Model No.	Degree, ºC	Tested ambient, ºC
D100-M-24	89	60
D60-M-24	90	60

2. These products are provided with Class 2 output.
3. These products are intended for used in a maximum 20 A branch circuit.
4. These products are intended for use in dry and damp locations only.
5. These models are provided with No. 18 AWG input and min. No. 22 AWG output leads. The suitability of the wire shall be considered in end product use.
6. These LED drivers shall be grounded through its mounting ears when used in end products.
7. These LED drivers are to be used in fixed wiring equipment only.
8. In the end product, LED driver spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
9. In the end product, LED Drivers shall be located not less than 1 inch (25.4 mm) apart when arranged end-to-end, and not less than 4 inches (102mm) apart when arranged otherwise.

Class 2 LED modules, AION LED MODULE 500 SERIES or K and XX may be any alphanumeric characters.

1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuit and is rated greater than 15 V DC.
3. These products are each rated max. 1.5 watts per module. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.

Class 2 LED modules, AION LED MODULE 600 SERIES.

1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuit and is rated greater than 12 V DC.
3. These products are each rated max. 0.72 watts per module. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.

Power supplies with Class 2 output circuits, D100-Z-24.

1. These power supplies have a maximum of one Class 2 output. The output of these power supplies has been evaluated to Class 2 output requirements for dc circuits.
2. Suitable for use in dry, damp and wet locations.
3. In the end product, power supply spacing to other heat producing components shall be minimum 4 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
4. When used in a cord connected product, the need for conducting a leakage current test shall be considered in the end product.
5. When not marked for “Dry and Damp Locations Only” the power supply primary bracket shall be provided with min. 3.5 threads and maximum 5 threads tapered for connection to liquid tight conduit fitting. If less than 3.5 threads, the liquid tight shall be provided with Listed (QCRV) 1/2 inch, liquid tight conduit fittings.
6. These products are suitable for use in commercial application only when marked with 277 V input voltage.
7. When provided with the alternate plastic conduit caps (not metal), the power supply shall be provided with an additional fire enclosure.
8. Cord connected (not cord and plug) models are suitable only for use in cord connected signs:
   A) The suitability of the cord length, type, and temperature rating shall be determined in the end use.

B) Strain relief testing has been conducted at 20 lbs. The need for additional strain relief shall be determined in the end use.
C) Leakage current testing has not been conducted on the cord connected models and shall be conducted in the end use.

9. Provided with a dimming option for use with a 0-10VDC dimming system.

Class 2 output LED drivers, Model D100-X1, D100-X2, D100-X3, D100-X4.

1. These LED drivers have been evaluated using a resistive load resulting in the electrical rating below. Each product is provided with four outputs.

Model No.	Input V, Ampere	Loaded Output (V dc, Ampere) x Channel number
D100-X1, D100-X2, D100-X3, D100-X4	120/240/277, 0.927/0.468/0.409	(23.9, 1.06) x 4
	120/240/277, 0.570/0.295/0.271	Or (12.6, 1.12) x 4
	120/240/277, 0.960/0.470/0.420	Or (12.6, 2.02) x 4
	120/240/277, 0.914/0.465/0.415	Or (24, 4) x 1
	120/240/277, 0.57/0.304/0.283	Or (12, 2.5) x 2
	120/240/277, 0.57/0.304/0.283	Or (12, 5) x 1
	120/240/277, 0.9/0.458/0.407	Or (12, 4) x 2
	120/240/277, 0.9/0.458/0.407	Or (12, 8) x 1
	120/240/277, 0.843/0.430/0.386	Or (42.9, 0.50) x 4

2. These drivers have been tested in a 50ºC ambient temperature. When used in end product, the maximum temperature on case surface shall not exceed the temperature note as below:

Model No.	Degree, C
D100-X1, D100-X2, D100-X3, D100-X4	88.2

3. These drivers are provided with output type noted as previous table on page 2B.
4. These drivers with plastic housing or display/keys are to be used in the suitable end product fire enclosure.
5. These products are intended for used in a maximum 20 A branch circuit.
6. These products are intended for use in dry and damp locations.
7. These drivers are provided terminal blocks noted as below as electrical connections. The suitability of lead wires, strip length and the wiring shall be determined in end product.
   Terminal Blocks (CN1, CN2, CON100) - Rated 300 V, 5 A, 24-16 AWG, Solid/Strand, Copper wire.
   Terminal Blocks (CON101) - Rated 300 V, 10 A, 24-16 AWG, Solid/Strand, Copper wire.
8. Provided a switch located in the secondary circuit to set the constant output voltage as 12 Vdc, or 24 Vdc in the factory.
9. These LED drivers shall be grounded through its mounting ears when used in end product.
10. The suitability of strain relief means is to be determined in end product use.
11. These drivers are provided with terminal blocks (interfaces) for connecting to DALI signal, DMX signal, 0-10 Vdc signal, or Maximum 277 V switch dimmer to set/adjust the output current. See below table for details. Those DALI, 0-10 Vdc, switch dimmer interface circuits are isolated from the line supply circuits and Class 2 output circuits. The DMX interface circuit is to be used with Class 2 circuits.

Model No.	Terminal Blocks	Connection
D100-X1, D100-X2, D100-X3, D100-X4	CN2	DALI signal or Maximum 277 V switch dimmer
	CON100	DMX signal

12. These drivers are to be used in fixed Sign only.
13. In the end product, LED driver spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
14. In the end product, LED Drivers shall be located not less than 1 inch (25.4mm) apart when arranged end-to-end, and not less than 4 inches (102mm) apart when arranged otherwise.

Class 2 power supplies, Model D300-DC3.

1. These power supplies have been evaluated for use in LED signs.
2. The power supplies have outputs that individually comply with Class 2 circuit requirements.
3. These units are suitable for use in dry and damp locations without a need for an additional enclosure.
4. The output of this power source shall not be connected to any other power source or provide power to components connected to another power source.
5. These products shall have conductors entering, leaving or residing in the wiring compartment or junction box extending at least 150 mm (6 in) inside.

ALLANSON INTERNATIONAL INC E251622
33 CRANFIELD RD
TORONTO, ONTARIO, CANADA M4B 3H2

LED Drivers, Models CV14184, CV125, CV144, CV184, CV243 and LC6012-120 power supplies, Model ACLGWHO6, ACLGWHO3 glacier white high output LED strip, Model ACLCW6, ACLCW3 cool white LED strip, and Model ACLRR6, ACLRR3 red LED strip.

1. This component has been judged on the basis of the required spacings in the Standard for Class 2 Power Units, UL 1310, Fourth Edition, which would cover the component itself if submitted for Listing.
2. The output terminals are suitable for field wiring.
3. The equipment was submitted and tested for a maximum manufacturer's recommended ambient (Tmra) of 40(C.
4. Leakage current measurements shall be performed when more than four LED power supplies are used in the equipment or when the LED driver is used in combination with other equipment in the end-use product.
5. The ground connection is not suitable as the equipment ground for a sign. Separate provision for sign grounding must be provided.
6. The power supply is suitable for dry and damp location use.
7. If the power supply is mounted where wiring can contact the enclosure, the wiring shall be rated min. 75° C.

Class 2 LED illuminations, Models ACLW -m R 2@, ACLW-mG2@, ACLW-mO2@, ACLW-RGB@, ACLW-WHO@, ACLW-mCW2@, ACLW-mWW2@, ACLW-mY2@, ACLW-mB2@.

1. These products are only suitable for connection to a Class 2 power source, rated 1**5** Volt or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit and which is rated greater than 1**5** V.
3. Class 2 LED Modules Cat. Nos. ACLW -m R 2@, ACLW-mG2@, ACLW-mO2@, ACLW-RGB@, ACLW-WHO@, ACLW-mCW2@, ACLW-mWW2@, ACLW-mY2@, ACLW-mB2@ are each rated max. **3** watts per unit. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 1**5** V or less.
5. These products are not required to be enclosed or protected from the weather in the end product.

Class 2 LED illuminations, Models ACLW-5CW2#, ACLW-5WW2#, ACLW-5R2#, ACLW-5Y2#, ACLW-5B2#, ACLW-5G2#.

1. These products are only suitable for connection to a Class 2 power source rated 24 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit and which is rated greater than 24 V DC.
3. These products are each rated max. 7 watts per module. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 24 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.
7. When these products are used in applications other than signs or outline lighting, the need to conduct a temperature test shall be considered.

LED Drivers, Models LC-1012-120, CV121, LC-12012-120, CV12125, LC-6042-MV, CC2C42700MV, CC1C42700MV, DCC2C42700MV, DCC1C42700MV.

1. These power supplies have a maximum of two Class 2 outputs. The output of these power supplies has been evaluated to Class 2 output requirements for dc circuits.
2. These products with Class 2 outputs are suitable for use in dry and damp locations.
3. The product was tested for use at the maximum ambient temperature (Tma) of 40 C permitted by the manufacturer's specification.
4. In the end product, power supply spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
5. Models DCC2C42700MV and DCC1C42700MV are provided with a Dimming circuit. Dimming of the outputs is by using a potentiometer. The dimming circuit leads to the potentiometer are considered Class 2.

LED Drivers, Models CV125-MV, CV12125-MV, CV243-MV, CV243-MV-QC and CV243-MV and CV24243-MV.

1. These Class 2 LED power supplies have been evaluated using a resistive load resulting in the electrical rating below.

	Input			Output	
Model	V ac	Hz	A	V dc	A
CV125-MV	120-277	50/60	0.61	12	5
CV12125-MV	120-277	50/60	1.25	Output 1: 12 Output 2: 12	Output 1: 5 Output 2: 5
CV243-MV	120-277	50/60	0.8	24	3.3
CV243-MV-QC	120-277	50/60	0.8	24	3.3
CV24243-MV	120-277	50/60		Output 1: 24 Output 2: 24	Output 1: 2.5 Output 2: 2.5

2. These units are suitable for use in dry and damp locations.
3. These products are intended for use in a maximum 20 A branch circuit.
4. In the end product, power supply spacing to other heat producing components shall be min. 2 inches spacing to sidewalls, and min. 2 inches spacing. If multiple power supplies are used in one enclosure the minimum spacing between them shall not less than 1 inch apart when arranged end-to-end, and not less than 4 inches apart when arranged otherwise.
5. These products shall be grounded through its mounting ears when used in end product.
6. These products shall be provided with an electrical enclosure in the end product unless connected to 1/2 in Trade size conduit.

Class 2 LED Modules, Cat. Nos. ACLW-XX2, ACLW-XX3, ACLW-XX4, ACLW-XX5, ACLW-RGB, ACLW-X2-LP, ACLW-X3-LP, ACLW-X5-LP Series, where xx can be CW, WW, G, B, R, Y or O.

1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit and which is rated greater than 12 V DC.
3. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.

@ - suitable for use in dry, damp and wet locations with supply sources rated at 15 V or less.

- suitable for use in dry, damp, and wet locations when connected to a Class 2 supply rated max. 24 Volts DC.

LED Driver, Model CV125-120-277.

1. This LED driver has been evaluated using resistive load resulting in the electrical input and output noted on page 1.
2. These LED drivers are provided with Class 2 output.
3. These LED drivers are intended to be operated in a maximum ambient (Ta) noted as below. Acceptance of higher ambient shall be determined in end product use.

Model	Ta (°C)
CV125-120-277	40

4. These LED drivers are intended for use in dry and damp locations.
5. These LED drivers are provided with 18 AWG AWM input and output leads. The suitability of the wiring and the need for a suitable enclosure shall be considered in the end product.
6. These LED drivers are intended to be operated on a maximum 20 A branch circuit.
7. The need of the grounding means shall be determined in the end product.
8. These LED drivers shall be enclosed within a suitable end product enclosure.
9. In the end product, LED driver spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
10. In the end product, LED drivers shall be located not less than 1 inch (25.4mm) apart when arranged end-to-end, and not less than 4 inches (102mm) apart when arranged otherwise.

Class 2 output LED drivers, Model CV122-120.

1. These LED drivers have been evaluated using resistive load resulting in the electrical input and output noted below;

	Input				Output	
Model No.	Voltage (V)	HZ	Current (A)	Power (W)	Voltage (Vdc)	Current (A)
CV122-120	120	50/60	0.28	32	12	2

2. These LED drivers are provided with Class 2 output.
3. These LED drivers are intended to be operated in a maximum 40°C ambient.
4. Model CV122-120 is intended for use in damp locations.
5. Model CV122-120 was provided with AWM leads for input/output connection. The suitability of the wiring and the need for a suitable enclosure shall be considered in the end product.
6. These LED drivers are intended to be operated on a maximum 20 A branch circuit.
7. Model CV122-120 shall be grounded through its mounting ears.
8. In the end product, LED driver spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure. Otherwise, temperature test shall be conducted.
9. In the end product, LED Drivers shall be located not less than 1 inch (25.4mm) apart when arranged end-to-end, and not less than 4 inches (102 mm) apart when arranged otherwise. Otherwise, temperature test shall be conducted.

Class 2 LED power supplies, Models CVW125-MV and CVW243-MV.

1. The maximum available parameters from the output of the power modules met the maximum allowable limits for a Class 2 source intended for use in a “WET” Location.
2. The power modules are suitable for use in “DRY”, “DAMP”, or “WET” locations.
3. The modules are intended for used in a maximum 20 A branch circuit.
4. In the end product application, the power supplies spacing to other heat producing components shall be a minimum of 2 inches spacing to sidewalls, and a minimum of 2 inches spacing. If multiple power supplies are used in one enclosure the minimum spacing between them shall not less than 1 inch apart when arranged end-to-end, and not less than 4 inches apart when arranged otherwise.
5. The case shall be reliably connected to earth grounded in end product.
6. The modules shall be installed in accordance with the installation instructions detailed in Illustration #1.
7. When multiple power modules are used in the same end application, the outputs of the power modules are not to be interconnected. The inter connection of the outputs will result in a risk of fire and/or a risk of electric shock
8. The “IP-68” marking has not been evaluated. Therefore, if required for the completion of the evaluation of the end-use application, the suitability of the driver must be determined in the end-use application.

Class 2 LED Modules, designated as ACLW-XX-#W series, where XX may be CW, WW or SW, and # may be 1 or 3.

1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuits.
3. When these units are connected to a Class 2 supply circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.

Class 2 LED Module, Model ACLW-xx-VLP[%] may be followed by two or three alphanumeric numbers.

1. These products are only suitable for connection to a Class 2 power source rated as below or less.

Model No.	Maximum Input Voltage (V DC)	Current Rating (mA)
ACLW-xx-VLP[%]	15	150

2. Units may be interconnected together by leads during normal use. When unit is connected to a Class 2 source, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. This product is suitable for use in dry and damp locations.
4. When these products are used in applications other than signs the need to conduct a temperature test shall be considered.

Class 2/LPS LED modules, Models S05W2CWQ$, S1W2CWQ, ACLW-RGB ADQ.

1. These products are only suitable for connection to a Class 2 or LPS power source rated 12 Volt DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 or LPS voltage and energy limited circuits.
3. When these units are connected to a Class 2 or LPS supply circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 or LPS supply.

4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.
7. Class 2/LPS circuits shall not be connected together in series or parallel.
8. When these products are used in applications other than signs, the need to conduct a temperature test shall be considered.

ALUMET SUPPLY E355230

150 LACKAWANNA AVE
9TH HUAXI VILLAGE
PARSIPPANY, NJ 07054

Structural Panel, Model Aluminum composite panel.
1. Suitable for use in dry, damp and wet locations.
2. Suitable for use in decorative and sign body applications only.
3. Suitable for use in component support applications. When threaded directly into the panels, screws shall be no smaller/finer than No 10. Suitability of smaller and/or finer screws shall be determined.
4. Rain tightness shall be determined in the end product.
5. Electrical spacings and bonding for grounding shall comply with the end product standard.
6. Suitable for use in terminating conduit in 1/2 in Trade Size.
7. A letter made from a structural panel shall have at least two points of support and shall have no point more than 10 in. from a point of support.
8. These materials are rated 50°C, consideration will need to be given to end product thermal spacings from heat producing components or temperature test.
9. These materials are available as unpainted aluminum or pre-painted aluminum.

APM HEXSEAL CORP E210026

44 HONECK ST
ENGLEWOOD, NJ 07631

Toggle Switch Boots, Types N-1002, N1030, N1030 1/2-32, N5030, N5030L, N5030R, N5030S, IN-1030, IN1030 1/2-32, 1131/23, 1131/25, 1131/26, 1131/31, 1131/32, C1131/27, C1131/28, C1131/35, C1131/38, C1132/25.
1. This device is intended to be used in outdoor electric sign applications.
2. The ability of this product to prevent water from entering a switch needs to be evaluated in the end product.
3. The R/C (WOYR2) toggle switch for use with this boot shall comply with the following:
   a. The toggle (switch actuator) shall be rounded to prevent abrasion and cutting of the boot.
   b. The assembly shall be mounted on the side surfaces of a sign body only.
4. Unless the switch body is completely enclosed in a Listed weatherproof enclosure, drain openings in the bottom of the enclosure in which the switch is installed are to be provided in accordance with UL 48.
5. The toggle (switch actuator) shall be metal.

Switch Boots, Types 1231/17, N5045, N5040G, 1231/32, N5040, N5040R, 1231/31, 1231/27, 1231/8, NC3030 7/16-32, N3030, N3030-2513, NC3030, NC3030-2513, NH3030, NH3030S, NC3030H, N3040
1. This device is intended to be used in outdoor electric sign applications.
2. The ability of this product to prevent water from entering a switch needs to be evaluated in the end product.
3. The R/C (WOYR2) toggle switch for use with this boot shall comply with the following:
   a. The toggle (switch actuator) shall be rounded to prevent abrasion and cutting of the boot.
   b. The assembly shall be mounted on the side surfaces of a sign body only.
4. Unless the switch body is completely enclosed in a Listed weatherproof enclosure, drain openings in the bottom of the enclosure in which the switch is installed are to be provided in accordance with UL 48.
5. The toggle (switch actuator) shall be metal.

Switch Boots, Types 1111/7, 1113/62, 1113/63, C1111/7, C1113/62, C1112/63, C1113/66, C1113/70, C1113/71, C1113/75
1. These devices are intended to be used in outdoor electric sign applications.
2. The ability of this product to prevent water from entering a switch needs to be evaluated in the end product.
3. The R/C (WOYR2) toggle switch for use with this boot shall comply with the following:
   a. The toggle (switch actuator) shall be rounded to prevent abrasion and cutting of the boot.
   b. The assembly shall be mounted on the bottom or side surface of a sign body only.
4. Unless the switch body is completely enclosed in a Listed weatherproof enclosure, drain openings in the bottom of the enclosure in which the switch is installed are to be provided in accordance with UL 48.

Switch Boots, Types Cat. Nos. 60064, 60225.
1. These devices are intended to be used in outdoor electric sign applications.
2. The ability of this product to prevent water from entering a switch needs to be evaluated in the end product.
3. The R/C (WOYR2) toggle switch for use with this boot shall comply with the following:
a. The toggle (switch actuator) shall be rounded to prevent abrasion and cutting of the boot
b. The assembly shall be mounted on the bottom or side surface of a sign body only.
4. Unless the switch body is completely enclosed in a Listed weatherproof enclosure, drain openings in the bottom of the enclosure in which the switch is installed are to be provided in accordance with UL-48.

ARLON GRAPHICS LLC E80939

2811 S HARBOR BLVD
SANTA ANA, CA 92704

Flexible sign face systems for use in electric signs, designated "FLEXFACE", "FLEXFACE FX", "MPF" or "MPG", "FLEXFACE PO", "FLEXFACE S & R", "Flexface PO - CA Fire Marshall Rated", Flexface NF, Flexface GF, Flexface NFX, Flexface GX, Cast Flex 10, Eradicolor, Flexface TC, ColorKote TC, and Kolorite.

1. The suitability of the sign body and the flexible materials to prevent entrance of water in outdoor sign applications, shall be determined.
2. The sign face materials shall comply with the external decorative face requirements of UL 48.
3. The materials covered by this Report have not been investigated for use as an electrical enclosure.
4. When the flexible face materials are used on signs with any dimensions (length or width) in spaces greater than 6 ft., suitable braces should be employed to prevent the material from bellowing (moving after installation) and creating short (reduced) spacings to heat sources.

Flexible sign face systems for use in electric signs, designated "Wide Print Flex".

1. The sign face material covered by this Report has not been investigated for use as an electrical enclosure.
2. The materials have been evaluated for HB flammability in accordance with UL 879.
3. The temperature limits is 50°C. No electrical or mechanical tests have been performed.
4. This material is suitable for outdoor sign, the suitability of the sign body and the flexible materials to prevent entrance of water in outdoor sign applications, shall be determined.
5. Suitable for use with all Recognized Component Securement and Tensioning systems. Securement and tensioning systems shall reliably secure the face to the sign and pull the face taut in all directions.

Flexible non-enclosure rated sign face material, designated "DPF 390" and "Flexface FX version 2" sign face.

1. These flexible non-enclosure rated sign face materials are only suitable for use as decorative parts.
2. These products are suitable for use in dry locations only.
3. These products are limited for use in decorative sign face applications.
4. The flexible sign face non-enclosure rated material is not suitable for use as an electrical enclosure.
5. A minimum of 5 cm (2 in.) spacing from heat producing components is required.
6. Not intended for mechanical support of components.

ARTEMEDIA WORLDWIDE LTD E357752
6/F LUK KWOK CENTRE
72 GLOUCESTER RD WAN CHAI
HONG KONG, HONG KONG

LED Modules, LPS/Class 2 type, Models artemedia LED textile frame 180x120, artemedia LED textile frame 180×100.

1. These LED Modules are only intended for use with a LPS or Class 2 output power sources.
2. These LED Modules are suitable for use in dry and damp locations.
3. These LED Modules are not provided with a mounting means. The suitability is to be determined in end product use.
4. The temperature rating of LED board is 105°C min., of supply leads is 90°C min., and of Light Guide Panel is 50°C min. The suitability is to be determined in end product use.
5. The suitability of supply means shall be determined in end product.

ARTLED TECHNOLOGY CORP E472088
2ND FL, 224 SUN JUNG ST
SHULIN CITY
TAIPEI, 238 TAIWAN

Class 2 LED modules, designated A121-XXX-XXX-XXX-XX-XX-XXX, H70-XXX-XXX-XXX-XX-XX-XXX, H100-XXX-XXX-XXX-XX-XX-XXX, R24-XXX-XXX-XXX-XX-XX-XXX, RB24-XXX-XXX-XXX-XX-XX/XXXXXXX.

1. These LED Modules were intended for connection to a 24 Vdc for Models H70-XXX-XXX-XXX-XX-XX-XXX, H100-XXX-XXX-XXX-XX-XX-XXX, RB24-XXX-XXX-XXX-XX-XX/XXXXXXX.
   The LED module was intended for connection to a 12 Vdc for Model R24- XXX-XXX-XXX-XX-XX-XXX.
   The LED module was intended for connection to a 5 Vdc for Model A121- XXX-XXX-XXX-XX-XX-XXX.
2. These LED Modules were evaluated for use in Dry or Damp locations.
3. These LED Modules have been tested at 40ºC ambient. Acceptable operation at a higher temperature should be determined in the end-use product.
4. These LED Modules are not provided with a mounting means. The suitability is to be determined in end product use.
5. These LED Modules were intended for connection only to a Class 2/LPS circuit.

ARTWARE TELECOMUNICATION CO LTD E313732
806 ACE TECHNO TOWER 1ST
GUTO-GU
SEOUL, REPUBLIC OF KOREA

Class 2 LED Modules (Clusters), Cat. Nos. AWL-4500C-A, AWL-2500C-A, AWL-4500C-LF.

1. These products are only suitable for connection to a Class 2 power source, rated 12 Volt or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than 12 V.
3. Class 2 LED Modules (“Cluster”), Cat. No.AWL-4500C-A, AWL-2500C-A, and AWL-4500C-LF are each rated max. 6 Watts per unit. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 V or less.
5. These products are not required to be enclosed or protected from the weather in the end product.

LED Controllers, Models Nos. AWL1200M, AWL1400M, AWL1800M.

1. These products are only suitable for connection to a UL Listed or Recognized Class 2, 12 Volt dc or less power source.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited supplies.

3. These Class 2, low voltage, low energy LED controllers when connected to a Class 2 circuit, are not to draw a total wattage of greater than the secondary or output rating of the Class 2 circuit.
4. These products are suitable for use in dry and damp locations.

ASTRODYNE CORP E310222
375 FORBES BLVD
MANSFIELD, MA 02048

Class 2 LED Illumination Module, Cat. Nos. ALD60-xyyz-FC Series, where x can be 1 or 2; yy can be 05, 06, 08, 10, 12, 15, 18, 21, 24 or 48 and z can be C, D, E or F.

1. These power supplies have a maximum of two Class 2 outputs. The output of these power supplies has been evaluated to Class 2 output requirements for dc circuits.
2. These products with Class 2 outputs are suitable for use in dry, damp and wet locations.
3. Power supply spacing to other heat producing components shall be minimum 4 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
4. When used in wet locations, each unit shall be provided with Listed (QCRV) 1/2 inch, liquid tight conduit fittings.
5. When used in a cord connected product, the need for conducting a leakage current test shall be considered in the end product.

Class 2 LED Illumination Module, Model ALD120-xyyz-FC Series, where x can be 2; yy can be 08, 10, 12, 15, 18, 21, 24, 27, 36 or 48 and z can V.

1. These power supplies have maximum of two Class 2 outputs. The output of these power supplies has been evaluated to Class 2 output requirements for dc circuits.
2. These products with Class 2 outputs are suitable for use in dry, damp and wet locations, except models ALD120-236V-FC and ALD120-248V-FC are suitable for use in dry and damp locations due to output voltages above 30 V dc.
3. Power supply spacing to other heat producing components shall be minimum 4 inches when minimum spacing to sidewalls and top of enclosure is kept at minimum 2 inches.
4. When used in wet locations, each unit shall be provided with listed (QCRV) and CN 1/2 inch liquid tight conduit fittings.

ATEX CO LTD E304657
HIRAKEN BLDG
2-3-20 TOUKOU
HAKATA-KU
FUKUOKA-SHI, FUKUOKA-KEN 812-0008 JAPAN

Class 2 – 12, 15, 24 VDC, LED Rope Assemblies, Class 2 LED String Assembly, Series Designation FL10-VWXY-Z, SP10-VWXY-Z, CL10-VWXY-Z, CH10-VWXY-Z.

1. For a portable indoor sign, these products are suitable for connection to a 12VDC, 0.5A, UL Listed Class 2 power supply.
2. For all types of signs, these products are suitable for use with a 12 VDC, R/C (UYMR2) Class 2 power supply.
3. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 requirements.
4. These products are suitable for use in dry, damp, and wet locations.
5. Lead wires do not have a voltage rating and are not R/C AVLV2 wiring. Lead wires must be separated from circuits of other voltages in the end application.
6. Each 96 LED rope is rated Class 2, 12 VDC, 0.5A.

Class 2, 12 VDC Class 2 LED Module, LED Module: Series LM Series, followed by 01 through 99, followed by 01 through 99, followed by 1 through 9, followed by AA through ZZ, followed by 1 through 9, followed by 0 through Z.

1. For a portable indoor sign, these products are suitable for connection to a 12/24 VDC, 0.125/0.0625 A, UL Listed Class 2 power supply, minimum.
2. For all types of signs, these products are suitable for use with a 12/24 VDC, R/C (UYMR2) Class 2 power supply.
3. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 requirements.
4. These products are suitable for use in dry, damp, and wet locations.
5. Lead wires do not have a voltage rating and are not R/C AVLV2 wiring. Lead wires must be separated from circuits of other voltages in the end application.
6. Each LED module is rated Class 2, 12/24 VDC, 0.125/0.0625 A **.**

AUTEC POWER SYSTEMS INC E364207
667 E COCHRAN ST
SIMI VALLEY, CA 93065

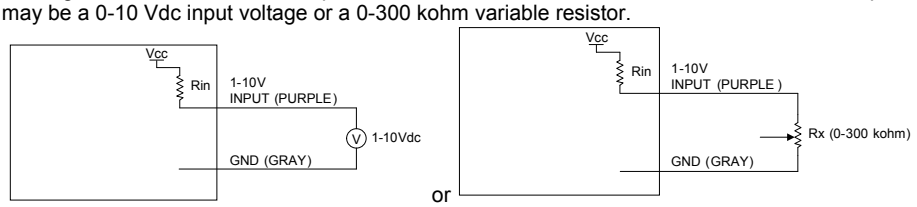
Class 2 power supply, Model LEDWV-096S024ST-xxx, where "xxx" can be any alphanumeric character or blank.

1. These power supplies have been evaluated to Isolated LPS output requirements for dc circuits with a maximum of one Class 2 output.
2. These products are provided with the following electrical ratings:

Model No.	Input Voltage (Vac)	Input Freq (HZ)	Input Current (A)	Output Voltage (V dc)	Output Current (A)	Max. Output Power (W)
LEDWV-096S024ST-xxx	100-277	50/60	1.2	24	0~4	96

3. In the end product, power supply spacing to other heat producing components shall be at least 25.4 mm (1 in) from end to end and 101.6 mm (4 in) from side to side.
4. These products shall be enclosed in the end product.
5. These products are suitable for factory wiring only.

6. These products are intended for use in a dry or damp locations only.
7. The suitability of input/output leads and the wring shall be determined in end product use.
8. These LED drivers are of the constant voltage type that requires the proper number of LED modules and controllers that does not exceed the maximum output current.
9. These LED drivers are provided with a multi-conductor AWM wire consisted of two (purple and gray) 22 AWG, min 80°C, min 300 V leads for connecting a dimmer to vary the output current. The connecting diagram is shown as below. The leads are investigated for use in Class 2 output circuit and cannot be interconnected with the other output of these drivers. The dimmer may be a 0-10 Vdc input voltage or a 0-300 kohm variable resistor.



LED Driver with isolated Class 2 and Non-Class 2 Outputs, Model Series LWx096-0aaSb-YYYYY; where x may be S or P; aa may be 12, 24, 36, 42, 48, or 52; b may be 1, 2, or 3 as indicated in the Electrical Ratings below; and YYYYY may be any alphanumeric character or blank for cosmetic features.

1. The LED Drivers have been evaluated to Class 2 and non-Class 2 output requirements for dc circuits.
2. These products are provided with the following electrical ratings:

Model No.	Input Rating		Output type	Product Output is rated	Maximum Output	
	Voltage (Vac)	Current (A)			Voltage (Vdc)	Current (A)
LWx096-012S2	100-277	2.2	Constant Current, Output is Isolated Class 2	Wet (a)	12	5
LWx096-024S2	100-277	2.2	Constant Current, Output is Isolated Class 2	Wet (a)	24	4
LWx096-036S2	100-277	2.2	Constant Current, Output is Isolated Class 2	Damp (b)	36	2.66
LWx096-042S3	100-277	2.2	Constant Current, Output is Isolated Class 2 for US, and non-Class 2 for CNR	Damp (b)	42	2.28
LWx096-048S3	100-277	2.2	Constant Current, Output is Isolated Class 2 for US, and non-Class 2 for CNR	Damp (b)	48	2
LWx096-054S3	100-277	2.2	Constant Current, Output is Isolated Class 2 for US, and non-Class 2 for CNR	Damp (b)	54	1.77
LWx096-012S1	100-277	2.2	Constant Current, Output is Isolated non-Class 2	Damp (c)	12	8

(a) For Models LWx096-0aaS2 (aa is 12, 24), the driver unit (input and enclosure) shall be protected from contact with water by a suitably rated enclosure material in the end product.
(b) For Models LWx096-036S2 and LWx096-0aaS3 (aa is 42, 48, or 54), the driver unit and output circuitry shall be protected from contact with water by a suitably rated enclosure material in the end product.
(c) For Model LWx096-012S1, the driver unit and output circuitry shall be protected from contact with water and provided with a suitable electrical and fire enclosure in the end product.

3. In the end product, power supply spacing to other heat producing components shall be at least 25.4 mm (1 in.) from end to end and 101.6 mm (4 in.) from side to side.
4. In the end product, LED Drivers spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
5. These products shall be enclosed in the end product.
6. These products are suitable for factory wiring only.
7. The suitability of input/output leads and the wiring shall be determined in end product use.
8. These products utilize a UL Recognized (OBJY2), Class 130 (B) electrical insulation system.
9. As part of temperature testing, the case temperature at the temperature reference point, identified as Tc on the case, was monitored. During the normal temperature test of the end product, the temperature at the temperature reference point is to be monitored. The absolute value at the temperature reference point cannot exceed 80°C for Models LWx096-012Sb-YYYYY and 90°C for Models LWx096-0aaSB-YYYYY; where aa may be 24, 36, 42, 48 and 52. End product to determine suitability if the Tc is higher during end product evaluation.
10. The LED drivers shall be installed in compliance with the enclosure, mounting, spacing, casualty, and segregation requirements of the end product application. Electrical/Fire/Mechanical enclosure shall be evaluated in end product.
11. For Models LWx096-0aaS3 (aa is 42, 48, or 54), these products have an output that is rated 42 Vdc or higher. For Canada, this output cannot be accessible based on maximum voltage restrictions for Class 2 circuits in the Canadian Electrical Code. The output terminals and circuitry of the end product should be evaluated to confirm compliance with this accessibility

requirement, either based on output terminal design or based on manufacturer specifications for its use in restricted access areas only. The latter option will require markings on the product as well as the installation manual.
12. The Leakage Current Test was conducted at 277 Vac input with a maximum measurement of 0.6 MIU for Class 2 Models. If the driver is installed in a cord-connected end product that operates at 120 Vac input, the need for conducting additional leakage current testing shall be considered in the end product evaluation.

AVA TECHNOLOGY INC E332371
SUITE 6
2640 S MYRTLE AVE
MONROVIA, CA 91016-8210

LED Module, Designated: US1M-CV Series where M is any 2 to 5 alphanumeric characters (indicates specific model), C is any one letter (indicates color), and V is 12 or 24 (indicates voltage).
1. These products are only suitable for connection to the output of a UL Listed or R/C (UYMR2), Component - Sign Accessory Class 2 LED power supply or UL Listed or R/C Class 2 Power Supply rated 12VDC or 24VDC.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 requirements.
3. These products are rated per the Table on Page 1. When units are connected to a Class 2 circuit, their number is to be limited to draw a total wattage of no greater than the secondary current rating of each Class 2 power supply.
4. These products are suitable for use in dry, damp and wet locations without additional enclosures.

AVERY DENNISON CORP E466002
250 CHESTER ST
PAINESVILLE, OH 44077

Polymeric Adhesive System (Laminating Adhesive), designated Cat. Nos. “HPA 1902”, “HPA 1902PET”, “HPA 1905”, and “HPA 1905PET”.
1. The adhesive system may be used for securement of any combination of surfaces listed in Table A. The end-product operating temperature is not to exceed the lowest temperature rating of the combination.
2. The adhesive system is suitable where exposed to high humidity and occasional exposure to water. The minimum temperature rating is - 35°C (-31°F).
3. This adhesive system is suitable for application to smooth flat surfaces, except where another surface configuration is noted. The adhesive shall be applied in accordance with the manufacturer's instruction. All surfaces shall be clean and dry. The manufacturer’s instructions regarding cure time shall be followed.
4. The adhesive dynamic bond strength specified in Table A and B includes a safety factor of four.
5. The bond strength values shown in Table A and B were determined in accordance with ASTM D 1002.
6. The materials have been evaluated for adhesive compatibility and stability only. No electrical or flammability tests have been performed. The engineer must consider the need to investigate the part for other than the properties investigated, in accordance with the applicable end-product standard and/or the requirements outlined in UL 746C, Standard for Material Used in Electrical Equipment Evaluations.
7. The suitability for the use when exposed to oil, chemicals, refrigerant, soap, x-rays, ultraviolet and the like has not been determined by this investigation, unless otherwise noted.
8. The average as-received bond strength values are as follows. When determining the suitability of the adhesive system in accordance with item 4, the bond strength value should be based on the lowest average as-received bond strength value of the material combination.
9. The adhesive static bond strength is 0.25 pounds per square inch, which is the ability to support the dead weight of a sign panel. Where the total weight of the panel is supported by other mechanical means such as by a flange, lip, or channel, the static bond strength calculation is not applicable. The minimum square inches of adhesive tape to use is determined by dividing the maximum static load in pounds by 0.25 pounds per square inch.
10. When considering the use of any adhesive covered by this Report, the strength of the adhesive joint used to position parts shall be capable of withstanding the maximum force that might be applied to the joint in the end application. This is called the dynamic bond strength and includes wind loading. The minimum square inches of adhesive tape to use is determined by dividing the maximum dynamic load in pounds by the adhesive bond strength specified in Table A.
11. After determining the amount of tape required in square inches for the static load and for the dynamic load, the largest number is the minimum amount of tape that shall be used.

AVL INC E347113
104-94 SANHO-DAERO
GUMI-SI, GYEONGSANGBUK-DO 730-906 REPUBLIC OF KOREA

LED Module, Model Nos. AVL 3P, AVL 1P, AVL 2P, AVL 3CP, AVL 4P, AVL RGB, AVL-TUBE LIGHTING, AVL 3EC, AVL 4EC, AVL SPOT LIGHTING BAR, AVL LED LIGHTING BAR, AVL 1WP, AVL 2WP, AVL 3WP, AVL 4WP, AVL 3CSP, AVL 1CAP, AVL 2CAP, AVL 3CAP, AVL 4CAP.
1. These products are only suitable for use in dry, damp and wet locations and supplied with a Class 2 power source rated 12 Volt DC or less.
2. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. These products are not required to be enclosed or protected from the weather in the end product.
4. These products may be secured in place in the end product by any means

Class 2 LED light board, Model No. ALB.
1. These products are only suitable for connection to a Class 2 power source rated 24 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit and which is rated greater than 24 V DC.

3. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 24 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. When these products are used in applications other than signs the need to conduct a temperature test shall be considered.
7. These products cannot be wired in series.

AXIOMLED INC E330040

2663 LEE AVE
SOUTH EL MONTE, CA 91733

LED Module, Cat. No. AX-LEY Series, where Y can be replaced with any numbers from 1 through 9.
1. These products are only suitable for connection to a Class 2 power source, rated 30 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits.
3. Class 2 LED Modules designated AX-LEY series are each rated max. 7.5 Watts per unit. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 30 Volt DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.

LED Drivers, Models PS144FD24, PS120FD12, PS72FS24, PS60FS12, PS144FD30, PS144HD30, PS144HD24, PS120FD18, PS120HD18, PS120FD15, PS120HD15, PS120HD12, PS100FD10, PS100HD10, PS80FD5, PS80HD5, PS72FS30, PS72HS30, PS72HS24, PS60FS18, PS60HS18, PS60FS15, PS60HS15, PS60HS12, PS50FS10, PS50HS10, PS40FS5, PS40HS5.
1. These power supplies have been evaluated to Class 2 output requirements for dc circuits with maximum of 2 or 1 Class 2 outputs.
2. These power supplies are only suitable for use in indoor and outdoor use applications.
3. In the end product, power supply spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.

BAYER MATERIALSCIENCE LLC E146154

119 SALISBURY RD
SHEFFIELD, MA 01257

Rigid sign enclosure system, for use in electric signs, designated: Makrolon Sheet or Makrolon grades GP, SL, OP, LD, PV and Lumen XT, all may be followed by additional characters.
1. Acceptable for use in dry, damp and wet locations.
2. Acceptable for enclosure, sign body and decorative applications. Enclosure applications include exposed live parts spaced more than 0.8 mm away from the surface of the material.
3. This material is suitable for direct contact with and mounting to heat producing components such as transformers, power supplies and ballasts in the end product.
4. Marking required on end product stating, "Replace only with (manufacturer's name of component), type (type designation of sign face) sign face material".
5. Suitable for use in terminating conduit.
6. Water exclusion must be determined in the end product.
7. Self-threading screws shall not be used to mount components to these materials.
8. The mounting means of components shall be determined in the end-product.

BITRO GROUP INC E341583

201 CHARLES ST
HACKENSACK, NJ 07601

LED Module, Models OMX-L4, OMX-L3, OMX-M3, OMX-M2, OMX-S2, OMX-N1.
1. These products have been evaluated for connection to a Class 2 power source only, rated 12 Vdc, 60 W max.
2. These products are suitable for use in dry, damp or wet locations.
3. The LED module is provided with leads for interconnection. The suitability of the leads shall be determined in the end product.

LED Module, Class 2 powered LED modules, BT-XXX series designated as “Linear LED Bars”, “PCB Modules”, “Sign Washer”, “Channel Letter Modules”, “LED Bars” or “Flexible Strips”, where XXX may be any alphanumeric characters. 1. These products are only suitable for use in dry, damp and wet locations and supplied with a Class 2 power source rated 24 Volt DC or less.
2. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. These products are not required to be enclosed or protected from the weather in the end product.
4. These products may be secured in place in the end product by any means available.

Class 2 powered LED controllers, designated as XXYY-N-Q series, where XX may be SD, BT, LT, or T2; YY may be any alphabetical characters or blank;, N may be any alphanumeric characters; and Q may be any alphanumeric characters or blank.
1. The input of these products is only suitable for connection to the output of a UL Listed or Recognized Class 2 power supply.
2. These products are provided with dimming connections that have only been evaluated for connection to a Class 2 dimming circuit.
3. These products are suitable for use in dry and damp locations.
4. These drivers are provided with a maximum of one, Class 2 output.
5. These products are suitable for factory wiring only.
6. These products shall be enclosed in the end product.

BITRO GROUP INC E351123

201 CHARLES ST
HACKENSACK, NJ 07601

Class 2 LED Power Supply, Model ASU-60-12U, ASU-100-24U.

1. The power supply shall be installed in compliance with the applicable requirements of the end-product standard for, mounting, spacing, casualty and segregation.
2. The maximum available output parameters were within the maximum allowable limits for Class 2, inherently limited as specified in the UL 1310, Standard for Class 2 Power Units and also in accordance with the Canadian Safety Standard CSA C22.2 No. 223.
3. The power supply was submitted and tested for a maximum manufacturer's recommended Tc location, should not exceed 69°C, in ambient of 40°C. If adjacent LED power supplies are spaced closer than 1 in. end to end or 4 in. side to side a temperature test shall be conducted in the end use product.
4. Power Supply is intended for use in indoor Dry and Damp location only.
5. In the end product, power supply spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure. Adjacent power supplies shall be spaced at least 1 in. end to end and 4 in. in any other direction.
6. The input and output leads were not subjected to the strain relief test.
7. The primary (Black-White) and the output (Red-Black) connection wires of the power supply are R/C (AVLV2/AVLV8), 18 AWG, 90ºC. The suitability of the leads shall be determined in the end-use application.

BLUEVIEW ELEC-OPTIC TECH CO LTD **E318168**
1000 SECTION 2, 2ND KONGGANG RD
SOUTHWEST AVIATION INDUSTRIAL
DEVELOPMENT ZONE SHUANGLIU
CHENGDU, SICHUAN 610207 CHINA

LED Lighting Modules, Cat. No. BV-ALUMINUM-PIRANHA Series.

1. These products are only suitable for connection to the output of a UL Listed or R/C (UYMR2), Component - Sign Accessory Class 2 LED power supply or UL Listed or R/C Class 2 Power Supply rated 12VDC.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 requirements.
3. These products are rated per the Table below. When units are connected to a Class 2 circuit, their number is to be limited to draw a total wattage of no greater than the secondary current rating of each Class 2 power supply.
4. These products are suitable for use in dry, damp and wet locations without additional enclosures.

Part No.	Operating Voltage (V DC)	Current per module (mA)	Watts per module (W)	Emitting color	LED quantity (pc)
BV-Aluminum- Piranha-Y	12	30	0.36	Yellow	1 4
BV-Aluminum- Piranha-A	12	30	0.36	Amber	1 4
BV-Aluminum- Piranha-WW	12	40	0.48	Warm White	2 2
BV-Aluminum- Piranha-CW	12	40	0.48	Cold White	2 2
BV-Aluminum- Piranha-PW	12	40	0.48	Pure White	2 2
BV-Aluminum- Piranha-G	12	40	0.48	Green	2 2
BV-Aluminum- Piranha-B	12	40	0.48	Blue	2 2

LED Lighting Modules, Model BV-STRIP-PIRANHA Series.

1. These products are only suitable for connection to the output of a UL Listed or R/C (UYMR2), Component - Sign Accessory Class 2 LED power supply or UL Listed or R/C Class 2 Power Supply rated 12VDC.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 requirements.
3. These products are rated per the Table below. When units are connected to a Class 2 circuit, their number is to be limited to draw a total wattage of no greater than the secondary current rating of each Class 2 power supply.
4. These products are suitable for use in dry, damp and wet locations without additional enclosures.

Part No.	Operating Voltage (VDC)	Current per module (mA)	Watts per module (W)	Emitting color	LED quantity (pc)
BV-Strip-Piranha-1*3-Y	12	30	0.36	Yellow	1 3
BV-Strip-Piranha-1*3-A	12	30	0.36	Amber	1 3
BV-Strip-Piranha-1*3-WW	12	20	0.24	Warm White	1 3
BV-Strip-Piranha-1*3-CW	12	20	0.24	Cold White	1 3
BV-Strip-Piranha-1*3-PW	12	20	0.24	Pure White	1 3
BV-Strip-Piranha-1*3-G	12	20	0.24	Green	1 3
BV-Strip-Piranha-1*3-B	12	20	0.24	Blue	1 3

LED Lighting Modules, BV-Flexibility-X-X Series, where X-X can be any alpha-numeric combination denoting LED color.

1. These products are only suitable for connection to the output of a UL Listed or R/C Class 2 Power Supply rated 12VDC.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 requirements.
3. These products are rated per the Table on Page 2. When units are connected to a Class 2 circuit, their number is to be limited to draw a total wattage of no greater than the secondary current rating of each Class 2 power supply.
4. These products are suitable for use in dry, damp and wet locations without additional enclosures.

Part No.	Operating Voltage (V)	Current per module (mA)	Watts per module (W)	Emitting color	Max. LED quantity per module (pc)

BV-Flexibility- SMD 1-R	12	100	1.2	Red	15
BV-Flexibility- SMD 1-Y	12	100	1.2	Yellow	15
BV-Flexibility- SMD 1-B	12	100	1.2	Blue	15
BV-Flexibility- SMD 1-G	12	100	1.2	Green	15
BV-Flexibility- SMD 1-W	12	100	1.2	White	15
BV-Flexibility- SMD- 2-R	12	200	2.4	Red	30
BV-Flexibility- SMD- 2-Y	12	200	2.4	Yellow	30
BV-Flexibility- SMD- 2-B	12	200	2.4	Blue	30
BV-Flexibility- SMD- 2-G	12	200	2.4	Green	30
BV-Flexibility- SMD- 2-W	12	200	2.4	White	30

LED Lighting Modules, Cat. Nos. BV-POWER-X-0.5W, BV-POWER-X-1W, where X can be R or W.

1. These products are only suitable for connection to the output of a UL Listed or R/C (UYMR2), Component - Sign Accessory Class 2 LED power supply or UL Listed or R/C Class 2 Power Supply rated 12VDC.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 requirements.
3. These products are rated per the Table below. When units are connected to a Class 2 circuit, their number is to be limited to draw a total wattage of no greater than the secondary current rating of each Class 2 power supply.
4. These products are suitable for use in dry, damp and wet locations without additional enclosures.

Part No.	Operating Voltage (V DC)	Current per module (mA)	Watts per module (W)	Emitting color	LED quantity (pc)
BV-Power-X-0.5W	12	180	0.5	White	1
BV-Power-X-1W	12	350	1.0	Red	1

LED Lighting Modules, Cat. No. BV-S-PY-0.5XX, where S may be replaced with Strip or Square, Y may be replaced with A, C, G or K and XX may be any alphanumeric characters.

1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuit and is rated greater than 15 V DC.
3. These products are each rated max. 1.5 watts per module. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.

LED Lighting Modules, Cat. No. BV-A1-X, where X may be replaced with any alphanumeric characters.

1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuit and is rated greater than 12 V DC.
3. These products are each rated max. 0.72 watts per module. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.

Class 2 LED Modules: Models BV-Bar-L-Y-X, BV-BPS-L-Y-X and BV-AL-24-X, "L" can be any alphanumeric characters represents bar length, "Y" can be any alphanumeric character represents LED quantity, can be any alphanumeric characters represents LED color.

1. This product is only suitable for connection to a Class 2 power source, rated 24 Volt DC or less for models BV-BPS-L-Y-X and BV-AL-24-X, rated 12 Volt DC or less for model BV-Bar-L-Y-X.
2. These product have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than electrical ratings.
3. These Class 2 LED modules are rated as noted in the electrical ratings tables. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply
4. Models BV-Bar-L-Y-X, BV-BPS-L-Y-X and BV-AL-24-X are suitable for use in dry locations with supply sources rated at electrical ratings or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end products by any means available.

Class 2 LED Modules: BV-MAXXXX-Y-X and BV-DY-X, where "A" can be any letter represents product type, where "XXXX" can be 0 - 9 alphanumeric character represents LED encapsulation type, where "Y" can be 1 - 9 alphanumeric characters represents LED number, where "X" can be any alphanumeric characters represents LED color. Suitable for wet location.

1. This product is only suitable for connection to a Class 2 power source, rated 12 Volt DC or less for models BV-MAXXXX-Y-X and BV-DY-X.
2. These product have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than electrical ratings.
3. These Class 2 LED modules are rated as noted in the electrical ratings tables. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. Models BV-MAXXXX-Y-X and BV-DY-X are suitable for use in dry、 damp and wet locations with supply sources rated at electrical ratings or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. The suitability of mounting means shall be determined in end product use.

552 NW 77TH ST
BOCA RATON, FL 33487

LED Channel Letter Sign Kit, Cat. No. CCS100, CCD72, LS1001, LS1002, LS1061, LS1062, CCD36, LSS3001, LSS3061 and CCD180.

1. These products are only suitable for connection to a UL Listed Class 2, AC power source.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited supplies.
3. LEDs connected to a 12 Volt AC Class 2 power source are not required to be enclosed or protected from weather. LEDs connected to a 24 Volt AC Class 2 power source are limited to installation in a dry or damp location only.
4. Cat. No. CCD72 is rated for 12 watts per unit, Cat. No. CCS100 is rated for 4.8 watts per foot, Cat. No. LS1002 is rated at 6 Watts per foot, Cat. No. LS1001 is rated 3.6 Watts per foot and Cat. No. SM0006 is rated at 0.96 Watts per unit. 5. 5. The total number of feet of each type and inches for the inch unit are not to produce a total wattage of greater than 60 watts per Class 2 circuit.
6. Models CCS100, LS1001, and LS1002 are provided with a R/C wire connectors on the printed wiring board to increase the length of channel letters. No other cut across the board is permitted.

Class 2 LED Channel Modules, Cat. No. ACXXXX Series and DLSXXXX Series where XXXX maybe be any numbers from 0000-9999 and LED modules Color Controllers, Cat. No. SLMCTL, RSBCTL, and CTM.

1. These products are only suitable for connection to a UL Listed or Recognized Class 2, 24 Volt or less power source.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited supplies.
3. Class 2 LEDs, “Channel Letter LED” Modules ACXXXX Series and DLSXXXX Series when connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 circuit.
4. These products are suitable for use in dry and damp locations.

LED drivers, Cat. No. MR16_1-5WD-xxx ("1 to 5 LED Driver") where xxx may be replaced with 12A or 24D; LED Disk, Cat. Nos. 5X1WxLB-yyyy ("5 LED Disk"), 3X1WxLB-yyyy ("3 LED Disk") and 1X1WxLB-yyyy ("1 LED Disk") where yyyy may be replaced with numbers 0 through 9 or letters of alphabet A through Z or combination of letters or numbers; Class 2 HPLS Light Strip, Cat. No. HPFLSxx-Q\'-24y-zzzz, where Q may be replaced with the number 1, 2 or 3, xx and zzzz may be replaced with letters of alphabet A through Z or combination of letters or numbers.

1. Class 2 LED Drivers Model LED Drivers, cat. No. MR16_1-5WD-xxx and LED Disk, cat. nos. 5X1WxLB-yyyy, 3X1WxLB-yyyy, 1X1WxLB-yyyy are only suitable for connection to a maximum , max. 15 Volts AC or max. 24 Volts DC or less.
2. Class 2 HPLS Light Strips, cat. no. HPFLSxx-Q'-24y-zzzz are only suitable for connection to a maximum , max. 24 Volts AC or less.
3. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit.
4. Class 2 Assemblies, Model LED Drivers, cat. No. MR16_1-5WD-xxx, LED Disk, cat. nos. 5X1WxLB-yyyy, 3X1WxLB-yyyy, 1X1WxLB-yyyy and HPLS Light Strips, cat. no. HPFLSxx-Q'-24y-zzzz is each rated max. 24 Watts per unit. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
5. Class 2 LED Drivers Model LED Drivers, cat. No. MR16_1-5WD-xxx and LED Disk, cat. nos. 5X1WxLB-yyyy, 3X1WxLB-yyyy, 1X1WxLB-yyyy are suitable for use in dry, damp and wet locations with supply sources rated at 24 Volt DC or less.
6. Class 2 HPLS Light Strips, cat. no. HPFLSxx-Q'-24y-zzzz are suitable for use in dry, damp locations with supply sources rated at 24 Volt AC.

Class 2 Powered LED Modules, Cat. No. HPLS/HPFB Series (Border Light) and NFLS-HO-XXX Series (Border Light), where XXX can be replaced with any alphanumeric character.

1. These products are only suitable for connection to a UL Listed or Recognized Class 2, 15 Volt or less DC power source.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited supplies.
3. Class 2 LED modules, HPLS/HPFB Series (Border Light)”, is rated max. 45 Watts per module. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations.

Class 2 LED modules color controllers, Models SLMCTL, RSBCTL, CTM.

1. These products are only suitable for connection to a UL Listed or Recognized Class 2, 24 Volt or less power source.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited supplies.
3. These class 2, low voltage, low energy LED module color controllers when connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 circuit.
4. These products are suitable for use in dry and damp locations.

LED flasher Buffer Cards, Cat. No. LSDT33X_24, CCDST50_24, BFPS0001

1. These components are to be installed in accordance with the manufacturer's instructions.
2. These devices are rated as specified below.

Catalog Number	(Input-Output) Operating Voltage	Max Output Current (rms)	Type Load
LSDST33X-24	24 V ac	2.5 A	LED
CCXST50_24	24 V ac	2.5 A	LED
BFPS001	24 V ac	2.5 A	LED

3. An electrical enclosure needs to be provided in the end product.
4. No tests have been conducted on these components and as such, end product testing should be considered.

Class 2 Powered LED Modules, Cat. Nos. BF-HPNLS-12A-XXX-QQQ-ZZZZ Series, where XXX and QQQ may be blank or replaced with alphanumeric characters and ZZZZ may be replaced with any number combinations from 0000 to 9999.

1. These products are only suitable for connection to a Class 2 power source, rated 12 Volt or less.

2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than 15 V.
3. Class 2 LED modules, Cat. No. BF-HPNLS-12A-XXX-QQQ-ZZZZ Series are each rated max. 14 Watts per unit. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 V or less.
5. These products are not required to be enclosed or protected from the weather in the end product.

Class 2 LED Regulator Model HPCCSD.

1. These products are only suitable for connection to a Class 2 power source, rated 24 Volt dc or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than 24 Vdc.
3. These products are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.

BRAND W LLC, DBA ECOLOCITY LED E357471

255 DISTRIBUTION DR
UNIT 104
SPARKS, NV 89441

Class 2 LED Modules, designated as "M Star XXX LED Strip Lights-YYVDC" series, where M may be Ribbon or Digital; XXX may be blank, Max, Max TPU, Ultra, Ultra Extreme, HID, HID TPU, Supreme, Extreme Outdoor, Extreme RGB Outdoor, Ultra Extreme Outdoor, RGB, RGB 90, RGB 180, Side or Side Light; and YY may be 12 or 24.

1. These products are only suitable for connection to a Class 2 power source rated 24 Volt DC or less.
2. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. These products are suitable for use in dry, damp and wet locations.
4. These products are not required to be enclosed or protected from the weather in the end product.
5. These products may be secured in place in the end product by any means available.
6. Ratings to be determined in end use.

BU-CHANG E330293

3RD FL, C BLK, MICRO OFFICE BLDG
554-2 GASAN-DONG
GEUMCHEON-GU, SEOUL REPUBLIC OF KOREA

Class 2 LED Modules, Designated as "BIGBANG", Models SW-DC-B02, SW-DC-B03.

1. These products are only suitable for connection to a Class 2 power source rated 24 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit and which is rated greater than 24 V DC.
3. These products are each rated max. 1.2 watts per module. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 24 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.
7. When these products are used in applications other than signs or outline lighting, the need to conduct a temperature test shall be considered.

CAO LIGHTING INC E332228

4628 W SKYHAWK DR
WEST JORDAN, UT 84084

Class 2 LED Modules, designated as LuxemBright LED System, Cat. No. 77X-YYYTT Series; where X may be numerals 0-9; YYY may be any alphanumeric characters; and TT may be numerals 00 to 99**.**

1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuit and is rated 12 V DC or less.
3. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.

CENTCH ELECTRONICS (SHANGHAI) CO LTD E366279

192 Huhang Rd
201401 Shanghai, China

Marking: Company name or tradename "CENTCH", "SIDERAY", "BACKLIT", "ASTEROID" and product designation.

Class 2/LPS LED modules, Models BACKLIT- XY-nnnn series, SIDERAY- XY-nnnn series, BACKLIT- Pxy-nnnn series and LED EDGELIT SIGN series; where X, Y and N can be combinations of any numbers and letters.

1. These products are intended for use only when connected to a power source that complies with Class 2 or LPS voltage and energy limited circuits.
2. When these units are connected to a Class 2 or LPS supply circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 or LPS supply.

3. These products are suitable for use in dry, damp and wet locations with supply sources rated at 30 Volts DC or less. The 36 Volt rated products are suitable for dry and damp location only.
4. The wet location rated products are not required to be enclosed or protected from the weather in the end product.
5. These products may be secured in place in the end product by any means available.
6. The suitability of heat sinking for these LED modules shall be determined in the end product.
7. When these products are used in applications other than signs the need to conduct a temperature test shall be considered.

LED modules, Models SIDERAY- Pxy-nnnn series and iBillboard- Xy-nnnn series; where X, Y and N can be combinations of any numbers and letters.

1. These products may be secured in place in the end product by any means available.
2. The suitability of heatsinking for these LED modules shall be determined in the end product.
3. When these products are used in applications other than signs the need to conduct a temperature test shall be considered.
4. The product is intended to be used in wet locations.
5. The input and output connections have been invested for factory wiring only, connection to supply mains shall be determined in the end product. If the product shall be intended to use in field wiring, the suitability shall be determined in each end-use application.
6. The connectors have not been evaluated for current interruption. Suitability of the connectors shall be considered in the end-use application.
7. The connector has hazardous exposed live parts. Accessibility to live parts shall be determined in the end-use application
8. The temperature tests were performed at nominal 25°C ambient.

CGATE SOLUTIONS LTD E351371

P.O.BOX 3153
HAIFA, 32984
ISRAEL

Structural panel, designated "ALUMINUM COMPOSITE PANEL", Models ALS02, ALS03, ALS04, and ALS06.

1. This product is intended as an outer decorative covering, has not been investigated for use as an electrical enclosure.
2. Structural panels may be employed as external decorative faces and are acceptable for support of complete electrical enclosures, plastic faces, and moldings that are reliably secured to the panel.
3. This product is acceptable for use in dry, damp and wet locations
4. The water exclusion must be determined in the end product.
5. Suitable for use in component support applications. When threaded directly into the panels, suitability of screws shall be determined in the end product.
6. Nuts and bolts must be used when fastening a ballast or transformer weighting more than 7-1/2 lbs (3.4 kg).
7. A letter made from a structural panel shall have at least two points of support and shall have no point more than 10 in. from a point of support.
8. These materials are rated Polyethylene. Consideration will need to be given to end product thermal spacings from heat producing components or temperature test.
9. These materials are available as unpainted aluminum or pre-painted aluminum.
10. This material has not been investigated for the securement of conduit, electrode housings or the like, suitability shall be determined in the end product.
11. These panels shall be attached with screws, bolts or rivets to the structural framework so as to cause bonding to both conductive surfaces to ground, and to adequately secure each panel in place.

CHANNELUME/LET-R-EDGE E55183

4206 MAIN ST
P O BOX 3046
UNION GAP, WA 98903

Structural Siding, Cat. No. Channelume or Let-R-Edge.

1. The siding shall be bonded at points of conduit connection.
2. When used outdoors, all internal sign components shall be suitable for outdoor use.

Urethane Foam Elastomer Wood Coating, "Channelcoat 2".

1. This material shall not be used to enclose bare live parts or wiring.
2. The coating shall be applied in accordance with the supplied instructions.
3. The coating shall be applied to give a complete and uniform covering over the treated surfaces (0.008 in. minimum thickness).
4. The coating is acceptable for use in lieu of "asphalt-based paint" where required with metal-faced plywood panels.

CIRRUS SYSTEMS INC E352796

1945 FRANCISCO BLVD
SUITE 28
SAN RAFAEL, CA 94901

LED modules, Models N2-19C, N2-12.7C System.

1. These components should be installed in accordance with the manufacturer's instructions.
2. These products are suitable for use in dry location and damp locations.
3. These products shall be enclosed in a suitable electric enclosure in the end product.
4. These products have the following electrical ratings:

Model	Max Input Voltage (V)	Max Input Current (A)	Max Input Power (W)	Frequency (Hz)
“LED Module" Model No. N2-19C	110-240	0.64 A	37.5 W	50/60

“LED Module" Model No. N2-12.7C	110-240	0.64 A	37.5 W	50/60

5. These units were tested in open air room ambient temperature with the fans operating continuously. The need to conduct temperature test at elevated ambient shall be determined in the end product.
6. The need to conduct ground continuity tests and mold stress test shall be determined in the end product.

LED modules, Model "Blade XX" system where XX may be 12, 16 or 19 for marketing purposes.

1. These components should be installed in accordance with the manufacturer's instructions.
2. These products are suitable for use in dry location and **damp** locations.
3. These products shall be enclosed in a suitable electric enclosure in the end product.
4. These products have the following electrical ratings:

Model	Max Input Voltage (V)	Max Input Current (A)	Max Input Power (W)	Frequency (Hz)
Blade XX	110-240	1.0 A	65.0 W	50/60

5. These units were tested in open air room ambient temperature with the fans operating continuously. The need to conduct temperature test at elevated ambient shall be determined in the end product.
6. The need to conduct ground continuity tests and mold stress test shall be determined in the end product.
7. The suitability of wiring of these products shall be determined in the end use applications.

CITYLUX (CHINA) LED LIGHTING LTD E361402
RM 2105 WH195 TREND CENTRE
29-31 CHEUNG LEE ST
CHAI WAN, 999077 HONG KONG

Class 2 LED Module, Models CTL-3528SMD60-LKST, CTL-3528SMD60-LKIC, CTL-3528SMD60-LKOC.

1. These products are only suitable for connection to a Class 2 power source, rated 12 Vdc.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than electrical ratings.
3. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Vdc.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. The suitability of supply leads shall be determined in end use.
7. The mounting means shall be determined in end use.

CLEANLIFE ENERGY LLC E362201
8800 BROOKPARK RD
CLEVELAND, OH 44129

Class 2 LED Modules, CL-CTS Series, may be followed by alphanumeric characters.

1. These products are only suitable for connection to a Class 2 power source, rated maximum 12 VDC or 24 VDC.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than the electrical ratings.
3. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 VDC or 24 VDC.
4. These products are not required to be enclosed or protected from the weather in the end product.

Class 2 power supply, Models CL-CLP-10-12, CL-CLP-10-24, CL-CLP-15-12, CL-CLP-15-24, CL-CLP-20-12, CL-CLP-20-24, CL-CLP-30-12, CL-CLP-30-24, CL-CLP-40-12, CL-CLP-40-24, CL-CLP-60-12 and CL-CLP-60-24. **LVLE power supply**, Model CL-CLP-100-24. **Non-Class 2 power supply**, Model CL-CLP-100-12.

1. Power supplies CL-CLP-10-12, CL-CLP-10-24, CL-CLP-15-12, CL-CLP-15-24, CL-CLP-20-12, CL-CLP-20-24, CL-CLP-30-12, CL-CLP-30-24, CL-CLP-40-12, CL-CLP-40-24, CL-CLP-60-12 and CL-CLP-60-24 have been evaluated to Class 2 output requirements for dc circuits with a maximum of one Class 2 output.
2. Power supply CL-CLP-100-24 has been evaluated to LVLE output requirements for dc circuits with a maximum of one LVLE output.
3. Power supply CL-CLP-100-12 has been evaluated to Non-Class 2 output requirements for dc circuits with a maximum of one Non-Class 2 output.
2. These products are provided with the following electrical ratings:

Model Number	Input Voltage (V)	Input Current (A)	Frequency (Hz)	Output Voltage (Vdc)	Output Current (A)
CL-CLP-10-12	100-277	0.25	50/60	12	0.83
CL-CLP-10-24	100-277	0.25	50/60	24	0.42
CL-CLP-15-12	100-277	0.35	50/60	12	1.25
CL-CLP-15-24	100-277	0.35	50/60	24	0.63
CL-CLP-20-12	100-277	0.5	50/60	12	1.67
CL-CLP-20-24	100-277	0.5	50/60	24	0.83
CL-CLP-30-12	100-277	0.7	50/60	12	2.50
CL-CLP-30-24	100-277	0.7	50/60	24	1.25
CL-CLP-40-12	100-277	0.91	50/60	12	3.33
CL-CLP-40-24	100-277	0.91	50/60	24	1.67

CL-CLP-60-12	100-277	1.35	50/60	12	5.0
CL-CLP-60-24	100-277	1.35	50/60	24	2.5
CL-CLP-100-12	100-277	2.5	50/60	12	8.34
CL-CLP-100-24	100-277	2.5	50/60	24	4.17

3. In the end product, power supply spacing to other heat producing components shall be at least 25.4 mm (1 in) from end to end and 101.6 mm (4 in) from side to side.
4. These products shall be enclosed in the end product.
5. These products are suitable for factory wiring only.
6. These products are intended for use in a dry or damp locations only.
7. The suitability of input/output leads and the wring shall be determined in end product use.
8. These products employ Transformer employs Class 105 (A) insulation system.
9. As part of temperature testing, the case temperature at the temperature reference point identified as Tc on the case was monitored. The absolute value at the temperature reference point cannot exceed values as follows.

Model No.	Tc, °C
CL-CLP-10-12, CL-CLP-10-24, CL-CLP-15-12, CL-CLP-15-24, CL-CLP-20-12, CL-CLP-20-24, CL-CLP-30-12, CL-CLP-30-24, CL-CLP-40-12, CL-CLP-40-24, CL-CLP-60-12 and CL-CLP-60-24	75
CL-CLP-100-12 and CL-CLP-100-24.	70

CLEANLIFE ENERGY LLC E466878

8800 BROOKPARK RD
CLEVELAND, OH 44129

Class 2 LED module tubes, designated as CL-T8XPP-TT-XXX-KKDCXX-XXXX Series where PP, TT and KK may be any alpha-numeric characters.

1. When installed in the end-use application, consideration shall be given to the following.
2. These products are only suitable for connection to a Class 2 power source rated 24 Volt DC or less.
3. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuits.
4. When these units are connected to a Class 2 supply circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
5. These products are suitable for use in dry, damp and wet locations.
6. Consideration for suitable installation is to be determined in the end-use application.
7. The need for additional end product markings, such as lamp replacement, shall be considered in the end product evaluation.

COATES SIGNCO PTY LTD E472459

36 Doody St
Alexandria, Nsw 2015 AUSTRALIA

Component sign accessories, LED "Canopy Sign." May or may not be provided with alphanumeric digits for marketing purposes.

1. These components should be installed in accordance with the manufacturer's instructions.
2. These devices are to be used in accordance with the ratings and load types as specified below.
3. The suitability of supply connections shall be considered in the end product.
4. The suitability of Ground Continuity Test and Leakage Current Test shall be considered in the end product.
5. The Exclusion of Water Test was conducted on the entire product. In the end product conducting the Exclusion of Water Test shall be considered on the supply connection part of the product.

COOLEDGE LIGHTING E365284

UNIT 1
3751 NORTH FRASER WAY
BURNABY, BC V5J 5G4 CANADA

Class 2 LED lightsheet; Model Series LS-Ga-Pb-c-Kd-We-Lf-Sg-Ch-i, where a is any alphanumeric, b is 07 to 12, c is CLF or DRF, d is any two digit number, e is any number 28 to 280, f is any number 280 to 10850, g is maximum 310, h is 05 to 15, and i is any alphanumeric or blank.

1. These LED modules have been evaluated for powering only by a Class 2, LPS, or LVLE power source.
2. The need for an enclosure shall be determined in the end use.
3. This construction has been evaluated for dry and damp locations only. Use in an environment other than the above requires additional evaluation.
4. The suitability of the mounting means shall be determined in the end use.
5. The suitability of the power connection means shall be determined in the end use.
6. The products may be provided with output pads where one lightsheet can "pass through" the input voltage rails to the next lightsheet in parallel with the first. The total power available from the source powering multiple "pass through" products shall not exceed Class 2 limits.

LED drivers, isolated Class 2 output, Model PSD-090W-UNV-058VCC.

1. These power supplies have been evaluated to Isolated LPS output requirements or for dc circuits with a maximum of one Class 2 output per US only.
2. These products are provided with the following electrical ratings:

Input Ratings			Output Ratings		
Vac	mA	Hz	Vdc	A (max)	W

120/230-240/277	1.0/0.54/0.45	50-60	58	1.6	90

3. In the end product, power supply spacing to other heat producing components shall be at least 25.4 mm (1 in) from end to end and 101.6 mm (4 in) from side to side.
4. These products shall be enclosed in the end product.
5. This driver is considered a Class I (grounded) product. The driver's enclosure shall be properly bonded to ground, such as by the mounting screws or the like through the openings in the end flanges, in the end-use.
6. These products are intended for use in a dry or damp locations only.
7. The suitability of input/output leads and the wring shall be determined in end product use.
8. This power supply was provided with dimming circuitry in the secondary. The dimming controls and the LED +/- outputs were evaluated as Class 2/LVLE/LPS.

Class 2 power supply, Series PSD-yW-UNV-058VCC0020, where y may be a 30, 40 or 50.

1. These power supplies have been evaluated to Class 2 output requirements in the United States for dc circuits with a maximum of one Class 2 output.
2. These power supplies have been evaluated to LPS or LVLE output requirements in Canada for dc circuits with a maximum of one LPS or LVLE output.
3. These products are provided with the following electrical ratings:

Model Number	Input Voltage (V)	Input Current (A)	Frequency (Hz)	Output Voltage (Vdc)	Output Current (A)	W (max)
PSD-50W	120/230-240/277	0.58/0.30/0.25	50/60	58	0.86	50
PSD-40W	120/230-240/277	0.46/0.24/0.20	50/60	58	0.70	40
PSD-30W	120/230-240/277	0.34/0.19/0.15	50/60	58	0.53	30

4. In the end product, power supply spacing to other heat producing components shall be at least 25.4 mm (1 in.) from end-to-end, and 101.6 mm (4 in.) from side-to-side.
5. These products shall be enclosed in the end product.
6. These products are suitable for factory wiring only.
7. These products are intended for use in dry or damp locations only.
8. The suitability of input/output leads and the wiring shall be determined in end product use.
9. The output circuitry of these units shall be made inaccessible in the end product applications when the units are marked for use in Canada.

COOLEY INC E97069

50 ESTEN AVE
P O BOX 939
PAWTUCKET RI 02860

Flexible sign face systems, designated Cooley-Brite, SM-42, Cooley Brite Lite and Cooley-Brite II each with or without suffix numbers.

Product	Abbreviation
Cooley Brite	CB
Cooley Brite II	CBII
Cooley Brite Lite	CBL

1. Acceptable for us in dry, damp, and wet locations
2. These sign face materials shall comply with the external decorative face requirements of UL 48, particularly the spacings.
3. Limited to decorative applications only.
4. Water exclusion must be determined in the end product.
5. These materials shall not have more than one side surface colored (silk-screened) and shall be mounted only with the uncolored surface adjacent to lampholders, ballasts and the like.
6. When these materials are used on signs with any dimensions (length or width) in spaces greater than 6 ft, suitable braces should be employed to prevent the material from billowing and creating short spacings to heat sources.
7. Cooley Brite Lite and SM-42 are manufactured at a thickness of less than 0.5 mm. Testing shall be conducted in the end product to determine suitability of the tensioning system.

Flexible sign face systems, designated "5M Flexible Backlit Signface" with suffix numbers.

1. The suitability of these materials in combination with Signtech, Inc., Type FH, FC, Signalex Inc., or ABC Sign Products clamps, to prevent entrance of water in outdoor sign applications, shall be determined.
2. These sign face materials shall comply with the external decorative face requirements of UL 48, particularly the spacings.
3. These materials have not been investigated for use as an electrical enclosure.
4. The suitability of the "fit" of the face material and the "secureness" of the clamp mechanisms of the sign, will be judged in the end application.
5. These materials shall not have more than one side surface colored (pigmented) and shall be mounted only with the white surface adjacent to lampholders, ballasts and the like.
6. When these materials are used on signs with any dimensions (length or width) in spaces greater than 6 ft, suitable braces should be employed to prevent the material from billowing and creating short spacings to heat sources.
7. These flexible sheet materials have been found suitable for use with the Signtech, Inc. (+) tensioning system, the ABC Sign Products tensioning system (++) or Signalex Inc. tensioning system (+++) below. The combination is suitable for use in sign applications where Items 1 through 5 (above) have been considered. Mounting and tensioning instructions, which accompany the following clamps, should be used to ensure proper use of the 5M Flexible Backlit Signface.

Flexible sign face systems, Model designated Reflections XL, may be provided with additional suffixes.

1. Acceptable for us in dry, damp, and wet locations
2. These sign face materials shall comply with the external decorative face requirements of UL 48, particularly the spacings.
3. Limited to decorative applications only.

4. Water exclusion must be determined in the end product.
5. These materials shall not have more than one side surface colored (silk-screened) and shall be mounted only with the uncolored surface adjacent to lampholders, ballasts and the like.
6. When these materials are used on signs with any dimensions (length or width) in spaces greater than 6 ft, suitable braces should be employed to prevent the material from billowing and creating short spacings to heat sources.

Flexible sign face systems, Model designated Weathertyte and Weathertyte Lite.

1. Acceptable for use in dry, damp, and wet locations.
2. These sign face materials shall comply with the external decorative face requirements of UL 48, particularly the spacings.
3. Limited to decorative applications only.
4. Water exclusion shall be determined in the end product.
5. When these materials are used on signs with any dimensions (length or width) in spaces greater than 6 ft, suitable braces should be employed to prevent the material from billowing and creating short spacings to heat sources.
6. "Weathertyte Lite" is manufactured at a thickness of 0.018 in (0.45 mm). Testing shall be conducted in the end product to determine suitability of the tensioning system.

CPI ADVANCED INC E334246
14708 CENTRAL AVE
CHINO, CA 91710

LED drivers, Models CPI-12V40, CPI-12V60, CPI-12V100.

1. These power supplies have a maximum of one Class 2 output. The output of these power supplies has been evaluated to Class 2 output requirements for dc circuits.
2. These products with Class 2 outputs are suitable for use in dry and damp locations.
3. In the end product, power supply spacing to other heat producing components shall be minimum 4 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
4. When used in a cord connected product, the need for conducting a leakage current test shall be considered in the end product.
5. The suitability of grounding connection shall be determined in the end-use product.

LED power supplies, Models CPI-12V60W, CPI-12V100W, CPI-12V150W.

1. These units have been evaluated for LPS output for model CPI-12V60W; Non-LPS output for models CPI-12V100W, and CPI-12V150W.
2. The products have been tested at 50 ºC ambient with rated load. The measured surface temperatures under specified ambient conditions were as tabulated below. Acceptable operation at a higher temperature should be determined in end products.

Model	Housing outside above main transformer	Housing outside under main transformer
CPI-12V60W	95.96	90.73
CPI-12V100W	101.69	100.52
CPI-12V150W	101.91	97.62

3. These products are intended for dry, damp or wet location use.
4. The products are provided with input and output lead wires. The lead wire length, routing and splicing shall comply with the requirements of the end-use application.
5. These units are not provided with a mounting means. The method of mounting shall be determined in the end-use application.
6. The products have housing that do not qualify as being enclosure, the suitability of the enclosure as ultimate enclosure shall be determined in the end use application.
7. The units are intended for factory installed only.
8. The suitability of grounding means shall be determined in the end-use application.
9. The output of all models has been evaluated as isolated SELV.
10. When used in fixed Signs, spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
11. When used in fixed Signs, this product shall be located not less than 1 inch (25.4mm) apart when arranged end-to-end, and not less than 4 inches (102mm) apart when arranged otherwise.
12. Do not ground the secondary circuit to the metal housing of this power unit.

CPI ADVANCED INC, DBA ENABA E228165
14708 CENTRAL AVE
CHINO, CA 91710

Class 2 LED Modules: Cat. No. CPI XLSW series, where X may be 2, 3 or 4.

1. These products are only suitable for connection to a Class 2 power source rated 15 Volt DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuit and is rated greater than 15 V DC.
3. These products are each rated max. 1.5 watts per module. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 15 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.

CUSTOM ASSEMBLY SOLUTIONS INC E332257
176 EASY ST
CAROL STREAM, IL 60188

LED sign box: Model CC221.

1. This product is only suitable for connection to the output of a UL Listed or R/C Class 2 Power Supply rated 36 VDC or less.
2. This product has not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited supplies.

3. This product is intended for use with a recessed sign.
4. This product is suitable only for use in a dry location without an additional enclosure.
5. The need for any testing, particularly temperature testing, shall be done with the end-product.
6. This component may be secured to the end-product by any means available.

D & P CUSTOM LIGHTS INC E338346

900 63RD AVE N
PO BOX 90465
NASHVILLE, TN 37209

Class 2 LED modules: designated as XXX-LED-YYYY series, where XXX and YYYY may be any alphanumeric characters.
1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuit and is rated greater than 12 V DC.
3. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.

DAEHAN TRANS CO LTD E353449

#7-11 SONGDO-DONG
YEONSU-GU
INCHEON-SI, 406-840, KOREA

Sign Accessories, Class 2 LED Modules, STAR C04CW, STAR C04DW, STAR C04NW, STAR C04WW, STAR C04R, STAR C04G, STAR C04B, STAR C02CW, STAR C02DW, STAR C02NW, STAR C02WW, STAR C02R, STAR C02G, STAR C02B, STAR C0320CW, STAR C0320DW, STAR C0320WW, STAR C0320R, STAR C0320G, STAR C0320B, STAR C0640CW, STAR C0640DW, STAR C0640WW, STAR C0640R, STAR C0640G, STAR C0640B, STAR N04CW, STAR N04DW, STAR N04WW, STAR N04R, STAR N04G, STAR N04B, STAR N04RGB, STAR C01CW, STAR C01DW, STAR C01WW, STAR C01R, STAR C01G, STAR C01B, STAR C0230CW, STAR C0230DW, STAR C0230WW, STAR C0230R, STAR C0230G, STAR C0230B, STAR C0340CW, STAR C0340DW, STAR C0340WW, STAR C0340R, STAR C0340G, STAR C0340B, STAR F04CW, STAR F04DW, STAR F04WW, STAR F04R, STAR F04G, STAR F04B, STAR F02CW, STAR F02DW, STAR F02WW, STAR F02R, STAR F02G, STAR F02B, STAR N03CW, STAR N03DW, STAR N03NW, STAR N03R, STAR N03G, STAR N03B, STAR L02DW, STAR L02WW, STAR N02CW, STAR N02DW, STAR N02NW, STAR N02R, STAR N02G, STAR N02B, RAINBOW C04, RAINBOW C02, WIDE mini DW, WIDE mini NW, WIDE mini WW, WIDE mini DW, WIDE mini NW, WIDE mini WW, WIDE L050 1P DW, WIDE L050 1P NW, WIDE L050 1P WW, WIDE L050 3P DW, WIDE L050 3P NW, WIDE L050 3P WW, WIDE L165 3P DW, WIDE L165 3P NW, WIDE L165 3P WW, WIDE L165 1P DW, WIDE L165 1P NW, WIDE L165 1P WW, STAR F03 CW, STAR F03 DW, STAR F03 WW, STAR F03 R, STAR F03 G, STAR F03 B, SLIM N050 CW, SLIM N050 DW, SLIM N050 WW, FLEX S10100 W, FLEX S10100 WW, FLEX S20100 W, FLEX S20100 WW, FLEX T10100 W, FLEX T10100 WW, FLEX T20100 W, FLEX T20100 WW, FLEX RGB T20100, DOT CW, DOT WW, DOT R, DOT G, DOT B, DOT A, DOT Y.
1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Volts DC or less.
4. These products are not required to be enclosed or protected from the weather in the end product.
5. These products may be secured in place in the end product by any means available.

DAESANG INC E211963

716 KWACHON OFCTL
1-14 BYULYANG-DONG
KWACHON-SHI
KYUNGKI-DO 427-040, KOREA

Electroluminescent Inverter, Cat. Nos. CX-2003U
1. These units have been evaluated for use in dry locations only.
2. These units are intended for use with R/C (AVLV2) Style 10505 Appliance Wiring Material in a length no greater than 15 meters per channel on Inverter model CX-2003U with a 1 amp fuse.
3. Cord connected units are not intended for permanent mounting unless entire unit and cord are mounted within an electrical enclosure.
4. Surface of units may be exposed to a maximum operating temperature of 80ºC.
5. These units are to be enclosed within a suitable enclosure.
6. The output cable is rated maximum 60 °C and is to be protected against physical damage within a suitable enclosure.
7. The output cable is to be protected against exposure to direct sunlight.

DAIKAN CO LTD E330600

3-1-7 SANGENYA-HIGASHI
TAISHO-KU
OSAKA, 551-0002 JAPAN

Class 2 LED Modules, Model Lumi Letter.
1. These products are only suitable for connection to a Class 2 power source rated 24 Volt DC or less.

2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit and which is rated greater than 24 V DC.
3. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 24 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. When these products are used in applications other than signs the need to conduct a temperature test shall be considered.

Class 2 OR LPS LED Channel Letter, Cat. Nos. Lumi Letter, Lumi Letter Skeleton, Lumi Letter mini, Lumi Channel and LED Metal Channel.

1. These products are only suitable for connection to a Class 2 or LPS power source rated 24 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 or LPS voltage and energy limited circuit and which is rated greater than 24 V DC.
3. When units are connected to a Class 2 or LPS circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 or LPS supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 24 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. When these products are used in applications other than signs the need to conduct a temperature test shall be considered.

Class 2 or LPS LED Channel Letter, Cat. No. LIGHT GUIDE PANEL.1. These products are only suitable for connection to a Class 2 or LPS power source rated 24 Volt DC or less.

2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 or LPS voltage and energy limited circuit and which is rated greater than 24 V DC.
3. When units are connected to a Class 2 or LPS circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 or LPS supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 24 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. When these products are used in applications other than signs the need to conduct a temperature test shall be considered.

DAKTRONICS INC E230358
201 DAKTRONICS DR
BROOKINGS, SD 57006

Gas Price Display Module: Part Nos. DF-2x00-a-b-NA-DI, DF-4x00-a-b-NA-DI, FL-2x00-a-b-NA-DI, and FL-4x00-a-b-NA-DI, where "x" may be 0 or 3, where "a" is LED digit height in inches (up to 27), where "b" is LED color (R, G, or A), may or may not be followed by additional alphanumeric characters. Part No. 0A-1356-9aaa, 0A-1478-2aaa, and 0A-1478-9aaa, where 'a' may be any alphanumeric character.

1. These components are intended to be installed in a sign and shall be reliably mounted in the end-product.
2. Suitable for connection to a 20 A maximum branch circuit.
3. Reserved for future use.
4. Models DF and FL series and Part No. 0A-1478-2aaa are suitable for use in outdoor signs and comply with the Water Exclusion Test. After installation, the Water Exclusion Test should be conducted on the overall end-product.
5. Part Nos. 0A-1356-9aaa and 0A-1478-9aaa are required to be installed in a suitable electrical and weather enclosure that protects all sides.
6. These components are provided with conduit knock-outs which are suitable for permanent connection to supply.
7. Models DF and FL series and Part No. 0A-1478-2aaa are provided with drain holes in the bottom of the enclosure. Internal wiring and other components of the end-product shall not be installed below these openings and the components shall be installed such that the drain holes are free from obstructions.
8. Any changes or additional components added by the end-product sign manufacturer require consideration of additional testing (Temperature, Input, etc.).

9a. This electrical enclosure is not suitable as an electrical enclosure for field wiring.

9b. Power supply leads and splices must be routed and secured away from low voltage wiring and uninsulated parts of printed wiring boards.

10. When installed in a double sided configuration, a minimum of 6 in. shall be provided between the rear of each Part Nos. 0A-1356-9aaa and 0A-1478-9aaa module.

LED Digit, Part No. OP-1192-XXXX and OP-1279-xxxx, where X may be 0 thru 9.

1. These products are only suitable for connection to a UL Recognized Daktronics 24 V LED driver.
2. These products have not been evaluated to be suitable as an enclosure.
3. These products are suitable for use in dry or damp locations.
4. These products are required to be enclosed and protected from weather.
5. The LED may be part of the weather enclosure only if the LED is in the same enclosure (Sign body) as the LED module. LED module may be mounted in a metal panel with holes for the LED to protrude.

LED Digits, Part Nos. OP-1150-XXXX and OP-1230-XXXX, where X may be any number 0 through 9.

1. These products are only suitable for connection to a UL Recognized Daktronics 16 V ac LED driver.
2. These products have not been evaluated to be suitable as an enclosure.
3. These products are suitable for use in dry locations.
4. These products are required to be enclosed and protected from weather.

LED Driver, Part No. OA-1192-XXXX and OA-1279-XXXX, where X may be 0 thru 9..

1. The LED driver is intended for use in signs.
2. The LED driver is to be located in a dry or damp location within an overall metal electrical enclosure designated as suitable for use in dry, damp, or wet locations, as appropriate.
3. The LED driver is to be mounted on one vertical wall of the enclosure.
4. These products are required to be enclosed and protected from weather.
5. Digits (Daktronics, Part No. OP-1192-XXXX) per driver:

Digit Size	16 Column Driver	8 Column Driver
5 in.	16 digits	8 digits

7 in.	16 digits	8 digits
10 in.	16 digits	8 digits
15 in.	16 digits	8 digits
18 in.	16 digits	8 digits
24 in.	16 digits	8 digits
30 in.	16 digits	8 digits
36 in.	8 digits	4 digits
42 in.	4 digits	2 digits
48 in.	4 digits	2 digits

The outputs of the driver may be wired with Class 2 wiring methods when the driver is installed in the same sign body or housing as the LED panel.

The drivers, when located remotely, have not been evaluated for Class 2 or LPS wiring methods. Class 1 wiring methods between the LED driver and LED panel should be used.

LED Drivers, Part Nos. OA-1150-XXXX and OA-1230-XXXX, where X may be any number 0 through 9.

1. The LED driver is intended for use in signs.
2. The LED driver is to be located in an indoor dry location within an overall metal electrical enclosure designated as suitable for use in dry locations.
3. The LED driver is to be mounted on one vertical wall of the enclosure.
4. These products are required to be enclosed and protected from weather.
5. Digits (Daktronics, Part Nos. OP-1150-XXXX and OA-1230-XXXX) per driver:

Digit Size	16 Column Driver	8 Column Driver	4 Column Driver
5 in.	16 digits	8 digits	4 digits
7 in.	16 digits	8 digits	4 digits
10 in.	16 digits	8 digits	4 digits
15 in.	16 digits	8 digits	4 digits
18 in.	16 digits	8 digits	4 digits
24 in.	16 digits	8 digits	4 digits

6. The drivers have not been evaluated for Class 2 or LPS wiring methods. Class 1 wiring methods between the LED driver and LED panel shall be used.

LED Drivers, Part Nos OA-1279-XXXX, where X may be 0 thru 9.

1. The equipment shall be properly bonded to the main protective earth terminal in the end-product. The terminal block provided is not suitable for grounding/bonding applications.
2. The terminal blocks and connectors provided are suitable for factory wiring only.
3. A suitable electrical and weather enclosure shall be provided in the end-product.
4. The equipment shall be reliably mounted in the end-product.
5. The equipment shall be mounted vertical with the main opening on the bottom. If the equipment is mounted differently, the Normal Temperature Test shall be re-conducted.
6. The maximum number of 9 LED strings powered by the LED Driver shall not exceed 1000. One driver provided for each single face sign.
7. Unless contained in the electrical enclosure of the end-product, Class 1 wiring methods shall be used for all secondary output circuits.
8. The drivers have not been evaluated for Class 2 or LPS wiring methods. Class 1 wiring methods between the LED driver and LED's should be used.
9. The drivers are intended for dry or damp locations.

Class 2 LED system: Cat. No. DE 34mm LED Matrix Panel.

1. The component shall be reliably mounted in the end-product.
2. A suitable enclosure (weather, electrical) shall be provided in the end-product.
3. The internal volume of the end-product enclosure shall not be less than 9000 cubic inches.
4. One 100 CFM exhaust fan shall be provided for each power supply in the end-product and each fan shall be wired to operate 100% of the time.
5. A suitable branch circuit protective device not exceeding 20 A shall be provided in the end-product.

LED Time and Temperature Module, Model DF-1011-X-Y, where X is digit height in. inches (10, 13, 18), Y is LED color (R = red, A = amber), may or may not be followed by additional alphanumeric characters.

1. These components are intended to be installed in a sign and shall be reliably mounted in the end-product.
2. A suitable branch circuit protective device not exceeding 20 A shall be provided in the end-product.
3. A suitable disconnect device shall be provided in the end-product.
4. The front face of the component is suitable for use as an electrical and weather enclosures. After installation, the Water Exclusion Test should be considered on the overall end-product to verify water does not enter the overall sign behind the flanges, especially if no gasketing or other equivalent means is provided between the flanges and the end-product enclosure.
5. These components are provided with conduit knock-outs which are suitable for permanent connection to supply.
6. Equipment is provided with drain holes in the bottom of the enclosure. Internal wiring and other components of the end-product shall not be installed below these openings and the components shall be installed such that the drain holes are free from obstructions.
7. Any changes or additional components added by the end-product sign manufacturer require consideration of additional testing (Temperature, Input, etc.).
8. Any splices need to be made in an electrical enclosure outside the equipment.

Gas price display modules, Model DAKT-0208-00, FL-3000@, and FL-4500@ where @ may be replaced by alphanumeric characters.

1. These components are intended to be installed in a sign and shall be reliably mounted in the end-product.
2. Suitable for connection to a branch circuit not exceeding 20A.

3. Reserved for future use.
4. These signs are suitable for use in outdoor signs and comply with the Water Exclusion Test. After installation, the Water Exclusion Test should be conducted on the overall end-product.
5. These components are provided with conduit knock-outs which are suitable for permanent connection to supply.
6. These signs are provided with drain holes in the bottom of the enclosure. Internal wiring and other components of the end-product shall not be installed below these openings and the components shall be installed such that the drain holes are free from obstructions.
7. Any changes or additional components added by the end-product sign manufacturer require consideration of additional testing (Temperature, Input, etc.).

Cash/Credit Display, Models Cash/Credit, DAKT-208-01, CC1-xHxW-y-DI-@@@@@@ where x is any number describing number of LED modules, y is R,G,B, W, A indicating color of LED\'s, and @ may be any alphanumeric character indicating message content.

1. These components are intended to be installed in a sign and shall be reliably mounted in the end-product.
2. Suitable for connection to a branch circuit not exceeding 20A.
3. These signs are suitable for use in outdoor signs and comply with the Water Exclusion Test.
4. These components are provided with conduit knock-outs which are suitable for permanent connection to supply.
5. These signs are provided with drain holes in the bottom of the enclosure. Internal wiring and other components of the end-product shall not be installed below these openings and the components shall be installed such that the drain holes are free from obstructions.
6. Any changes or additional components added by the end-product sign manufacturer require consideration of additional testing (Temperature, Input, etc.).

LED drivers with LPS output, Part Numbers 321E and AA25980L.

1. The output of the LED drivers is Isolated LPS output and intended for use in signs and the suitability of the wiring method shall be determined in the end-use SIGN application
2. The LED drivers are rated as follows:

Part Number	Input Voltage			Output	
	A	Hz	A	V DC	A DC
321E	100-240	47-63	1.0	12	5.5
AA25980L	100-240	47-63	1.75	12	5.5

3. In the end product, the spacing distances between the LED Drivers to other heat producing components shall be at least 25.4 mm (1 in) from end to end and 101.6 mm (4 in) from side to side.
4. The drivers shall be enclosed in the end product and be and protected from weather.
5. The primary and the output connections are suitable for factory wiring only.
6. The drivers are to be located in an indoor dry location within an overall metal electrical enclosure designated as suitable for use in dry locations.
7. The suitability of input/output connection means and the wring shall be determined in end product use.

Electronic changeable copy board, Models ECCB@, where @ may be replaced by any alphanumeric character detailing size and LED color, DAKT-0207-01.

1. These components are intended to be installed in a sign and shall be reliably mounted in the end-product.
2. Suitable for connection to a branch circuit not exceeding 20A.
3. These signs are suitable for use in outdoor signs and comply with the Water Exclusion Test.
4. These components are provided with conduit knock-outs which are suitable for permanent connection to supply.
5. These signs are provided with drain holes in the bottom of the enclosure. Internal wiring and other components of the end-product shall not be installed below these openings and the components shall be installed such that the drain holes are free from obstructions.
6. Any changes or additional components added by the end-product sign manufacturer require consideration of additional testing (Temperature, Input, etc.).

DASAN AD CO LTD **E364429**

DASAN BLDG, 299-79, 2GA
SEONGSU-DONG
SEONGDONG-GU
SEOUL, 133-120 REPUBLIC OF KOREA

Class 2 LED modules, Model Nos. DS-W6030, DS-W6033, DS-R6030, DS-G6030, DS-B6030, DS-WW6030, DS-W6030u, DS-RGB6030, DS-RGB6030u, DS-DFL8030, DS-W6030PL, DS-W6030PLIC, DS-W6030IC, DS-W6030c.

1. These products are only suitable for connection to a voltage and energy limited Class 2 power source rated 12 V DC or less.
2. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 V DC or less.
4. These products are not required to be enclosed or protected from the weather in the end product.
5. These products may be secured in place in the end product by any means available.
6. Input and output wires connection shall be as follow:
   LED module connections
   VCC: (+) 12 Vdc input
   GND: (-) Ground
   Data and CLK are for color control signal communication and are optional.
   GND + data = Sender
   GND + CLK = Receiver

Class 2 LED modules, Model Nos. DS-DFL4040, DS-DFL5040, DS-W4040c, DS-W5040c.

1. These products are only suitable for connection to a voltage and energy limited Class 2 power source rated 12 V DC or less.
2. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 V DC or less.
4. These products are not required to be enclosed or protected from the weather in the end product.
5. These products may be secured in place in the end product by any means available.
6. Input and output wires connection shall be as follow:
   LED module connections
   VCC: (+) 12 Vdc input
   GND: (-) Ground
   Data and CLK are for color control signal communication and are optional.
   GND + data = Sender
   GND + CLK = Receiver

DECORA INDUSTRIES INC DATA DISPLAY SYSTEMS DIV E464648

14001 TOWNSEND RD
PHILADELPHIA, PA 19154

Class 2 LED modules, designated "IW# 6419-06DD."

1. These products are suitable for use in dry, damp and wet locations when supplied with a Class 2 power source rated 12 Volt DC or less.
2. Suitable only for connection to a Class 2/LPS circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. These products are not required to be enclosed or protected from the weather in the end product.
4. These products may be secured in place in the end product by any means available.

DELTA ELECTRONICS INC E303831

3 TUNGYUAN RD
CHUNGLI INDUSTRIAL ZONE
TAOYUAN COUNTY 32063 TAIWAN

LED Class 2 Power Supplies, Models SDMV1260A, SDMV1260GW, SDMV2480A, SDMV2480GW, SDMV2460A, SDMV2420A.

1. These components are intended for use in dry locations only when not potted. When potted, they are suitable for damp locations. Models SDMV2480GW and SDMV1260GW are suitable for wet location.
2. These power supply needs to be installed in an enclosure with a means for the connection to conduit.
3. When a Temperature Test is required of the power supply installed in an enclosure because the enclosure measures less than 13.5 by 6 by 4 inches, the maximum temperature on the output transformer by thermocouple is 110(C. Similarly, for Model SDMV2420A, a temperature test is required when installed in an enclosure smaller than 13.5 by 6 by 4 inches, but the maximum temperature on the output transformer by thermocouple is 90(C.
4. The output of these LED power supplies with Class 2 are acceptable for use in a damp and wet location

LED Class 2 Power Supplies, Model 913710052466 or 913710052467.

1. These components are intended for use in dry locations only when not potted. When potted, they are suitable for damp locations.
2. These power supply needs to be installed in an enclosure with a means for the connection to conduit.
3. When a Temperature Test is required of the power supply installed in an enclosure because the enclosure measures less than 13.5 by 6 by 4 inches, the maximum temperature on the output transformer by thermocouple is 110(C.
4. The output of these LED power supplies with Class 2 are acceptable for use in a damp and wet location

LED Drivers, Models SDHV24D80GXX, SDHV12D60GXX, where X=A~Z, 0~9 or blank.

1. These LED Drivers have been evaluated to Class 2 output requirements for dc circuits with a maximum of one Class 2 output.
2. These products are provided with the following electrical ratings:

Model No.	Input Voltage (V ac)	Input Freq (HZ)	Input Current (A)	Output Voltage (V dc)	Output Current (A)	Output Power (W)
SDHV24D80GXX	100-277	50/60	1.1	24	3.3	80
SDHV12D60GXX	100-277	50/60	0.85	12	5.0	60

3. The load powered by the Class 2 output of the LED drivers are suitable for use in dry, damp and wet locations.
4. In the end product, LED driver spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
5. In the end product, LED Drivers shall be located not less than 1 inch (25.4mm) apart when arranged end-to-end, and not less than 4 inches (102mm) apart when arranged otherwise.
6. These products shall be enclosed in the end product.
7. The suitability of output leads, rated No. 24 AWG minimum, rated 80°C minimum, 600 V, shall be determined in end product use.
8. These units may be provided with Dimming Input (Purple and Gray wires) to control output current range, the suitability shall be determined in each end-use application.
9. These products are intended for use in dry and damp locations.

LED Drivers, Model SDHV24100XX. (Where X can be any alphanumeric or blank).

1. The LED Drivers have been evaluated to Class 2 output requirements for dc circuits with a maximum of one Class 2 output.
2. In the end product, LED Drivers spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
3. In the end product, LED Drivers shall be located not less than 1 inch (25.4 mm) apart when arranged end-to-end, and not less than 4 inches (102 mm) apart when arranged otherwise.

4. The maximum working voltage present and dielectric voltage withstands test voltage applied between primary circuits and secondary output/plastic enclosure for each model are tabulated below.

Model name	Working Voltage	Hi-pot P-S	Hi-pot P-enclosure
SDHV24100XX	310 Vrms, 504 Vpk	3990 (3000) Vac	3990 (3000) Vac

5. The LED drivers had been considered ambient 60 degree C. If operated at a higher ambient temperature, it should be determined in end product.
6. The LED drivers are intended for factory installation only.
7. The LED drivers are intended for use in a dry and/or damp location. Other uses shall be considered in end product.
8. The LED drivers shall be installed in compliance with the enclosure, mounting, spacing, casualty, and segregation requirements of the end product application.
9. The suitability of input and output leads shall be determined in end product.

LED Drivers with Class 2 Output, Models SDHV1220XX, SDHV2420XX (Where X = X=0-9, A-Z or blank).

1. The LED Drivers have been evaluated to Class 2 output requirements for dc circuits with a maximum of one Class 2 output.
2. In the end product, LED Drivers spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure. Otherwise, temperature test shall be conducted.
3. In the end product, LED Drivers shall be located not less than 1 inch (25.4 mm) apart when arranged end-to-end, and not less than 4 inches (102 mm) apart when arranged side to side. Otherwise, temperature test shall be conducted.
4. The maximum working voltage present and dielectric voltage withstand test voltage applied between primary circuits and secondary output/plastic enclosure for each models are tabulated below.

*Output Voltage (V dc)	Output Current (A)	Working Voltage	Hi-pot P-S and P-enclosure
*12.0 (const.)	1.7 (max.)	441 Vrms, 684 Vpk	4514 (4242) Vdc
*24.0 (const.)	0.85 (max.)	438 Vrms, 668 Vpk	4502 (4242) Vdc

5. The LED drivers had been considered ambient 60 degree C. If operated at a higher ambient temperature, it should be determined in end product.
6. The LED drivers are intended for factory installation only.
7. The LED drivers are intended for use in a dry and/or damp location. Other uses shall be considered in end product.
8. The LED drivers shall be installed in compliance with the enclosure, mounting, spacing, casualty, and segregation requirements of the end product application.
9. The suitability of input and output leads shall be determined in end product.

LED Drivers with Class 2 Output, Models SDHV24D100AXX, SDHV24C100AXX, where first "X" can be 0-9, A-Z, except U or blank; 2nd "X" can be 0-9, A-Z or blank. Models SDHV24C100AUX, SDHV24D100AUX, where "X" can be 0-9, A-Z or blank.

1. The LED Drivers have been evaluated to Class 2 output requirements for dc circuits with a maximum of one Class 2 output.
2. In the end product, LED Drivers spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure. Otherwise, temperature test shall be conducted.
3. In the end product, LED Drivers shall be located not less than 1 inch (25.4 mm) apart when arranged end-to-end, and not less than 4 inches (102 mm) apart when arranged side to side. Otherwise, temperature test shall be conducted.
4. The maximum working voltage present and dielectric voltage withstand test voltage applied between primary circuits and secondary output/plastic enclosure for each models are tabulated below.

Working Voltage	Hi-pot P-S and P-enclosure
471 Vrms, 764 Vpk	4634 Vdc

5. The LED drivers had been considered ambient 55 degree C. If operated at a higher ambient temperature, it should be determined in end product.
6. The LED drivers are intended for factory installation only.
7. The LED drivers are intended for use in a dry and/or damp location. Other uses shall be considered in end product.
8. The LED drivers shall be installed in compliance with the enclosure, mounting, spacing, casualty, and segregation requirements of the end product application.
9. The suitability of input and output leads shall be determined in end product.
10. Dimmable models as shown on the product label are using a low voltage 0-10 V proprietary interface. This interface is a sink, since the interface operates from an external source of supply. The interface circuit has been evaluated for isolation from primary (input) circuits.

DEVRY GROUP LIMITED E467110
288-160 XING HUA RD
YAN JIANG INDUSTRIAL PARK
NANJING, JIANGSU 210000 CHINA

Class 2 LED modules, DV-WM-#S5050-X-12, # can be represented by 1, 2, 3, 4 and 5 respectively, X can be represented by R, Y, B, G, W, WW, RGB respectively.

1. This product is only suitable for connection to a Class 2 power source, rated 12 Volt DC or less for models DV-WM-1S5050-X-12, DV-WM-2S5050-X-12, DV-WM-3S5050-X-12, DV-WM-4S5050-X-12 and DV-WM-5S5050-X-12.
2. These product have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than electrical ratings.
3. These Class 2 LED modules are rated as noted in the electrical ratings tables. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These product are suitable for use in dry, damp and wet locations with supply sources rated at electrical ratings or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end products by any means available.

DIGICO IMAGING INC E473315

3487 East Fulton Street
Columbus, OH 43227

Class 2 LED modules, Models DIGI-LP4006, DIGI-LP4003.

1. These products are only suitable for connection to a Class 2 or LPS power source rated 12 Volt DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 or LPS voltage and energy limited circuits.
3. When these units are connected to a Class 2 or LPS supply circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 or LPS supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.
7. Class 2/LPS circuits shall not be connected together in series or parallel.
8. When these products are used in applications other than signs, the need to conduct a temperature test shall be considered.

DONGBU LIGHTEC CANADA INC E362079

2700 JOHN ST
MARKHAM, ON L3R 2W4 CANADA

Class 2 LED, Models LMS12, LMS24, followed by 300, 580, 860, 1140, 1420, CS or SP.

1. These products are only suitable for connection to a Class 2 power source, rated 12 or 24Vdc.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than electrical ratings.
3. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry locations with supply sources rated at 12 or 24Vdc.
5. These products have not been evaluated for use in damp or wet locations.
6. The suitability of supply leads shall be determined in end use.
7. The mounting means shall be determined in end use.

Class 2 LED, Model LLP.

1. These products are only suitable for connection to a Class 2 power source, rated 12 or 24Vdc.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than electrical ratings.
3. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry locations with supply sources rated at 12 or 24Vdc.
5. These products have not been evaluated for use in damp or wet locations.
6. The suitability of supply leads shall be determined in end use.
7. The mounting means shall be determined in end use.

DONGBU LIGHTEC CO LTD E332576

739-8 OJEONG-DONG OJEONG-GU
BUCHEON-SI, GYEONGGI-DO 421-170 REPUBLIC OF KOREA

LED Modules, Models Lumisheet, Lumi Fit (**** X ****), Lumisheet-t, where first set "****" is any number from 80 to 2450, and second set "****" is any number from 80 to 1250.

1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit and which is rated greater than 12 V DC.
3. These products are suitable for use in dry and damp locations with supply sources rated at 12 Volts DC or less.
4. These products are not required to be enclosed or protected from the weather in the end product.
5. These products may be secured in place in the end product by any means available.
6. When these products are used in applications other than signs or outline lighting, the need to conduct a temperature test shall be considered.
7. When provided with more than one input connector, there shall be no interconnection of circuits allowed, and each Class 2 circuit is separately connected to each Class 2 power supply.
8. A minimum spacing of 6.4mm (1/4 inch) shall be maintained between circuits in the assembled lamp panel.

DTS MECHELEC LTD E309814

SUIXING IND BLK
GUANGZHOU ENTERPRISE TECH DEV DISTRICT
1 MINGHUA ST
GUANGZHOU, GUANGDONG 510730 CHINA

Class 2 LED Modules, Designated "LED Light Assembly Panel".

1. These components are to be installed in accordance with the manufacturer's instructions.
2. These devices are rated as specified below.

Catalog Number	(Input-Output) Operating Voltage	Type Load
"LED Light Assembly Panel"	24 V ac, 480 mA	LED

3. An electrical enclosure needs to be provided in the end product.
4. No tests have been conducted on these components and as such, end product testing should be considered.
5. The suitability of input leads and connector needs to be considered in the end product.
6. These panels have only been evaluated for use when connected to a Class 2 power source.
7. These products have not been evaluated for use when connected to power

DYNAPAC ROTATING CO E30665

338 HANSEN AVE
SALT LAKE CITY, UT 84115

Display rotation units, Models H Series 16 and 20, J Series 25, 36, 64, 80, 100 and 200; JS Series 25, 36, 64, 100 and 200; K Series 25, 36, 64, 80, 100, 200, 350 and 550.
1. These products are subjected to Input, Starting Motor, Temperature, Dielectric Voltage Withstand, Locked Rotor and Dielectric Voltage Withstand Test After Locked Rotor Tests. Leakage Current and Mold Stress Tests shall be considered in the product.
2. These components have been judged on the basis of the required spacings in UL 879, the Standard for Electric Sign Components, which would cover the component itself if submitted for unrestricted Listing.
3. Under maximum loading these units drew only 0.1 Amp at 115 V ac. These units shall not be used beyond these ratings or with DC.
4. These are open-type devices with a metal mounting plate. A suitable enclosure shall be provided in the end use and the suitability of the bonding means through the mounting means shall be determined in the end use.
5. These units are for use in dry and damp locations only.

Display rotation units, Model I Series 16, 25, 36, 64, 80 and 100.
1. These products are subjected to Input, Starting Motor, Temperature, Dielectric Voltage Withstand, Locked Rotor and Dielectric Voltage Withstand Test After Locked Rotor Tests. Leakage Current and Mold Stress Tests shall be considered in the product.
2. These components have been judged on the basis of the required spacings in UL 879, the Standard for Electric Sign Components, which would cover the component itself if submitted for unrestricted Listing.
3. These are open type devices with a metal mounting plate. A suitable enclosure shall be provided in the end use and the suitability of the bonding means through the mounting means shall be determined in the end use.

Display rotation units, Model L Series 25, 100, 200, 350, 550.
1. These products are subjected to Input, Starting Motor, Temperature, Dielectric Voltage Withstand, Locked Rotor and Dielectric Voltage Withstand Test After Locked Rotor Tests. Leakage Current and Mold Stress Tests shall be considered in the product.
2. These components have been judged on the basis of the required spacings in UL 879, the Standard for Electric Sign Components, which would cover the component itself if submitted for unrestricted Listing.
3. These are open-type devices with a metal mounting plate. A suitable enclosure shall be provided in the end use and the suitability of the bonding means through the mounting means shall be determined in the end use.
4. These units are for use in dry and damp locations only.

Display rotation units, Models 1G-2.5, 1G-300, 1G-600. Units for use in electric signs where weather protection and electrical enclosure are provided, Models 1G-2, 1G-4.
1. These sign rotators are rated for 120 Vac.
2. The maximum weight to be placed on these rotators is 400 lbs. Under full load the current draw is 0.1 Amps.
2. A suitable enclosure shall be provided in the end use and the suitability of the bonding means through the mounting means shall be determined in the end use.
3. These units are for use in dry and damp locations.
4. These units should not be located within 2 inches of other heat producing components unless a temperature test is required in the end product.

E-LITE TECHNOLOGIES INC E175045

2285 RESERVOIR AVE
TRUMBULL, CT 06611

Electroluminescent panel base material, designated "E-Lume" and/or "Flatlite" panels.
1. The suitability of this material for use within an electrical sign shall be determined.
2. The suitability of the electrical contacts, with regards to clearance, insulation and lead pull shall be determined in the end-product.
3. Samples of the lamp material were subjected to the Humidity Conditioning Test in UL 924, with acceptable results.

EASTMAN CHEMICAL CO E319574

BLDG P1
137 REGIONAL PARK DR
KINGSPORT, TN 37664

Rigid sign face material non-enclosure rated, designated "Sheet manufactured with Tritan GX100 (f1) (Non-White)".
1. (Non-White colors) Acceptable for use in dry, damp and wet locations.
2. (Non-White colors) Limited to only decorative, sign face, and sign body applications. The rigid sign face non-enclosure rated material is not suitable for use as an electrical enclosure.
3. Minimum 5 cm (2 in) spacing from heat producing components required.
4. Water exclusion must be determined in the end product.
5. Installation and securement of the material into or onto a sign is required.

Rigid sign face material enclosure rated, designated "Sheet manufactured with Tritan GX100 (f1) (Clear and White Only)".
1. (Clear and White only) The product has been investigation for use with all light sources and for Dry, Damp, and Wet Location.
2. (Clear and White only) Suitable for enclosure, sign body and decorative applications. Enclosure applications limited to insulated live parts.
3. Minimum 5 cm (2 in) spacing from heat producing components required.
4. Water exclusion must be determined in the end product.
5. Installation and securement of the material into or onto a sign is required.

6. (White only) Suitable for use in terminating conduit.

EBSCO SIGN GROUP LLC E352634
1400 8TH ST N
CLANTON, AL 35045

Led array sign, designated "TEKSTAR".

1. The LED changing message signs, covered in this Report is intended to be completely enclosed in a suitable outer sign housing rated for both weather and electrical enclosure.
2. Suitable only for use in wet locations.
3. The LED sign component is not intended for use in the dwelling application with cord plug connected since the leakage current measured is 2.8 mA.

EDGE LIGHT INDUSTRY CO LTD E353017
55 BEIMIN RD
SONGJIANG, SHANGHAI 201611 CHINA

LED Modules, LPS/Class 2 type, Models LED-ALS-12V-1W4-3014T-6-590-96, LED-ALS-24V-1W8-3014T-6-1180-336, EDGEMAX-LED-ALS-24V-W23C-360-5, AF32A-2900*1050, LED Light Panel, Edgelux, Light Box, Edgemax, AF, LGP, CF, LM, AF18-1800*1200, AF18-1800*1000.

1. These LED Modules are only intended for use with a LPS or Class 2 output power sources.
2. These LED Modules are suitable for use in dry and damp locations.
3. These LED Modules are not provided with a mounting means. The suitability is to be determined in end product use.
4. The temperature rating of LED board is 105°C min., of supply leads is 90°C min., and of Light Guide Panel is 50°C min. The suitability is to be determined in end product use.
5. The suitability of supply means shall be determined in end product.

EGL CO INC E346985
100 INDUSTRIAL RD
BERKELEY HEIGHTS, NJ 07922

LED Arrays, Class 2, Model LEV-1200-XXW, where XX is any numeric digits; Model LEV-600-YYY, where YYY is any alpha numeric digits to indicate color.

1. These products are only suitable for connection to a Class 2 power source, rated 12 Volts DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than 30 Volt DC or 15 Volt AC.
3. These Class 2 LED modules are rated as below. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.

		ELECTRICAL RATINGS		
Model	No. of LED	V, DC	MA	WATTS
LEV-1200-XXW	3	12.0	----	1.2
LEV-600-YYY	2	12.0	48 max.	0.58 Max.

4. These products are suitable for use in dry, damp and wet locations.
5. These products are not required to be enclosed or protected from the weather in the end product.

EINSTECK ENTERPRISE LLC E361431
4630 E WASHINGTON BLVD
LOS ANGELES, CA 90040

Class 2 LED Modules, EM01AA, EM02AA, EM03AA, EM02BA, EM03BA, EM13BA, EM01CB, EM02CB, EM13CB, EM03CB, EM33CB, EM11CB, EM11CA, EM13CA, EM01CA, EM03CA.

1. These products are only suitable for connection to a Class 2 power source, rated 12 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than electrical ratings.
3. These Class 2 LED modules are each rated as noted in the model list tables. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Vdc or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. For EM01CB and EM01CA series, three units are consisted one module. For other models, one unit is consisted one module.
7. The suitability of supply leads shall be determined in end use.

Class 2 powered LED modules, Cat. Nos. EM102, EM120, EM112, EM324, EM225, EM332, EM220, EM326, EM340.

1. This product is only suitable for connection to a Class 2 power source, rated 12 Volt DC or less.
2. This product has not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than electrical ratings.
3. This Class 2 LED module is rated as noted in the electrical ratings tables. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. This product is suitable for use in dry, damp and wet locations with supply sources rated at electrical ratings or less.
5. This product is not required to be enclosed or protected from the weather in the end product.
6. This product may be secured in place in the end products by any means available.

Class 2 LED Modules, EM103AA, EM133AA, EM133BA, EM102BA,

1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit and which is rated greater than 12 V DC.

3. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp, and wet locations with supply sources rated at 12 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.
7. When these products are used in applications other than signs or outline lighting, the need to conduct a temperature test shall be considered.

. **Class 2 LED Modules**, EM91B, EM92A, EM92B, EM93A, EM93B,EM947B, EM102A, EM13B, EM613C, EM63G, EM93G, EM03B, EM23A, EM23B, EM93L, EM61E, EM61F,

1. These products are only suitable for connection to a Class 2 power source, rated 24 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than electrical ratings.
3. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 24 Vdc or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. The suitability of supply leads shall be determined in end use.

ELECTRALED INC E232462

SUITE 105
10950 72ND ST N
LARGO, FL 33777

LED Channel Letter Lighting System, Cat. Nos. Series 12 (ES12-), Series 24 (ES24-) and Series 12 Genesis (EG-12).

1. These LED products are suitable for use in dry, damp, and wet locations
2. These products are only suitable for connection to a Listed Class 2, 12 or 24 V power source; or a R/C Class 2 power supply covered in the Sign Components manual (SAM) and used within its published conditions of use; or a power supply specifically covered by this report.
3. These products may be pre-wired with the conductors cut to length per the installation instructions, or the product may be provided with terminals
4. Printed circuit boards with LED's are supplied in 2, 4, 6 or 12 in. lengths.
5. ElectraLED LED's may be powered by R/C (XOKV2) Powertronix Corp. Model AA-036539-D, Class 2 transformer. The transformer shall be provided with a maximum 5 Amp LISTED fuse on the secondary output prior to the printed circuit boards. The LEDs must be mounted in a suitable sign body in accordance with UL 48. The transformer shall be mounted in a suitable electrical enclosure in accordance with UL 48 having a minimum volume of 52.0 cubic inches. In the end-product, a replacement of fuse marking shall be supplied adjacent to the fuse indicating "Replace with same type and rating of protective device."
6. Enclosure surface to secure the standoffs for printed wiring boards shall be aluminum or as follows:
7. Standoffs may be secured to acrylic UYMR2 Sign Accessory Rigid Sign Face Material or polycarbonate UYMR2 Sign Accessory Rigid Sign Face Material using QOQW2, 3M double sided tape designated 4950 provided enclosure has a minimum 30.0 cubic inches of volume per 12 inches of LED printed circuit boards.
8. These products have not been evaluated for use when not connected to a Class 2 voltage and energy requirements when installed per the manufactures installation instructions.

LED Channel Letter Lighting System, Cat. Nos. ELED-5 or –6.

1. ElectraLED ELED-5 and ELED-6 are intended for Dry, Damp and Wet Location use only when LED's are connected to a Class 2 circuit operating at under 30V continuous DC, 12.4 V interrupted at a rate of 10-200Hz DC, or 15 VAC. Wet Location use meaning no additional electrical enclosure or sign body is required for the LEDs.
2. ElectraLED ELED-5 and ELED-6 are intended for Dry and Damp Locations use only when LED's are connected to a Class 2 circuit operating at a potential greater than under 30V continuous DC, 12.4 V interrupted at a rate of 10-200Hz DC, or 15 VAC. If the LEDs are connected to a Class 2 circuit operating at a potential greater than under 30V continuous DC, 12.4 V interrupted at a rate of 10-200Hz DC, or 15 VAC then a Sign Body per UL 48 must be maintained to house the LEDs.
3. ElectraLED ELED-5 and ELED-6 LED's may be powered by a UL Listed or Recognized Component Sign Accessory - UYMR2, Class 2, output power source. See Conditions of Use No. 1 and No. 2 above for additional details regarding enclosure requirements.
4. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limiting requirements.
5. These products are not to draw a total wattage greater than the secondary or output rating of the Class 2 supply per Class 2 circuit.
6. These products may be prewired and the conductors may be cut to length per the installation instructions provided with the product or the product may be provided with terminals. Printed circuit boards with LED's may be supplied in 2, 4, 6 or 12 in. lengths.
7. Enclosure surface to secure the standoffs for printed wiring boards shall be aluminum or as follows:

7A. Standoffs may be secured to acrylic UYMR2 Sign Accessory Rigid Sign Face Material or polycarbonate UYMR2 Sign Accessory Rigid Sign Face Material using QOQW2, 3M double sided tape designated 4950 provided enclosure has a minimum 30.0 cubic inches of volume per 12 inches of LED printed circuit boards.

8. The ELED-5 system may be supplied with a Powertronix Corp. Model AA-036539-D, Class 2 transformer. The transformer shall be provided with a maximum 5 Amp LISTED fuse on the secondary output prior to the printed circuit boards. The ELED-5 system may consist of either: 20 feet maximum of red, yellow or orange LEDs OR 16 feet maximum of white, blue or green LEDs. The LEDs must be mounted in a suitable sign body in accordance with UL 48 when the ELED-5 system with the Powertronix Corp. Model AA-036539-D transformer and 5 A fuse as described above is utilized. The transformer shall be mounted in a suitable electrical enclosure in accordance with UL 48 having a minimum volume of 52.0 cubic inches. If used outdoors, the transformer must be mounted in an outdoor electrical enclosure per UL 48 having a minimum volume of 52.0 cubic inches. In the end-product, a replacement of fuse marking shall be supplied adjacent to the fuse indicating "Replace with same type and rating of protective device."

9. The ELED-6 system may be supplied with a Lightech Model LET-60, Class 2 transformer. The loading of the transformer shall not exceed 5.0 amps. The ELED-6 system may consist of either: 20 feet maximum of red, yellow or orange LEDs OR 16 feet maximum of white, blue or green LEDs.

9A. The Lightech Model LET-60 transformer shall be mounted in a suitable electrical enclosure in accordance with UL 48 having a minimum volume of 117.0 cubic inches or larger for every four power supplies. If more than four utilized then the enclosure shall be proportionately increased. If used outdoors, the transformer must be mounted in an outdoor electrical enclosure per UL 48 having a minimum volume of 117.0 cubic inches or

9B. Secondary wiring must be marked CL2 OR CL3 in accordance with Article 725 of the NEC. Class 1 wiring methods must be maintained within the enclosure when intermixing Class 2 secondary with primary wiring. Class 2 cable shall be insulated and marked having the same voltage rating or better as the primary wiring. If cable is not marked with the insulation voltage, then primary conductors and secondary cable must be permanently positioned to maintain at least 1/4 in. spacing between circuits or a physical barrier is provided to maintain separation of circuits.

9C. Secondary cable must be protected by rubber grommet when extending through an enclosure. Also, Class 2 cable must be long enough to extend into channel letter enclosure. Splicing shall only be done within channel letter or enclosure.

LED Channel Letter Lighting System, Cat. Nos. ElectraLED FLEX™ Series. Model ED12- followed by -RD, -RO, -AM, -TG, -VG, -BG, -BL, -WW or –CW.

1. ElectraLED FLEX™ LEDs are intended for Dry, Damp and Wet Location use only when LED's are connected to a Class 2 circuit operating at under 30V continuous DC, 12.4 V interrupted at a rate of 10-200Hz DC, or 15 VAC. Wet Location use meaning no additional electrical enclosure or sign body is required for the LEDs.
2. ElectraLED FLEX™ LEDs are intended for Dry and Damp Locations use only when LED's are connected to a Class 2 circuit operating at a potential greater than under 30V continuous DC, 12.4 V interrupted at a rate of 10-200Hz DC, or 15 VAC. If the LEDs are connected to a Class 2 circuit operating at a potential greater than under 30V continuous DC, 12.4 V interrupted at a rate of 10-200Hz DC, or 15 VAC then a Sign Body per UL 48 must be maintained to house the LEDs.
3. ElectraLED FLEX™ LED's may be powered by a UL Listed or Recognized Component Sign Accessory - UYMR2, Class 2, output power source. See Conditions of Use No. 1 and No. 2 above for additional details regarding enclosure requirements.
4. ElectraLED FLEX™ LED's were evaluated for connection to a UL Listed or Recognized Component Sign Accessory - UYMR2, Class 2, 12 V source. The ElectraLED FLEX™ module draws 0.317 amps, 3.66 Watts per individual module when supplied by 12 V. If the ElectraLED FLEX™ module is supplied by any other voltage an input test must be conducted in the end-product to ensure the products do not draw a total wattage greater than the secondary or output rating of the Class 2 power supply involved.
5. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limiting requirements.
6. These products are not to draw a total wattage greater than the secondary or output rating of the Class 2 supply per Class 2 circuit.
7. These products are prewired and the conductors may be cut to length per the installation instructions provided with the product.
8. ElectraLED FLEX™ LED's may be powered by Powertronix Corp. Model AA-036539-D, Class 2 transformer. The transformer shall be provided with a maximum 5 Amp LISTED fuse on the secondary output prior to the printed circuit boards. The LEDs must be mounted in a suitable sign body in accordance with UL 48. The transformer shall be mounted in a suitable electrical enclosure in accordance with UL 48 having a minimum volume of 52.0 cubic inches. In the end-product, a replacement of fuse marking shall be supplied adjacent to the fuse indicating “Replace with same type and rating of protective device.”
9. The ElectraLED FLEX™ LED's may be supplied by a Lightech Model LET-60, Class 2 transformer. The LET-60 transformer shall be mounted in a suitable electrical enclosure in accordance with UL 48 having a minimum volume of 117.0 cubic inches or larger for every four power supplies. If more than four power supplies are utilized then the enclosure shall be proportionately increased. If used outdoors, the transformer must be mounted in an outdoor electrical enclosure per UL 48 having a minimum volume of 117.0 cubic inches or larger for every four power supplies. If more than four power supplies are utilized then the enclosure shall be proportionately increased.

LED Channel Letter Lighting System, Cat. Nos. ElectraLED FLEX™ Series. Model MiniFlex Series Cat. Nos. EM12 followed by an additional suffix denoting the color of the LED's.

1. These products are only suitable for connection to a UL Listed Class 2, 12 Volt AC or DC power source, or any R/C Class 2, 12 Volt AC or DC power source listed in the SAM, that complies with the stated conditions.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited supplies.
3. This Class 2 product, when connected to a Class 2 circuit, shall not draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations.

ELECTRO-LUMINX LIGHTING CORP E319670
1320 NORTH BLVD
RICHMOND, VA 23230

Electroluminescent Lamps Panels & Tapes, Models Designated as EL Lighttape® Strip and EL Lighttape® Panel.

1. These EL Panels are suitable only for use in portable sign products since the enclosure material is rated V2.
3. Only the Input, Normal Temperature, Dielectric Voltage Withstand Tests and the Current Measurement followed by the Dielectric Voltage Withstand Tests were conducted.
4. The wiring connection and mounting means were not evaluated and should be considered in the product.
5. The Strain Relief Test was not conducted and needs to be conducted In the end product.
6. This product needs to be enclosed In the end product.

Electroluminescent Drivers, Models SD-8000, SD-4000, SD-2000, SD-1000, SD-400, SD-150 and SD-50.

1. These power supplies have an output that is other than Class 2 such that components connected to the output of these power supplies needs to be enclosed in the end product.
2. These power supplies are only suitable for use in dry and damp locations.
3. In the end product, power supply spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.

4. These power supplies are rated as the following:

	Input			Output Maximum	
Model	V	Hz	A	Vac	Current, A
SD-8000	120/240	50/60	3.50/1.83	320	3.30
SD-4000	120/240	50/60	2.50/1.27	320	2.10
SD-2000	120/230	50/60	1.02/0.56	320	0.97
SD-1000	120/230	50/60	0.45/0.27	320	0.43
SD-400	120/230	50/60	0.14/0.08	320	0.18
SD-150	120/240	50/60	0.39/0.18	400	0.067
SD-50	120/240	50/60	0.54/0.33	400	0.067

ELEMENTAL LED INC, DBA DIODE LED E469770

SUITE 211
1195 PARK AVE
EMERYVILLE, CA 94608

Sign accessory, Class 2 LED modules, 12V Tape Light Series DI-12V-**(+), 24V Tape Light Series DI-24V-**(+), 24V Tape Series WET DI-24V-**(+), Equiflux EL-24V-EQUI-***(#), or Equiflux LF-24V-EQUI-***-12(#), Speciform DI-12V-**(+), Blaze DI-12V-**, Blaze Wet DI-12V**, Sidewinder DI-12V-**. For the model number the series designation may be prefixed or suffixed with alpha or numeric characters.

1. These products are only suitable for connection to a Class 2 power source, rated maximum 12 VDC or 24 VDC.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits.
3. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 VDC or 24 VDC.
4. These products are not required to be enclosed or protected from the weather in the end product.

Class 2 LED modules, LED Strip Series DMX Pixel RGB. For the model number the series designation may be prefixed or suffixed with alpha or numeric characters.

1. These products are only suitable for connection to a Class 2 power source, rated maximum 5 VDc.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits.
3. These products are suitable for use in dry, damp and wet locations with supply sources rated at 5 VDC.
4. These products are not required to be enclosed or protected from the weather in the end product.

ENHANCE NEON TECH (SHANGHAI) CO LTD E237417

5 XIN SONG RD
SHI HU DANG TOWN
SONG JIANG, SHANGHAI 201604 CHINA

Electrode Splice Insulator, Model EB-013

1. These devices are rated 150°C, 60 mA, 7500 Vac to ground. May be used with 15K mid-point grounded transformer.
2. These products are suitable for use in dry or damp locations.
3. These products are required to be enclosed or protected from the weather.
4. These products are only for use in Listed signs and Sections of signs. They are not suitable for field installed skeletal neon or outline lighting.
5. These products are only for use with Listed Transco's rated 150°C integral sleeve GTO-10 and GTO-15 Cables for 14 AWG to 18 AWG covered in File E226224. For use in accordance with manufacturer's instructions.

EOS E467626

13101 W. WASHINGTON BLVD
STE 469
LOS ANGELES, CA 90066

LED Modules, EOS LED Strip-12V, EOS LED Strip-24V, EOS Light Stripe-360, EOS Light Frame, EOS Light Panel, EOS Light Box, EOS Light Stripe, EOS Frame, EOS Panel, EOS Glass Frame Light Box, EOS Light Matrix.

1. These LED Modules are only intended for use with a LPS or Class 2 output power sources.
2. These LED Modules are suitable for use in dry and damp locations.
3. These LED Modules are not provided with a mounting means. The suitability is to be determined in end product use.
4. The temperature rating of LED board is 105°C min., of supply leads is 90°C min., and of Light Guide Panel is 50°C min. The suitability is to be determined in end product use.
5. The suitability of supply means shall be determined in end product.

ESPEN TECHNOLOGY INC E364680

12257 FLORENCE AVE
SANTA FE SPRINGS, CA 90670

LED Drivers, VEV8024MVH-YY, VEV8024MVHDA-10V-YY, VEV6012MVH-YY, VEV6012MVHDA-10V-YY. (Where YY=00-99).

1. These LED Drivers have been evaluated to Class 2 output requirements for dc circuits with a maximum of one Class 2 output.
2. These products are provided with the following electrical ratings:

Model No.	Input Voltage (V ac)	Input Freq (HZ)	Input Current (A)	Output Voltage (V dc)	Output Current (A)	Output Power (W)
VEV8024MVH-YY, VEV8024MVHDA-10V-YY	100-277	50/60	1.1	24	3.3	80

VEV6012MVH-YY, VEV6012MVHDA-10V-YY	100-277	50/60	0.85	12	5.0	60

3. The load powered by the Class 2 output of the LED drivers are suitable for use in dry, damp and wet locations.
4. In the end product, LED driver spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
5. In the end product, LED Drivers shall be located not less than 1 inch (25.4mm) apart when arranged end-to-end, and not less than 4 inches (102mm) apart when arranged otherwise.
6. These products shall be enclosed in the end product.
7. The suitability of output leads, rated No. 24 AWG minimum, rated 80°C minimum, 600 V, shall be determined in end product use.
8. These units may be provided with Dimming Input (Purple and Gray wires) to control output current range, the suitability shall be determined in each end-use application.
9. These products are intended for use in dry and damp locations.

LED Drivers, Model VEV10024MVH-YY (where YY=00-99).

1. The LED Drivers have been evaluated to Class 2 output requirements for dc circuits with a maximum of one Class 2 output.
2. In the end product, LED Drivers spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
3. In the end product, LED Drivers shall be located not less than 1 inch (25.4 mm) apart when arranged end-to-end, and not less than 4 inches (102 mm) apart when arranged otherwise.
4. The maximum working voltage present and dielectric voltage withstands test voltage applied between primary circuits and secondary output/plastic enclosure for each model are tabulated below.

Model name	Working Voltage	Hi-pot P-S	Hi-pot P-enclosure
VEV10024MVH-YY	310 Vrms, 504 Vpk	3990 (3000) Vac	3990 (3000) Vac

5. The LED drivers had been considered ambient 60 degree C. If operated at a higher ambient temperature, it should be determined in end product.
6. The LED drivers are intended for factory installation only.
7. The LED drivers are intended for use in a dry and/or damp location. Other uses shall be considered in end product.
8. The LED drivers shall be installed in compliance with the enclosure, mounting, spacing, casualty, and segregation requirements of the end product application.
9. The suitability of input and output leads shall be determined in end product.

ESTRAKON INC E352383

3924 VARSITY DR
ANN ARBOR, MI 48108

Class 2 Powered LED Illuminated Sign, designated as "LED Beer Sign".

1. These products are only suitable for connection to a Class 2 power source rated 30 Volt DC or less.
2. These Class powered products are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. These products are suitable for use in dry locations with supply sources rated at 30 Volts DC or less.

EUROCOM-INC E342497

SUITE 202
8411 STERLING ST
IRVING, TX 75063

LED Modules, Model Nos. SL-CL-420, SL-IP-CL-420, SL-HI-500, SL-HI-500RGB, SL-IP-HI-500, SL-IP-HI-500RGB, FK-IP-02, FK-IP-03, FK-IP-04. All models may be followed by additional suffixes for color temperature.

1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuit and is rated greater than 12 V DC.
3. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.

EVERBRITE ELECTRONICS INC E325903

720 W CHERRY ST
CHANUTE, KS 66720

LED Modules, Class 2 LED Modules designated as “Current Limited LED Assembly” series, XXX-YYYY, where XXX may be any combination of numeric characters from 000 to 999; YYYY may be any combinations of alphanumeric characters from 0000 to 9999 or AAAA to ZZZZ; or suffix XXX-YYYYY , where XXX and YYYYY can be any alphanumeric characters.

1. LED modules designated as “Current Limited LED Assembly” series, XXX-YYYY or XXX-YYYYY are only suitable for connection to a Class 2 power source rated max 60 Volt DC or less when used indoors.
2. LED modules designated “Current Limited LED Assembly” series, XXX-YYYY or XXX-YYYYY are only suitable for connection to a Class 2 power source rated max 30 Volt DC or less when used outdoors.
3. LED modules designated as “Current Limited LED Assembly” series, XXX-YYYY or XXX-YYYYY have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit and which is rated greater than 60 V DC for indoor use.

4. LED modules designated as “Current Limited LED Assembly” series, XXX-YYYY or XXX-YYYYY have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit and which is rated greater than 30 V DC for outdoor use.
5. LED modules designated as ”Current Limited LED Assembly” series, XXX-YYYY or XXX-YYYYY are each rated max. 90 watts per module. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
6. LED modules designated as “Current Limited LED Assembly” series, XXX-YYYY or XXX-YYYYY are suitable for use only in dry locations with supply sources rated at max. 60 Volts DC or less.
7. LED modules designated as “Current Limited LED Assembly” series, XXX-YYYY or XXX-YYYYY are suitable for use in dry, damp and wet locations with supply sources rated at 30 Volts DC or less
8. These products may be secured in place in the end product by any means available.
9. When these products are used in applications other than signs or Outline lighting, the need to conduct a temperature test shall be considered.
10. These Class 2 LED modules are only suitable for use in Canada, when marked with Class 2 input voltage ratings 42.4 Vdc or less for use in dry and damp locations, or rated 30 Vdc or less for wet locations.

EVERBRITE LLC E131602
4949 S 110TH ST
PO BOX 20020
GREENFIELD, WI 53220

LED Modules, designated as Indoor Passively current limited (resistive) series, XXXXXXXX, where XXXXXXXX may be any combination of alpha characters.
1. These products are only suitable for connection to a Class 2 power source rated 60 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit and which is rated greater than 60 V DC.
3. These products are each rated max. 60 watts per module. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. LED modules are suitable for use only in dry and damp locations with supply sources rated at min. 30 Volts DC to max. 60 Volts DC.
5. LED modules are suitable for use in dry, damp and wet locations with supply sources rated at 30 Volts DC or less.
6. These products may be secured in place in the end product by any means available.
7. When these products are used in applications other than signs or outline lighting, the need to conduct a temperature test shall be considered.
8. LED modules rated for Class 2 input voltage of more than 42.4 V DC are only suitable for use in the United States.

Neon "Animotion" controller, Cat. Nos. 800-0066, -0067 and -0068.
1. The Neon "Animotion" Controller shall be used within the ratings indicated above. Its input shall be powered by the Class 2 output of Model 800-0128 with the controller's output powering the input of Series "NuAUX" auxillary transformers or the controller's input shall be powered by a Listed Class II high-frequency power supply.
2. The controller has been evaluated at maximum marked ratings with Neon Power Supply Cat. No. 1212 and Cat. No. 800-0065 auxiliary transformer.
3. The number of outputs on the controller may vary between one and eight.
4. No more than four outputs, with a maximum of two outputs per input, may be operated continuously.
5. All eight outputs shall not be on concurrently.
6. The controllers are intended for Indoor Use Electric Signs or shall be mounted in suitable enclosure when used with Outdoor Use Electric Signs.

LED Modules, Sequencer Series Modules designated XXX-XXXX, XXX-YYYY or XXX-YYYYY (XXX-XXXX, XXX-YYYY or XXX-YYYYY may be any combination of alpha characters).
1. These modules are only suitable for connection to a Class 2 power source rated 60 Volt DC or less.
2. These modules have not been evaluated for use and connection to a power supply source with parameters that exceed Class 2 circuit limitations. If and when connected to circuits with parameters exceeding these limits, additional evaluation will be required.
3. Each module is rated and suitable for a maximum of 90 watts.
4. Sequencer modules are suitable for use only in dry locations with supply sources rated at 60 Volts DC or less.
5. Sequencer modules are suitable for use in dry, damp and wet locations with supply sources rated at 30 Volts DC or less.
6. These modules should be secured by suitable means when installed in the end-use application.
7. These modules are suitable for use in signs only. The use of these modules in any other end-use application will require additional evaluation.
8. When the Sequencer modules are connected to a Class 2 source of supply with a potential of 42.4 V DC or more, these application are only suitable for use in the United States.

LED Modules, Regulator Series Modules designated XXX-XXXX, XXX-YYYY or XXX-YYYYY (XXX-XXXX, XXX-YYYY or XXX-YYYYY may be any combination of alpha characters)
1. These modules are only suitable for connection to a Class 2 power source rated 60 Volt DC or less.
2. These modules have not been evaluated for use and connection to a power supply source with parameters that exceed Class 2 circuit limitations. If and when connected to circuits with parameters exceeding these limits, additional evaluation will be required.
3. Each module is rated and suitable for a maximum of 90 watts.
4. Regulator modules are suitable for use only in dry locations with supply sources rated at 60 Volts DC or less.
5. Regulator modules are suitable for use in dry, damp and wet locations with supply sources rated at 30 Volts DC or less.
6. These modules should be secured by suitable means when installed in the end-use application.
7. These modules are suitable for use in signs only. The use of these modules in any other end-use application will require additional evaluation.
8. When the Regulator modules are connected to a Class 2 source of supply with a potential of 42.4 V DC or more, these application are only suitable for use in the United States.

LCD Module, Model LCD v6.x with Power Supply.

1. These LCD modules are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. These LCD modules have not been evaluated for use and connection to a power supply source with parameters that exceed Class 2 circuit limitations. If and when connected to circuits with parameters exceeding these limits, additional evaluation will be required.
3. Each LCD module is rated and suitable for a Class 2 maximum 12 Vdc output of 43 watts.
4. The Exclusion of Water Test may be waived for this LCD module subassembly only when installed in outdoor location signs with Listed conduit and (QCRV) liquid tight conduit fittings on primary circuits.
5. These modules should be secured by suitable means when installed in the end-use application.
6. These modules are suitable for use in signs only. The use of these modules in any other end-use application will require additional evaluation.

EXCELLART SIGN PRODUCTS LLC E152309

1654 S. LONE ELM RD
OLATHE KS 66061

Frame system, Series EC(+) followed by -4, -4R, -6, -6R, -7, -7R, -8, -8R, -9, -9R, -12 Hinged and Standard, -D/F Hinged and Standard, -IDS, -S/F Hinged and Standard, or EC-S/F Access System. Accessories for use with EC frame systems, frame, angle, hat section, 6 in. radius corner, 9 in. radius corner, Cat. Nos. EC-4, -7, -8, EC-IDS, EC-Xtra, FF, FF-2, H-1, H-1.5, LC, LF, RR, or RRC retainers, Cat. No. EC-12 frame retainer brace, Cat. No. EC-S/F access system, Cat. No. EC lamp raceway, Cat. No. EC raceway cover, Cat. No. EC lamp/ballast track, Cat. No. EC-IDS raceway, Cat. No. EC Flex System for standard frame, hinged frame, or retro fit, Cat. No. EC-T1, -T2 trim caps, or Cat. No. 1 1/2, 2 1/2, or H divider bars. Cat. Nos. F retainer, F hinged retainer, FF short retainer, EC-3.25 radius post, EC-3.25 rectangular post, EC-revel connector, EC-3.25 bleed frame, EC-8 in. radius quarter end, EC channel letter front, EC channel letter back, EC channel letter lid.
Frame system Excellart (++) followed by C, C-2, M-C, or MC-R, for use with retainers MC- Alternate M-C, ZF.188, ZF.250, ZF-1 1/2, ZF-2, ZFC2 1/2, or ZFC-3. Frame system Narrowline, Cat. Nos. EC-4RN frame, EC-4N frame, 1 in. radius corner connector and cap. Frame Model AMB-X20597-H
(+) Frames, angles, and hat sections have the same catalog number as the frame system. Frames available in standard or hinged versions.
(++) Frames available in smooth or ribbed versions.
Expanda Frame Model AMB13920. Lamp Socket Raceway and Cover Models AMB990 and AMB991.

1. When installed in an outdoor wet location application, consideration shall be given to conducting the water exclusion test of UL 48.
2. The suitability of the components to serve as wireways and electrical enclosures shall be determined in the end use.
3. When installed in an outdoor wet location, the bottom of the cabinet system shall be provided with at least two drain holes in each inside recess, except for the wireway.

FANTASTIC DISPLAYS INC E362917

2049 S BAKER AVE
ONTARIO, CA 91761

Class 2 powered LED modules, Cat. Nos. LMYX 225 [+], LMYX 324 [+], LMYX 220 [+], LMYX 332 [+], LMYX 340 [+], LMYX 326 [+], LMYX 341 [+], LMYX 112 [+], LMYX 120 [+], LMYX 102 [+], LMYX 117 [+].

1. This product is only suitable for connection to a Class 2 power source, rated 12 Volt DC or less.
2. This product has not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than electrical ratings.
3. This Class 2 LED module is rated as noted in the electrical ratings tables. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. This product is suitable for use in dry, damp and wet locations with supply sources rated at electrical ratings or less.
5. This product is not required to be enclosed or protected from the weather in the end product.
6. This product may be secured in place in the end products by any means available.

FEDERAL HEATH SIGN CO. LLC E125271

4602 NORTH AVE
OCEANSIDE, CA 92056

Sign face tensioning systems, designated "KLICK-RAIL".

1. Water exclusion must be determined in the end product.
2. Any frame dimension greater than 1.8m (6 feet) needs to be braced to prevent billowing.
3. This system limited to only decorative applications, and together with the flexible face material shall comply with the external decorative face requirements of UL 48, particularly the clearances from heat-generating components to decorative plastic panels.
4. The suitability of secureness of the clamp and flexible material shall be judged in the end-use application.
5. The installation of this system in a sign shall conform with the instructions provided with this tensioning system.

Class 2 Powered LED Modules, designated RVI Series.

1. These products are only suitable for connection to a UL Listed or UL Recognized Class 2, DC power source.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited supplies.
3. Class 2 LED Illumination, RVI Series is rated 20 W per 2.7 m length with yellow LEDs and 21 W per 2.7 m length with Red LEDs. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply and 60 W per Class 2 circuit.
4. These products are suitable for use in dry, damp locations. When the Class 2 output is 12 V or under, these products are suitable for wet locations.
5. These products are not required to be enclosed or protected from weather.

Controller boards, Models PCB64PD, PCB32PD, PCB06PD.

1. The controller and drivers covered by this report are suitable for damp and dry locations only.
2. The controller Models PCB64PD, PCB32PD, and PCB06PD are suitable for use on a 120 V, 60 Hz service and are capable of switching up to 64, 32, and 6 points, respectively. They are for use only with triac driver Models PCB20T6, PCB10T12, and PCB10T4.
3. The Model PCB20T6, 6 point triac driver board is suitable for use with 120 V, 60 Hz service with each point rated for a maximum load of 13 A, 1560 W.
4. The Model PCB12T10, 12 point triac driver board is suitable for use with 120 V, 60 Hz service with each point rated for a maximum load of 6.5 A, 780 W.
5. The Model PCB10T4, 4 point triac driver board is suitable for use with 120 V, 60 Hz service with each point rated for a maximum load of 6.5 A, 780 W.
6. The controller and drivers are intended to mounted on standoffs proving at least 1/2 in clearance between circuit boards and back of enclosure, within an aluminum enclosure of at least 0.020 inches thick, and an overall dimension provided with forced air ventilation as specified below.
7. The controller and drivers are intended to be mounted within an aluminum enclosure mounted in a vertical orientation having a minimum overall dimension that provides at least 4 inches from the unit to the top and side walls and 4 inches to other heat producing components and at least 2 inches clearance from printed wiring board mounted components and the enclosure cover.
8. The minimum cooling fan flow rate per driver board shall be lat least 200 CFM.
9. The diameter of the fan opening and exhaust ventilation opening shall be at least the diameter of the fan blades. For each inlet fan opening there shall be an equivalent exhaust opening. Each opening is to be covered by louvers or other equivalent guarding to provide opening that comply with end product requirements.
10. The mounting of the controller and drivers and wiring between the controller and driver boards are to be factory assembled. Primary wiring to the controllers and output wiring to the loads from the driver boards can be made in the factory or field.

Driver boards, Models PCB10T4, PCB10T12, PCB20T6.

1. The controller and drivers covered by this report are suitable for damp and dry locations only.
2. The controller Models PCB64PD, PCB32PD, and PCB06PD are suitable for use on a 120 V, 60 Hz service and are capable of switching up to 64, 32, and 6 points, respectively. They are for use only with triac driver Models PCB20T6, PCB10T12, and PCB10T4.
3. The Model PCB20T6, 6 point triac driver board is suitable for use with 120 V, 60 Hz service with each point rated for a maximum load of 13 A, 1560 W.
4. The Model PCB12T10, 12 point triac driver board is suitable for use with 120 V, 60 Hz service with each point rated for a maximum load of 6.5 A, 780 W.
5. The Model PCB10T4, 4 point triac driver board is suitable for use with 120 V, 60 Hz service with each point rated for a maximum load of 6.5 A, 780 W.
6. The controller and drivers are intended to mounted on standoffs proving at least 1/2 in clearance between circuit boards and back of enclosure, within an aluminum enclosure of at least 0.020 inches thick, and an overall dimension provided with forced air ventilation as specified below.
7. The controller and drivers are intended to be mounted within an aluminum enclosure mounted in a vertical orientation having a minimum overall dimension that provides at least 4 inches from the unit to the top and side walls and 4 inches to other heat producing components and at least 2 inches clearance from printed wiring board mounted components and the enclosure cover.
8. The minimum cooling fan flow rate per driver board shall be lat least 200 CFM.
9. The diameter of the fan opening and exhaust ventilation opening shall be at least the diameter of the fan blades. For each inlet fan opening there shall be an equivalent exhaust opening. Each opening is to be covered by louvers or other equivalent guarding to provide opening that comply with end product requirements.
10. The mounting of the controller and drivers and wiring between the controller and driver boards are to be factory assembled. Primary wiring to the controllers and output wiring to the loads from the driver boards can be made in the factory or field.

FEELIS CO LTD **E341820**

449 TAEJEON-DONG
GWANGJU-SI, GYEONGGI-DO, 464-805 KOREA

Class 2 LED Light Board, Cat. No. “LED Light Board”

1. These products are only suitable for connection to a Class 2 power source rated 24 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit and which is rated greater than 24 V DC.
3. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 24 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. When these products are used in applications other than signs the need to conduct a temperature test shall be considered.
7. These products cannot be wired in series**.**

Class 2 LED Strips, RGB LED Model designated as SH-XXX series, where XXX may be any numeric characters.

1. These products are only suitable for connection to a Class 2 power source, rated 30 Volt DC or 15 Volt AC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than 30 Volt DC or 15 Volt AC.
3. These Class 2 LED modules are rated as noted in the model list table. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated class 2.
5. These products are not required to be enclosed or protected from the weather in the end product.

Class 2 LED, "Light Board Panels".

1. The LED modules are only suitable for connection to a Class 2 power source rated 24 Volt DC or less.
2. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. These products are suitable for use in dry, damp or wet locations.
4. These products may be secured in place in the end product by any means available.

FIRST SYSTEM CO LTD **E359272**
HOUKOKU BUILDING 6F
2-26-1 IZUMI
HIGASHI-KU
NAGOYA-SHI, AICHI-KEN 461-0001 JAPAN

Class 2 LED modules, Fx-xxxx-12-xx(x)-(x), where x may be any alphanumeric character or blank indicating the client\'s internal control factors such as lighting, color, etc.

1. These products are only suitable for connection to a Class 2 power source rated as below or less.

Model No.	Maximum Input Voltage (V DC)	Current Rating (mA)
Fx-xxxx-12-xx(x)-(x)	15	150

2. Units may be interconnected together by leads during normal use. When unit is connected to a Class 2 source, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. This product is suitable for use in dry and damp locations.
4. When these products are used in applications other than signs the need to conduct a temperature test shall be considered.

FOSHAN LIHAO ADVERTISING SIGNS CO LTD **E338294**
WAREHOUSE 2, CHONGWEI
XINLIAN MEICHONG VILLAGE
LISHUI TOWN, NAHAI
FOSHAN, GUANGDONG 528244 CHINA

Neon Tube Support, tube support for indoor use Models LH-50, LH-70 may be followed by B or C for Black or Clear type.

1. For indoor use only.
2. For use with neon supply rated 10KV, 5KV to ground maximum.
3. For securement by screw, rivet or solvent bonding. Solvent bonded with Trichloromethane, Bichloromethane, or Methylene Chloride.
4. Mounting foot shall always point straight up or straight down.
5. These products shall not be used as cable support.

FOSHAN NATIONSTAR OPTOELECTRONICS CO LTD **E471493**
18 S HUABAO RD
CHAN CHENG DISTRICT
FOSHAN, GUANGDONG 528000 CHINA

Class 2/LPS LED modules, Model NS-GXYXXZUU-YYNN series.

1. These products are only suitable for connection to a Class 2 or LPS power source rated 12 Volt DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 or LPS voltage and energy limited circuits.
3. When these units are connected to a Class 2 or LPS supply circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 or LPS supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.
7. Class 2/LPS circuits shall not be connected together in series or parallel.
8. When these products are used in applications other than signs, the need to conduct a temperature test shall be considered.

FRANCE A SCOTT FETZER CO **E239418**
2268 FAIRVIEW BLVD.
PO BOX 300
FAIRVIEW, TN 37062

HID Lamp Ballast Assemblies, Cat. Nos. SBIP-200P, SBIP-250, SBIP-320P, SBIP-400 Series.

1. These products are suitable for use in dry and damp location only.
2. For SBIP-200P and SBIP-250 series, no temperature test is required in a sign when the minimum spacing between the HID lamp and a polymeric material, between the HID lamp and adjacent ballast, or the HID lamp and other components is 7.0 inches.
3. For SBIP-320P and SBIP-400 series, no temperature test is required in a sign when the minimum spacing between the HID lamp and a polymeric material, between a HID lamp and adjacent ballast, or a HID lamp and other components is 9.0 inches.
4. A minimum spacing of 24 inches shall be kept between an HID lamp and combustible material located directly above the lamp.
5. These units shall not be mounted on combustible material or have combustible material located directly below them.

Tradenames of "Westrim" and "FRANCE".

LED Isolated Class 2 Power Supply, Models LED-1260MPS.

1. These power supplies have been evaluated to Class 2 output requirements for dc circuits with a max. of one Class 2 output.
2. These products are provided with the following electrical ratings:

Model No.	Input Voltage (VAC)	Input Freq (HZ)	Input Current (A)	Output Voltage (Max. V dc)	Output Current (Max. A)
LED-1260MPS	120-277	50/60	1.1	12	5

3. These products shall be enclosed in the end product.
4. These products are suitable for use in dry and damp locations only.

5. These products are suitable for factory wiring only.
6. These products are to be operated on a max. 20 A branch circuit.
7. The suitability of input/output connections is also to be considered in end product use.
8. These drivers were tested at 60ºC max. ambient temperature. The need for conducting temperature test shall be considered in the end product applications.

FULHAM CO LTD E354191

12D FORD GLORY PLAZA
37 WING HONG ST
CHEUNG SHA WAN
KOWLOON, HONG KONG

Class 2 LED Power Supply, Models T1UNV012V-20L, T1UNV013V-20L, T1UNV024V-20L, T1UNV036V-20L, T1UNV0700-18L, T1UNV1000-18L, T1UNV1400-18L.

1. The product shall be installed in compliance with the mounting, spacing, casualty, and segregation requirements of the ultimate application.
2. These units are provided with a Class 105(A) insulation system.
3. The suitability of the input and output connections shall be determined in each end use application.
4. These power units are intended for dry or damp location use only.
5. Strain Relief and Impact Tests have not been investigated.
6. The polymeric enclosure of each unit has not been evaluated as ultimate enclosure. The flame class of polymeric enclosure of each unit is V-2, and the necessity of additional fire barriers shall be determined in end product.
7. When conducting temperature test in the end product, the maximum temperature on the enclosure (case) shall not exceed 80°C. When provided with alternate enclosure material R/C (QMFZ2), Teijin Chemicals Ltd. (E50075),

Class 2 LED Power Supply, Models T1UNV012V-25C, T1UNV024V-25C, T1UNV036V-25C, T1UNV0700-25C, T1UNV0500-26C, T1UNV0700-36C.

1. These power supplies have a maximum of one Class 2 output. The output of these power supplies has been evaluated to Class 2 output requirements for dc circuits.
2. These products with Class 2 outputs are suitable for use in dry and damp locations only.
3. In the end product, power supply spacing to other heat producing components shall be minimum 4 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
4. When used in a cord connected product, the need for conducting a leakage current test shall be considered in the end product.
5. These lead connected products are suitable for use in commercial application only when marked with 277 V input voltage.
6. These units employ a Class 105 (A) insulation system on Transformer (T1).

Class 2 LED Power Supply, Cat. No. T1UNV012V-40C, T1UNV013V-40C, T1UNV024V-40C, T1UNV1000-36C, T1UNV1400-33C.

1. The product shall be installed in compliance with the mounting, spacing, casualty, and segregation requirements of the ultimate application.
2. These units are provided with a Class 105(A) insulation system.
3. Input leads are Style 1015, No. 18 AWG, rated VW-1, 600 V, 105°C. Output leads are Style 1430, No. 18 AWG, rated VW-1, 300 V, 105°C. The suitability of the input and output connections shall be determined in each end use application.
4. These power units are intended for dry or damp location use only.
5. Strain Relief and Impact Tests have not been investigated. The suitability of the enclosure as ultimate enclosure shall be determined in the end-use application.
6. The polymeric enclosure of each unit has not been evaluated as ultimate enclosure. The flame class of the polymeric enclosure is V-0 and the necessity of additional fire barriers shall be determined in end product.
7. In the end product, power supply spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.

FULHAM ELECTRONIC CO LTD E349510

NO.9 XINGCHANG ROAD, NANSHAO DISTRICT
CHANG PING SCIENCE AREA
102200 BEIJING, CHINA

LED Driver with Class 2 Output, Models T1UNV012V-60L, BL-120-277-12-60-E, T1120012V-60L, BL-120-12-60, T1UNV012V-60LA, BL-120-277-12-60.

1. These products are to be used in maximum 50ºC ambient.
2. These products are provided with Class 2 output.
3. These products are intended for used in a maximum 20 A branch circuit.
4. These products are intended for use in dry and damp locations only.
5. These models are provided with 18 AWG input and output leads. The suitability of the wire shall be considered in end product use.
6. These LED drivers shall be grounded through its mounting ears when used in end products.
7. These LED drivers are to be used in fixed wiring equipment only.
8. In the end product, LED driver spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
9. In the end product, LED Drivers shall be located not less than 1 inch (25.4 mm) apart when arranged end-to-end, and not less than 4 inches (102 mm) apart when arranged otherwise.

LED Driver with Class 2 Output, Models T1UNV024V-100LS, T1UNV030V-100LS, T1UNV024V-60L.

1. When used in end product, the maximum temperature on case surface shall not exceed the temperature note as below:

Model No.	Degree, ºC	Tested ambient, ºC
T1UNV024V-100LS	89	60
T1UNV030V-100LS	88	60

T1UNV024V-60L	90	60

2. These products are provided with Class 2 output.
3. These products are intended for used in a maximum 20 A branch circuit.
4. These products are intended for use in dry and damp locations only.
5. These models are provided with No. 18 AWG input and min. No. 22 AWG output leads. The suitability of the wire shall be considered in end product use.
6. These LED drivers shall be grounded through its mounting ears when used in end products.
7. These LED drivers are to be used in fixed wiring equipment only.
8. In the end product, LED driver spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
9. In the end product, LED Drivers shall be located not less than 1 inch (25.4 mm) apart when arranged end-to-end, and not less than 4 inches (102mm) apart when arranged otherwise.

LED Driver with Class 2 Output, Models T1UNV012V-60LB, BL-120-277-12-60W, T1UNV012V-60LD.

1. When used in end product, the maximum temperature on case surface shall not exceed the temperature note as below:

Model No.	Degree, ºC	Tested ambient, ºC
T1UNV012V-60LB, BL-120-277-12-60W, T1UNV012V-60LD	90	60

2. These products are provided with Class 2 output.
3. These products are intended for used in a maximum 20 A branch circuit.
4. These products are intended for use in wet location.
5. These models are provided with No. 18 AWG input leads, R/C (AVLV2, AVLV8), AWM type, and No. 18 AWG output cable, listed (QPTZ, CN), PLTC type. The suitability of the wire shall be considered in end product use.
6. These LED drivers shall be grounded through its mounting ears when used in end products.
7. These LED drivers are to be used in fixed wiring equipment only.
8. In the end product, LED driver spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
9. In the end product, LED Drivers shall be located not less than 1 inch (25.4mm) apart when arranged end-to-end, and not less than 4 inches (102mm) apart when arranged otherwise.
10. These LED drivers have been evaluated using resistive load resulting in the electrical input and output noted below.

Model	Input (V, Amax)	Output (loaded)
T1UNV012V-60LB, BL-120-277-12-60W, T1UNV012V-60LD	100-277 Vac, 0.708 – 0.268 A	11.47 V, 5.0 A

LED Driver with Class 2 Output, Models T1M1UNV012V-20L, T1UNV012V-20L, T1UNV024V-20L, T1M1UNV024V-20L.

1.These LED drivers have been evaluated using a resistive load resulting in the electrical rating below.

Model No.	Input V, Ampere	Loaded Output (V dc, Ampere) x Channel number
T1UNV012V-20L	100/120/240/277, 0.250/0.207/0.108/0.092	12.25, 1.67
T1M1UNV012V-20L	100/120/240/277, 0.251/0.207/0.108/0.094	12.09, 1.67
T1UNV024V-20L	100/120/240/277, 0.238/0.196/0.101/0.085	23.70, 0.835
T1M1UNV024V-20L	100/120/240/277, 0.244/0.203/0.103/0.088	23.70, 0.835

2. These drivers have been tested in the ambient temperature. When used in end product, the maximum temperature on case surface shall not exceed the temperature note as below:

Model No.	Tc (ºC)	Ta (Tested ambient, ºC)
T1UNV012V-20L, T1M1UNV012V-20L, T1UNV024V-20L, T1M1UNV024V-20L	90	73.5

3. These drivers with metallic housing or display/keys are to be used in the suitable end product fire enclosure.
4. These products are intended for used in a maximum 20 A branch circuit.
5. These products are intended for use in dry and damp locations.
6. These LED drivers shall be grounded through its mounting ears when used in end product.
7. These models are provided with No. 18 AWG input and min. No. 22 AWG output leads.

The suitability of the wire shall be determined in end product use.

8. Models T1M1UNV012V-20L and T1M1UNV024V-20L are provided with a solid conductor wire (No. 18 AWG, min. 105°C, min. 600 V) with two (gray and purple) leads to vary the output current (0-10 Vdc dimming control).This dimmer interface circuit was isolated from the driver input and output circuit.
9. For models T1UNV012V-20L, T1UNV024V-20L, T1M1UNV012V-20L and T1M1UNV024V-20L, the leakage current exceeded 0.5 mA, those models are not intended for use in portable sign.
10. In the end product, LED driver spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
11. In the end product, LED Drivers shall be located not less than 1 inch (25.4mm) apart when arranged end-to-end, and not less than 4 inches (102mm) apart when arranged otherwise.

LED Driver with Class 2 Output, Models T4N4UNVxxxx-100K, T4N4UNVxxxx-100B, T4N4UNVxxxV-100B, T4N4UNVxxxV-100B.

1. These LED drivers have been evaluated using a resistive load resulting in the electrical rating below. Each product is provided with four outputs.

Model No.	Input V, Ampere	Loaded Output (V dc, Ampere) x Channel number
T4N4UNVxxxV-100B, T4N4UNVxxxV-	120/240/277, 0.927/0.468/0.409	(23.9, 1.06) x 4

100K	120/240/277, 0.570/0.295/0.271	Or (12.6, 1.12) x 4
	120/240/277, 0.960/0.470/0.420	Or (12.6, 2.02) x 4
	120/240/277, 0.914/0.465/0.415	Or (24, 4) x 1
	120/240/277, 0.57/0.304/0.283	Or (12, 2.5) x 2
	120/240/277, 0.57/0.304/0.283	Or (12, 5) x 1
	120/240/277, 0.9/0.458/0.407	Or (12, 4) x 2
	120/240/277, 0.9/0.458/0.407	Or (12, 8) x 1
T4N4UNVxxxx-100B, T4N4UNVxxxx-100K	120/240/277, 0.911/0.458/0.407	(24.3, 0.98) x 4
	120/240/277, 0.843/0.430/0.386	Or (42.9, 0.50) x 4

2. These drivers have been tested in a 50ºC ambient temperature. When used in end product, the maximum temperature on case surface shall not exceed the temperature note as below:

Model No.	Degree, C
T4N4UNVxxxV-100K	87.7
T4N4UNVxxxV-100B	88.2
T4N4UNVxxxx-100B	88.3
T4N4UNVxxxx-100K	90.0

3. These drivers are provided with output type noted as previous table on page 2B.
4. These drivers with plastic housing or display/keys are to be used in the suitable end product fire enclosure.
5. These products are intended for used in a maximum 20 A branch circuit.
6. These products are intended for use in dry and damp locations.
7. These drivers are provided terminal blocks noted as below as electrical connections. The suitability of lead wires, strip length and the wiring shall be determined in end product.
   Terminal Blocks (CN1, CN2, CON100) – Rated 300 V, 5 A, 24-16 AWG, Solid/Strand, Copper wire.
   Terminal Blocks (CON101) – Rated 300 V, 10 A, 24-16 AWG, Solid/Strand, Copper wire.
8. Models T4N4UNVxxxV-100B, T4N4UNVxxxV-100K and T4N4UNVxxxx-100B are provided a switch located in the secondary circuit to set the constant output voltage as 12 Vdc, or 24 Vdc in the factory.
9. These LED drivers shall be grounded through its mounting ears when used in end product.
10. The suitability of strain relief means is to be determined in end product use.
11. These drivers are provided with terminal blocks (interfaces) for connecting to DALI signal, DMX signal, 0-10 Vdc signal, or Maximum 277 V switch dimmer to set/adjust the output current. See below table for details. Those DALI, 0-10 Vdc, switch dimmer interface circuits are isolated from the line supply circuits and Class 2 output circuits. The DMX interface circuit is to be used with Class 2 circuits.

Model No.	Terminal Blocks	Connection
T4N4UNVxxxV-100B T4N4UNVxxxV-100K	CN2	DALI signal or Maximum 277 V switch dimmer
T4N4UNVxxxx-100B	CON100	DMX signal
T4N4UNVxxxx-100B T4N4UNVxxxx-100K	CN2	DALI signal or Maximum 277 V switch dimmer
	CON100	DMX signal

12. These drivers are to be used in fixed Sign only.
13. In the end product, LED driver spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
14. In the end product, LED Drivers shall be located not less than 1 inch (25.4mm) apart when arranged end-to-end, and not less than 4 inches (102mm) apart when arranged otherwise.

LED Driver with Class 2 Output, Models T1UNV024V-100LE, T1120012V-60LE, T1UNV012V-60LF, BL-120-12-60-E.

1. These products have been evaluated with the following characteristics.

Model No.	Input type-	Output type-	Product is rated
T1UNV024V-100LE T1120012V-60LE T1UNV012V-60LF BL-120-12-60-E	[X] Branch Circuit (Mains)	[X] Constant Voltage Output is [X] Isolated [X] Class 2	Dry and Damp

2. Rated output loading for these products were achieved by using electronic loads.
3. These products utilize a UL Recognized OBJY2 Class B electrical insulation system.
4. These products are intended for building in end product enclosure. Acceptability of the LED driver with respect to mounting, spacing, casualty, temperature and segregation are to be determined as part of the end device evaluation.
5. These products are provided with 18 AWG minimum for input, 24 AWG minimum for output, rated min. 300 V, min. 105 ºC. Strain relief was provided by embedding wires in potting compound. The suitability of the wiring connections, mounting means and the need for a suitable enclosure shall be considered in the end product.
6. For model T1UNV024V-100LE, the temperature tests were performed at nominal 57ºC ambient and 64ºC for models T1120012V-60LE and 63ºC for model T1UNV012V-60LF. Higher ambient shall be evaluated in end product use.
7. The LED drivers are intended to be connected to maximum 20 A branch circuit.

8. When the LED drivers are installed in the end-product, the measured exterior case temperature at the “Tc” locations shall not exceed 90ºC. Refer to the following table for more details:

Model	Tc location	Tc	Ta
T1UNV024V-100LE	Enclosure outer surface, above T2	90	57
T1120012V-60LE, BL-120-12-60-E	Enclosure outer surface, above T2	90	64
T1UNV012V-60LF	Enclosure outer surface, above T2	90	63

9. The maximum leakage current was measured as 0.58 MIU when connected to a supply voltage of 240Vac for model T1UNV012V-60LF. This LED drivers is to be used in a remotely-mounted unit connected and grounded via a fixed supply connection or if the unit is intended to be an integral part of an end-product luminaire with a fixed supply connection and the end-product standard for the luminaire does not require a leakage current measurement when the supply connection is fixed.
10. In the end product, LED driver spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure. Otherwise, temperature test shall be conducted.
11. In the end product, LED Drivers shall be located not less than 1 inch (25.4mm) apart when arranged end-to-end, and not less than 4 inches (102mm) apart when arranged otherwise. Otherwise, temperature test shall be conducted.

“Sign Lighter” Induction lamp assemblies, Model XBBISLZZZ, where ZZZ may be numbers 250, 200, 80, 70 or 40 indicating maximum lamp wattage; Model HF-AA-UNV-DC-XXX-T-YY, where XXX may be 250, 200, 80, 70 or 40 to indicate lamp wattage and where YY may be numbers representing lamp color temperature.

1. These products are suitable for use in dry and damp location only.
2. These products have been temperature tested within a 6-sided wooden box with dimensions indicated in the table below in a horizontal (top of box, light pointed down) and vertical orientation with eight 12 AWG through-wiring conductors (4 in, 4 out). No temperature test is required in a sign when the minimum volume indicated is provided.
3. No temperature test is required in a sign with a minimum horizontal spacing to a polymeric material, adjacent ballast, or other components is as indicated in the table below.
4. No temperature test is required in a sign with a minimum vertical spacing between the induction lamp and any combustible material located directly above or below the lamp as indicated in the table below.

Catalog Number	Lamp Wattage	Box Dimensions	Min. horizontal spacing	Min. vertical spacing
XBBISLZZZ, HF-AA-UNV-DC-XXX-T-YY	250 or 200 W	47.5 by 36 by 36 in.	10 in.	28.2 in.
	80, 70, 40 W	24 by 24 by 18 in.	7 in.	17.75 in.

FUTURELIGHT CO LTD E364066
239-7 DANGJUNG-DONG
GUNPO-CITY, GYEONGGI-DO 435-030 REPUBLIC OF KOREA

Class 2 LED modules, Models FL-TB@-XXX-@@@, FL-LGP-XXX-@@@, where X and @ can be any alphanumeric code.

1. These products are only suitable for connection to a voltage and energy limited Class 2 power source rated 12 V DC or less.
2. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 V DC or less.
4. These products are not required to be enclosed or protected from the weather in the end product.
5. These products may be secured in place in the end product by any means available.

G E LIGHTING ISRAEL LTD E242790
5 HAMELACHA ST.
NORTHERN INDUSTRIAL ZONE
71520 LOD, ISRAEL

Class 2 Power Supply, Models LET-60, LED 25 8V, LED 25 12V, LED 25 24V, LED 10CV 12, LED 10CV 12 PU, LED 10CV 24, LED 10CV PU, LED 10CC 350, LED 10CC 350 PU.

1. The electrical ratings are as follows:

	Input, 60 Hz		Output, ac		
Model	V	A	V	A	VA or Pmax
LET-60 LED 25 8V	120 85-277	0.6 0.11-0.3	12 8	5.0 3.0	60 VA 25 Pmax
LED 25 12V	85-277	0.11-0.3	12	2.0	25 Pmax
LED 25 24V	85-277	0.11-0.3	24	1.0	25 Pmax
LED 25 8V	85-277	0.11-0.3	8	3.0	25 Pmax
LED 25 12V	85-277	0.11-0.3	12	2.0	25 Pmax
LED 25 24V	85-277	0.11-0.3	24	1.0	25 Pmax
LED 10CV 12, LED 10CV 12 PU	120-240	0.175-0.120	12	0.833	10 VA
LED 10CV 24, LED 10CV 24 PU	120-240	0.175-0.120	24	0.417	10 VA
LED 10CC 350, LED 10CC 350 PU	120-240	0.175-0.120	2.3-28	0.350	10 VA

2. These power supplies have been evaluated to Class 2 output requirements for dc circuits with a maximum of one Class 2 output.
3. A suitable Fire and Electrical Enclosure shall be provided in the end product.
4. In the end product, power supply spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
5. These power supplies are only suitable for use in dry and damp locations.

Class 2 Power Supply, Models LED 60CV 12P, LED60CV 24P, LED 100 CV 8, LED 100 CV 12, LED 100 CV 24, LED 100 CV 48.

1. These power supplies have been evaluated to Class 2 output requirements for dc circuits with a maximum of one Class 2 output.
2. The electrical ratings are as follows:

Model	Input, 60 Hz.		Output, DC	
	V	A	V	VA
LED 100 CV 8	100 - 277	1.3 - 0.5	8	100
LED 100 CV 12	100 - 277	1.3 - 0.5	12	100
LED 100 CV 24	100 - 277	1.3 - 0.5	24	96
LED 100 CV 48	100 - 277	1.3 - 0.5	48	96
LED 60CV 12P	100 - 277	0.8 - 0.3	12	60
LED 60CV 24P	100 - 277	0.8 - 0.3	24	60

3. These power supplies are only suitable for use in dry and damp locations.
4. In the end product, power supply spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.

Company name or trademarks Lightech™ LED Driver, Lightech™ Halogen Transformer and model designation.

GE LIGHTING SOLUTIONS LLC **E219167**
BLDG 338E
1975 NOBLE RD
EAST CLEVELAND, OH 44112 USA

Border tube kits, Includes Lens Cat. No. GExxBTL; Lens connector Cat. No. GExxBTLC; End cap Cat. No. GExxBTLEC; Exterior corner kit Cat. No. GExxBTLXC; Interior corner kit Cat. No. GExxBTLIC; Base reflector Cat. No. GEBTBR; Base connector Cat. No. GEBTBC; Cam lock Cat. No. GEBTCL. **Canopy Kits**, Cat. No. GECPL (8 ft length), GECPEC (end cap), GECPLC, (lens connector), GEBTBCL, GEBTBC. **Light guide kits** includes: Light guide Cat. No. GEXNLGXX-XXX, Light Guide End Cap Cat. No. GEXXXNLGECZZ, XXX may be any alpha letter representing color. ZZ may be any alpha letter representing size. Light Guide Connector Cat. No. GEXXXNLGYZZ, XXX may be any alpha letter representing color, Y can be any alpha character describing the type of connector. ZZ may be any alpha letter representing size.. Mounting clip Cat. No. GEXNMCXX; Supply wire Cat. No. GEXNSXX; Splice connector Cat. No. GEXNSC1; Weather box Cat. No. GEXWBXX-XXX.

1. Border Tube Kit, Canopy Kit and Light Guide Kit are for Wet Location only use when enclosing LED's connected to a Class 2 circuit operating at under 30V continuous DC, 12.4 V interrupted at a rate of 10-200Hz DC, or 15 VAC.
2. The LED border tube kit and Canopy Kit was not evaluated as an electrical enclosure.
3. The LED border tube kit and Canopy Kit was not evaluated as a watertight housing.

LED power supplies, Cat. No. GEXLPS21, GEXNPS30-120, GEXNPS31-120

1. This component has been judged on the basis of the required spacings in the Standard for Class 2 Power Units, UL 1310, Fourth Edition, which would cover the component itself if submitted for Listing.
2. The supply terminals and connectors are suitable for factory wiring only of solid or tinned stranded No. 18 AWG conductors.
3. The equipment was submitted and tested for a maximum manufacturer's recommended ambient (Tmra) of 40 C.
4. Leakage current measurements shall be performed when more than four LED drivers are used in the equipment or when the LED driver is used in combination with other equipment in the end-use product.
5. The drivers are intended for installation inside an electrical enclosure.
6. The ground connection is not suitable as the equipment ground for a sign. Separate provision for sign grounding must be provided.
7. The drivers are suitable for dry location use only except the drivers Models GEXNPS30-120 and GEXLPS21 are suitable for damp location use.

LED array drivers, Models GEXLPS21-U, GEPS12-60U, GE060/MV/V12T12T1-A.

1. These components have been judged on the basis of the required spacing in the Standard for Class 2 Power Units, UL 1310, Fourth Edition, which would cover the component itself if submitted for Listing.
2. The terminals and connectors are suitable for factory wiring only of solid or tinned stranded No. 18 AWG conductors.
3. The equipment was submitted and tested for a maximum manufacturer's recommended ambient (Tmra) of 40°C.
4. The insulation system of the main isolation transformer designated (T2) in these models is a Class 105(A) insulation system. Unless the modules are mounted as specified in condition of acceptability number 7, a temperature test is required when these models installed within an electrical enclosure or raceway.
5. The maximum measured leakage current of a single unit is 0.49 mA. Leakage current measurements shall be performed when multiple LED drivers are used in the final equipment or when the LED driver is used in combination with other equipment in the end-use product.
6. The unit is intended for installation inside an electrical enclosure.
7. The unit may be used within an electrical enclosure or raceway without temperature test provided they are mounted not closer than 1 in. end to end or 4 in. side to side from adjacent LED power supplies.
8. The ground connection is not suitable as the equipment ground for a sign. Separate provision for sign grounding must be provided.

LED power supplies, Model GEPS24-100U, GE100/MV/V24T1-A.

1. This component has been judged on the basis of the required spacing in the Standard for Class 2 Power Units, UL 1310, Fourth Edition, which would cover the component itself if submitted for Listing.
2. The supply terminals and connectors are suitable for factory wiring only of solid or tinned stranded No. 18 AWG conductors.
3. The equipment was submitted and tested for a maximum manufacturer's recommended ambient (Tmra) of 40 C.
4. This unit is provided with a Class 105(A) insulation system. A temperature test is required when the unit is installed within an electrical enclosure or raceway.
5. Leakage current measurements shall be performed when more than four LED drivers are used in the equipment or when the LED driver is used in combination with other equipment in the end-use product.
6. The unit is intended for installation inside an electrical enclosure.
7. The unit may be used within an electrical enclosure or raceway without temperature test provided they are mounted not closer than 1 in. end to end or 4 in. side to side from adjacent LED power supplies.

LED array drivers, Models GEPS 12-20, GEPS 24-20.

1. The maximum measured output voltage, current and power at the output of these models was found in compliance with the limits for Class 2 output requirements.
2. The transformers of these units employ Class 105 insulation system.
3. These components were intended for use in indoor Dry and DAMP location only.
4. In the end product, power supply spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure. Adjacent power supplies shall be spaced at least 1 in. end to end and 4 in. in any other direction.
5. These components shall be installed inside an electrical enclosure.
6. Input and Output leads are style 1316, rated 600 V, 105 C, VW-1. Minimum No. 18 AWG. The suitability of input and output connections shall be determined in each end use application.
7. The maximum room ambient temperature permitted by the manufacture is 60 C. The temperature measured on outside enclosure of Models GEPS24-20 and GEPS12-20 are 67.2 C and 77.9 C respectively. The necessity of repeated Temperature Test shall be determined in each end use application if minimum thermal spacings in accordance with Item 4 are not provided.

LED Dimmer, Model GEDM1 and GEDM1-A.

1. This component has been judged on the basis of the required spacing in the Standard for Class 2 Power Units, UL 1310, Fourth Edition, which would cover the component itself if submitted for Listing.
2. The equipment was submitted and tested for a maximum manufacturer's recommended ambient (Tmra) of 40 C.
3. The unit is intended for installation inside an electrical enclosure.
4. This unit is provided with a Class 105(A) insulation system. The unit may be used within an electrical enclosure or raceway without temperature test provided they are mounted not closer than 1 in. end to end or 4 in. side to side from adjacent LED power supplies.
5. The Xitanium Dimmer is only suitable for use in Class 2 circuits powered by Advance LED drivers with maximum input rating of 24Vdc, 4.1A, or 12VDC, 5A. Dimmer circuit is 0-10VDC.
6. This LED Dimmer Controller must be used with either a 100K Ohms Potentiometer or a standard 0-10 V DC dimmer switch.
7. For dry or damp location.

LED Strips, Class 2, Cat. Nos. GE-XX-XX-X-XXX, GE-XX-XX-XX-XXX, GE-XX-XX-XXX-XXX, GE-XX-XX-XXXX-XXX, GE-XX-XX-XXXXX-XXX, GE-XX-XX-XXXXXX-XXX, GE-XX-XX-XXXXXXX-XXX, GE-XX-XX-XXXXXXXX-XXX, GE-XX-XX-XXXXXXXXX-XXX, catalog numbers may vary per nomenclature. GE followed by: “XX” representing color: RD, RC, YG, GL, SB, BL, WH, YA, WW, GR, PO, followed by: “XX” representing product line: CL, DS, XL, PT, XN, TM, MX, TU, PG, PX, PH, XH, MH, SS, PM, MM, MH, BS, BD, BI followed by: “X” to “XXXXXXXXX” representing light strip final assembly or number of LEDs per foot: LA, LE, AA, SX, LX, WXX, TXX, PX, XX followed by: “XXX” denotes any alphanumeric character that represents the color temperature of the LEDs. Cat. Nos. GE-AA-BB-CC, where “AA” may be DS, XN, XNL, XNA, MX, MXL, PG, MM, MMD, SS, PM, PMD, MXH, MXHL, BS, BD, BI, BIH, BSH, BDH, DSH or SSH, SS24H, F12T2 or MS which represent product line; “BB” may be RD, RC, YG, GL, SB, BL, WH, YA, WW, GR, PO or any alphanumeric character; and “CC” may be any alphanumeric characters or blank.

1. These products are only suitable for connection to a Class 2 power source.
2. When units are connected to a Class 2/ LPS circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2/ LPS supply.
3. These products are suitable for use in dry, damp and wet locations.
4. These products described in this section may be cut into segments per manufacture insulation instructions.
5. Units may be provided with UYMR2, 3M type VHB double-sided adhesive tape. Tape must be utilized per UYMR2 Conditions of Use as defined in the Sign Components Manual.
6. The Light Guide has not been evaluated as an LED Strip Light enclosure or diffuser. Suitability shall be determined in the end use product.

NOMENCLATURE:

Nomenclature for LED Strip Light: GE-XX-XX-X-XXX, GE-XX-XX-XX-XXX, GE-XX-XX-XXX-XXX, GE-XX-XX-XXXX-XXX, GE-XX-XX-XXXXX-XXX, GE-XX-XX-XXXXXX-XXX, GE-XX-XX-XXXXXXX-XXX, GE-XX-XX-XXXXXXXX-XXX, GE-XX-XX-XXXXXXXXX-XXX.

First Set of "XX" = denotes the color of the LED		
RD	=	Red family
RC	=	Red/Orange family
YG	=	yellow family
GL	=	Green family
SB, BL	=	Blue Family
WH	=	White
YA	=	Amber
WW	=	Warm White
GR	=	Green
PO	=	Portland Orange

Second Set of "XX" = denotes product line		
CL	=	channel letter
DS	=	double sided Power Strip
XL	=	tetra long strip
PT	=	power tetra
XN, XNL, XNA	=	Contour or Contour LS
TM	=	Mini
MX, MXL	=	Max
TU	=	Ultra
PG	=	Power Grid
PX	=	Power White XL
PH	=	Power White HO
XH	=	Power White XL HO
MM, MMD	=	Mini Max
SS	=	Power Strip
PM, PMD	=	Power Max
MH, MXH, MXHL	=	MAX HO
BS	=	Shallow Box single sided
BD	=	Shallow Box double sided
BIH	=	Edgestrip

Third set of "XX" denotes Light Strip final assembly as noted below:		
LA	=	Light Strip, assembled inside a plastic rod, 8 inch section
LE	=	Light Engine means same as Light strips
AA	=	Light engine, assembled inside a plastic rod, 16 inch section
SX or X	=	Number of LEDs per foot where X is 1 = 6 LEDs per foot etc. (X can be representative of 1 to 9 digits)
WXX	=	Wide Angle light diffuser, where the first X describes the PCB length, A for regular and L for long, and the second X is an alpha numeric character of leds per foot.
PX	=	For PowerGrid (PG), Power Strip (SS) and Double Sided Power Strip (DS) only, where x equals the number of LEDs per foot. Not Assembled in Tube. An optional X may be added to denote wire length between modules where X is S for short, M for Medium, and L for Long.
XX	=	only to be used with DS product line, xx is number that correlates to total length in inches (48 = 48") assembled in acrylic tube.

"XXX" denotes any alphanumeric character that denotes the Color Temperature of the LEDs i.e. 65k = 6500, 75k = 7500 etc.

Splice connector, Cat. No. GexxSCx; **End caps**, Cat. No. GexxECx.

1. These products are only suitable for connection to a Class 2 power source.
2. When units are connected to a Class 2/"LPS" circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2/"LPS" supply.
3. These products are suitable for use in dry, damp and wet locations.
4. These products described in this section may be cut into segments per manufacture insulation instructions.
5. Units may be provided with UYMR2, 3M type VHB double-sided adhesive tape. Tape must be utilized per UYMR2 "Conditions of Use" as defined in the Sign Components Manual.
6. The Light Guide has not been evaluated as an LED Strip Light enclosure or diffuser. Suitability shall be determined in the end use product.

LED Controller, LED Tetra FX Special Lighting Effects Controller, Cat. No. GEFX1

1. This product is suitable for only when connected to a Class 2 power source or LSP, Model GEXLPS20, GEXLPS21, GEXNOS30 or GEXNPS31 by GE. Rated Input is 12/24 V dc, Output is 12/24 V dc.
2. This product is a Class 2 device suitable for use in dry, damp and wet locations.
3. The controller shall be provided in a suitable housing when use in wet locations.
4. Lead wires are R/C (AVLV2), Style 2651, rated 105 C, 300V. Not suitable for use inside walls, above ceiling or other similar concealed spaces unless mounted inside an electrical enclosure.
5. The controller is provided with a DMX 5-pins input connector. The pin arrangements in the connector shall always be the same. The DMX controller is capable of providing the 4 channel dimming, flashing, chasing, sequencing, color mixing, and color changing functions.

LED wire, Cat. No. GExxSWx. Nomenclature for Splice Connectors, LED Wires, End Caps: xx denotes product line, CL = channel letter, DS = double sided, XL = tetra long strip, PT = power tetra, XN = Exposed Neon, TM = Mini, MX = Max, TU = Ultra, PG = Power Grid, PX = Power White XL, PH = Power White HO, XH = Power White XL HO, MM = Mini Max; 'x' denotes design revision number.

1. These products are only suitable for connection to a Class 2 power source.
2. When units are connected to a Class 2/"LPS" circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2/"LPS" supply.
3. These products are suitable for use in dry, damp and wet locations.
4. These products described in this section may be cut into segments per manufacture insulation instructions.
5. Units may be provided with UYMR2, 3M type VHB double-sided adhesive tape. Tape must be utilized per UYMR2 "Conditions of Use" as defined in the Sign Components Manual.
6. The Light Guide has not been evaluated as an LED Strip Light enclosure or diffuser. Suitability shall be determined in the end use product.

LED power supplies, Models GECLPS4.

1. LED power supply, Catalog No. GECLPS4 for dry and damp locations.
2. Each power supply output is Class 2.

LED power supplies, Models GECLPS4D.

1. LED power supply, Catalog No. GECLPS4D for dry and damp locations.
2. Each power supply output is Class 2.

LED power supplies, Models GECLPS6 and GECLPSPHA.
1. LED power supply, Catalog No. GECLPS6 for dry and damp locations.
2. Each power supply output is Class 2.

LED power supplies, Models GECLPS3.
1. LED power supply, Cat. No. GECLPS3 for dry and damp locations.
2. Each power supply output is Class 2.

LED power supplies, Models GECLPS5, GECLPSPH, GECLPSPW, GECLPSWH.
1. LED power supply, Cat. No. GECLPS5, GECLPSPH, GECLPSPW and GECLPSWH for dry and damp locations.
2. Each power supply output is Class 2.

Power supplies with Class 2 outputs, Models GEPS24-80, GEPS12-60, GEPS24-20.
1. These components are intended for use in dry locations only when not potted. When potted, they are suitable for damp locations.
2. These power supplies need to be installed in an enclosure with a means for the connection to conduit.
3. When a Temperature Test is required of the power supply installed in an enclosure because the enclosure measures less than 13.5 by 6 by 4 inches, the maximum temperature on the output transformer by thermocouple is 110°C. Similarly, for Model GEPS24-20, a temperature test is required when installed in an enclosure smaller than 13.5 by 6 by 4 inches, but the maximum temperature on the output transformer by thermocouple is 90°C.
4. The output of these LED power supplies with Class 2 are acceptable for use in a damp and wet locations.

Power supplies with Class 2 outputs, Model GEXNPS30.
1. This component has outputs that qualify as being Class 2.
2. These components are intended for use in dry location only.
3. The transformer employs a Class B (130) Insulation System.
4. These components shall be installed in compliance with the enclosure and mounting requirements of the ultimate application.
5. The maximum room ambient temperature permitted by the manufacture is 50(C.
6. A Temperature Test is required of the power supply installed in an enclosure that measures less than 13.5 by 6 by 4 inches. The maximum temperature on the output transformer by thermocouple is 110(C.

Power supplies with Class 2 outputs, Models GEPS24-180U, GE180/MV/V24T1-C
1. The maximum measured output voltage, current and power at the output of these models was found in compliance with the limits for LPS output requirements and additionally evaluated to comply with Class 2 output criteria.
2. The transformer employ Class B insulation system.
3. Power Supply is intended for use in indoor Dry and Damp location only.
4. In the end product, power supply spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure. Adjacent power supplies shall be spaced at least 1 in. end to end and 4 in. in any other direction.
5. Input and Output leads are style 1316, rated 600 V, 105°C, VW-1. Minimum No. 18 AWG. The suitability of input and output connections shall be determined in each end use application.
6. The power supply was submitted and tested for a maximum manufacturer's recommended Tc point described in the table below. If adjacent LED power supplies are spaced closer than 1 in. end to end or 4 in. side to side a temperature test shall be conducted in the end use product.

Model	Input Voltage, HZ	Max. Case Temp @ Tc, °C	Ambient, °C
GE180/MV/V24T1-C, GEPS24-180U	100-277, 60	80	60

LED Light Engine, Cat. Nos. 1110-WH-ZZ-TTK, 1110-RD-ZZ-TTK, catalog numbers where: "ZZ" representing assembly version: followed by: "TT" - Optional - represents the color temperature of the LEDs in degree "K" Kelvin. Cat. Nos. 1111-XX-ZZ-Y-TTK, catalog numbers may vary per nomenclature.: “XX” representing color: RD, RC, YG, GL, SB, BL, WH, YA, WW, GR, PO; “ZZ” representing assembly version; ”Y” representing number of LEDs; followed by: “TT” - Optional - represents the color temperature of the LEDs in degree “K” Kelvin.
1. These products are only suitable for connection to a Class 2 power source.
2. When units are connected to a Class 2/”LPS” circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2/”LPS” supply.
3. These products are suitable for use in dry, damp and wet locations.
4. The suitability of the LED Light Engine mounting means shall be determined in the end-use application.
5. The suitability of the LED Light Engine to be used without an additional electrical enclosure shall be determined in the end-use application.
6. These products described in this section may be cut into segments per manufacture insulation instructions.
7. Units may be provided with UYMR2, 3M type VHB double-sided adhesive tape. Tape must be utilized per UYMR2 “Conditions of Use” as defined in the Sign Components Manual.

LED Driver with Class 2 Output, Models GEPS12D-60U, GEPS24D-80U.
1. These LED Drivers have been evaluated to Class 2 output requirements for dc circuits with a maximum of one Class 2 output.
2. These products are provided with the following electrical ratings:

Model No.	Input Voltage (V ac)	Input Freq (HZ)	Input Current (A)	Output Voltage (V dc)	Output Current (A)	Output Power (W)
GEPS24D-80U	100-277	50/60	1.1	24	3.3	80
GEPS12D-60U	100-277	50/60	0.85	12	5.0	60

3. The load powered by the Class 2 output of the LED drivers are suitable for use in dry, damp and wet locations.
4. In the end product, LED driver spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
5. In the end product, LED Drivers shall be located not less than 1 inch (25.4mm) apart when arranged end-to-end, and not less than 4 inches (102mm) apart when arranged otherwise.
6. These products shall be enclosed in the end product.

7. The unit is intended for being used in permanently wired signs.
8. The suitability of output leads, rated No. 24 AWG minimum, rated 80°C minimum, 600 V, shall be determined in end product use.
9. These units may be provided with Dimming Input (Purple and Gray wires) to control output current range, the suitability shall be determined in each end-use application.
10. These products are intended for use in dry and damp locations

LED Driver with Class 2 Output, Model 1110PS-60S.

1. These LED drivers have been evaluated using resistive load resulting in the electrical input and output noted on page 1.
2. These LED drivers are provided with Class 2 output.
3. These LED drivers are intended to be operated in a maximum ambient (Ta) noted as below:

Model	Ta (°C)
LD-60-UV-1214V	40

4. These LED drivers are intended for use in dry and damp locations except that models LD-60-UV-1214V and LD-60-UV-1214V-SC are suitable for dry location only.
5. These LED drivers are provided with 18 AWG AWM input and output leads. The suitability of the wiring and the need for a suitable enclosure shall be considered in the end product.
6. These LED drivers are intended to be operated on a maximum 20 A branch circuit.
7. The need of the grounding means shall be determined in the end product.
8. These LED drivers shall be enclosed within a suitable end product enclosure.
9. For model LD-60-UV-24V-DIW, the conduit knockout test was not conducted. The suitability is to be determined in end product.
10. In the end product, LED driver spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
11. In the end product, LED Drivers shall be located not less than 1 inch (25.4mm) apart when arranged end-to-end, and not less than 4 inches (102mm) apart when arranged otherwise.

LED Driver with Class 2 Output, Model GEPS12-180U-NA.

1. The device shall be used within Recognized ratings as specified above.
2. Each output of the unit complies with Class 2 criteria of UL 1310. Multiple output units may exceed Class 2 when the output terminations are interconnected. Do not interconnect output terminations.
3. The device has been evaluated for dry and damp location use only.
4. Model Nos. GEPS12-180U-NA was submitted and tested for a maximum manufacturer's recommended ambient (Tmra) of 60˚C.
5. Minimum 5 cm (2 in.) spacing from heat producing components required.
6. Minimum 4 to side and 1 in. spacing in compartment surrounding component required.
7. The device is provided with 18 AWG input and output leads. The suitability of input and output connections shall be determined in end-use application.
8. The suitability of grounding connection shall be determined in the end-use product.
9. Integral junction box supply wiring shall be used with wire rated 90C minimum.
10. Driver is not suitable for dimmer use.
11. Based on Leakage Current Test results, no more than 3 drivers at max 240V may be used in a portable sign.

LED Driver Extended Enclosure, Model No. GEPSJB60.

1. The J-Box extended enclosure has been evaluated only for use and connection to LED Class 2 Drivers Models GEPS12-60, GEPS12D-60U, GEPS24-80, GEPS24D-80U**,** GEPS12-60U-NA, GEPS12-60U-GL, GEPS24-100U-NA, and GEPS24-100U-GL**.**2. These products complete the electrical enclosure when installed over the primary wiring of the LED driver.
3. The suitability of the mounting shall be determined in end use application.
4. The enclosure has been evaluated only for use in Dry and damp locations only
5. Supply connection shall be determined in the end used application.
6. Ground Screw size is No. 6 thread forming screw with cupped washer is provided for grounding. The maximum size ground wire that can be used is 14AWG. The maximum size branch circuit that the units can be connected to is 15A unless a 16-14AWG six inch pigtail lead supplied by sign company is connected to ground terminal and then spliced to 12AWG ground wire of a 20 A branch circuit.
7. Cover Screw shall not be of a thread forming or self-tapping type.
8. To keep the enclosure from rotating, the Enclosure shall be secured by at least one mechanical fastener.
9. The J-box has been evaluated for an ambient of 40°C.
10. The J-box label shall be marked for a 75°C supply wire connection.

LED Driver with Class 2 Output, Cat. Nos. GEPS12-60U-NA, GEPS12-60U-GL, GEPS24-100U-NA and GEPS24-100U-GL.

1. These power supplies are provided with Class 2 outputs
2. These products with Class 2 outputs are suitable for use in dry and damp locations.
3. Model Nos. GEPS12-60U-NA, GEPS12-60U-GL have been tested in an oven at max. 40ºC ambient and Model Nos. GEPS24-100U-NA, GEPS24-100U-GL in an over at max. 55 ºC. Maximum case temperature at (Tc) for all models should not exceed 85°C.
4. The suitability of grounding connection shall be determined in the end-use product.
5. These products shall be enclosed in the end product.
6. These products are provided with the following electrical ratings:

	Input, 50/60 Hz		Rated Output		
Model	V	A	V DC	A DC	W
GEPS12-60U-NA, GEPS12-60U-GL,	120-277	Max. 0.65	12	5.0	60
GEPS24-100U-NA, GEPS24-100U-GL	120-277	Max. 1.10	24	4.0	96

7. In the end product, power supply spacing to other heat producing components shall be at least 25.4 mm (1 in.) from end to end, and 101.6 mm (4 in.) from side to side.
8. The suitability of input/output leads and the wring shall be determined in end product use.

9. These LED drivers are intended to be operated on a maximum 20 A branch circuit.

LED Driver with Class 2 Output, Model GEPS24-180U-GL.

1. The device shall be used within Recognized ratings as specified above.
2. Each output of the unit complies with Class 2 criteria of UL 1310. Multiple output units may exceed Class 2 when the output terminations are interconnected. Do not interconnect output terminations.
3. The device is provided with 18 AWG input and output leads. The strain relief test was not conducted on this device. The suitability of input and output connections shall be determined in end-use application.
4. Temperature Test has been conducted using resistive loading, and the LED Driver was mounted on a heat sink, aluminum, approx. size 500 mm by 300 mm by 100 mm. The measured maximum external enclosure temperature (Tc) is 79.4 ºC when the room ambient temperature is 60 ºC. The suitability shall be determined in end application.
5. Transformers employ Class 130(B) insulation system.
6. The suitability of grounding means shall be determined by end product.
7. The device is intended to be connected to a maximum 20 A branch circuit.
8. The devices are of the constant current type that requires the proper number of LED modules and controllers that does not exceed the maximum output voltage/current.
9. The device has been evaluated for dry and damp location use only.

Class 2, LED module, Model GEF.

1. These products are suitable for use in dry, damp and wet locations when supplied with a Class 2 power source rated 24 Volt DC or less.
2. Suitable only for connection to a Class 2/LPS circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. The LED module is intended to be supported by recessed double contact lampholders ANSI designation R17d.

Class 2 Power Supply, Models GEPS12-25U-NA, GEPS24-25U-NA.

1. The electrical ratings are as follows:

	Input, 60 Hz		Output, ac		
Model	V	A	V	A	VA or Pmax
GEPS12-25U-NA	85-277	0.11-0.3	12	2.0	25 Pmax
GEPS24-25U-NA	85-277	0.11-0.3	24	1.0	25 Pmax

2. These power supplies have been evaluated to Class 2 output requirements for dc circuits with a maximum of one Class 2 output.
3. A suitable Fire and Electrical Enclosure shall be provided in the end product.
4. In the end product, power supply spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
5. These power supplies are only suitable for use in dry and damp locations.

LED DC-DC convert/LED control module, Models GECLPS3-2, GECLPS5-2 and GECLPSPH-2.

1. Rated output loading for these products was achieved using resistive loads.
2. The temperature tests were performed at nominal 55°C ambient.
3. These products with Class 2 outputs are suitable for use in dry, damp and wet locations.
4. The LED Control Module/DC-DC Power Converter is for use with GE LED drivers model no. GEPS24-100U-NA rated 24Vdc, class 2 output and suitable LED Light Engine.
5. As part of temperature testing, the case temperature at Tc was monitored. During the normal temperature test of the end product, the temperature at Tc is to be monitored. The absolute value at TC cannot exceed the Specified Tref value 90°C.
6. Acceptability of the LED Control Module/DC-DC Power Converter, with respect to mounting, spacing, casualty, temperature and segregation- is to be determined as part of the end device evaluation.
7. These products are provided with 18 AWG, [x] stranded, rated 105°C, 300V minimum for input and output connections. Acceptability of the leads relative to strain relief and secureness, is to be determined as part of the end device evaluation.
8. In the end product, the LED Control Module/DC-DC Power Converter spacing to other heat producing components shall be at least 25.4 mm (1 in.) from end to end, and 101.6 mm (4 in.) from side to side.
9. Dip Switch enclosure is form from a R/C Plastic and shall not exceed 90°C.

GEMINI INC **E16382**

103 MENSING WAY

CANNON FALLS, MN 55009

Plastic Channel Letters, Cat. No. Plastic Channel Letters.

1. The channel letters may be used as an electrical enclosure when provided with sign face material in the end-use application that is suitable for electrical enclosure use.
2. The neon tube shall be spaced a minimum of 1/8 in. from the inside walls of the plastic enclosure, and 1/8 in. from the sign face.
3. Openings for drain holes, conduit, electrode receptacles and mounting shall be provided in accordance with the Standard.
4. The channel letter plastic is rated 80°C.
5. For outdoor or indoor use.
6. Spacings from the channel letter to the enclosure for neon transformers or power supplies shall be in accordance with Standard UL 48.

Plastic Channel Letters, Plastic Indoor Channel Letters.

1. The channel letters have been evaluated for indoor application only.
2. The neon tube shall be spaced a minimum of 1/8 in. from the inside walls of the plastic enclosure, and 1/8 in. from the sign face. Openings for conduit, electrode receptacles and mounting shall be provided in accordance with the Standard.
3. The channel letter plastic is rated 50°C.
4. The channel letter may be used as an electrical enclosure when provided with a sign face material in the end-use application that is suitable for electrical enclosure.

5. Spacings from the channel letter to the enclosure of neon transformers or power supplies shall be in accordance with Standard UL 48.

Plastic Channel Letters and Face, Plastic Indoor Channel Letter Sign Body and Face

1. The channel letters have been evaluated for indoor application only.
2. The channel letters are not suitable as an electrical enclosure.
3. The channel letters are suitable for Class 2 LED and neon applications.
4. The channel letter plastic is rated 50°C.
5. Openings for conduit, electrode receptacles and mounting shall be provided in accordance with the Standard.
6. The neon tube shall be spaced a minimum of 1/8 in. from the inside walls of the plastic enclosure, and 1/8 in. from the sign face.
7. Spacings from the channel letter to the enclosure of neon transformers or power supplies shall be in accordance with Standard UL 48.

Aluminum reinforced thermoplastic sign face trim, Type Gem Brand.

1. These trim materials are used to secure a rigid thermoplastic sign face to an outdoor or indoor sign.
2. The ability of the trim to exclude water from contacting live parts needs to be evaluated in the end product.
3. Minimum No. 8 sheet metal screws need to be provided for securing the trim to the sign body. The maximum spacing between screws shall not exceed 18 in. and no fewer than four screws are to be used per face.
4. These products do not comply with enclosure requirements.
5. The following are among the items to be considered in the end-use application.
    1. Acceptable for use in wet locations.
    2. Water exclusion must be determined in the end product.
    3. Minimum 5 cm (2 in.) spacing from heat producing components required.
    4. The specified solvents are continuously applied to edge of acrylic or polycarbonate sign face. Additional specified adhesives may be applied for the final bond.

Sign Face Generic Material	Solvent	Final Bond Adhesive	Sign Trim Generic Material
Methyl Methacrylate (Acrylic)	Weld-On #4 or (Methylene Chloride)	Weld-On #16, Weld-On #58	Cellulose Acetate Butyrate
(Polycarbonate)	Weld-On #4 or Methylene Chloride	Weld-On #58, Lord Adhesive #7550	Cellulose Acetate Butyrate

Plastic Channel Faces, Type Gemini Gemlite Channel faces and Gemini Edge Glo faces

1. The sign faces have been evaluated for indoor & outdoor applications.
2. The sign faces are not suitable as an electrical enclosure.
3. The sign face plastic is rated 50°C.
4. The sign face for channel letter is not to be considered as providing a weatherproof enclosure, therefore all internal components shall be suitable for outdoor use or shall be completely enclosed and protected from weathering.
5. The neon tube or LED shall be spaced a minimum of 1/8 in. from the inside walls of the plastic enclosure, and 1/8 in. from the sign face.
6. The sign face may be used with either plastic or metal channel letters.

Plastic Channel Letters, Type Indoor, outdoor designated "GEMINI FORMED SIGN BODY" or "Fabricated Acrylic Letters and Logos" for Class 2 powered LED modules strips.

1. These products are only suitable to house LED modules strips that are powered by UL Listed or R/C Class 2 Power Supply rated max 30 VDC or max 15 VAC.
2. These products are not suitable for use as electrical enclosures.
3. These products shall be provided with mounting instructions.
4. For outdoor applications, if these products are used to house components other than Class 2, then all internal components shall be suitable for outdoor use or shall be suitably enclosed.

Plastic Channel Letters, Type Gemini Channel Letters

1. The Gemini Channel Letters have been evaluated for indoor & outdoor applications.
2. The Gemini Channel Letters are not suitable as an electrical enclosure.
3. The neon tube shall be spaced a minimum of 1/8 in. from the inside walls of the plastic enclosure, and 1/8 in. from the sign face.
4. The Gemini Channel Letter plastics are rated 80°C minimum.
5. Suitable for use in terminating conduit trade size up to 3/4 in.
6. Water exclusion must be determined in the end product.

Plastic Channel Letters, Type Gemini Non-enclosure rated channel letters, Type Gemini Channel Letters.

1. The Gemini Channel Letters have been evaluated for indoor & outdoor applications.
2. The Gemini Channel Letters are not suitable as an electrical enclosure.
3. The neon tube shall be spaced a minimum of 1/8 in. from the inside walls of the plastic enclosure, and 1/8 in. from the sign face.
4. The Gemini Channel Letter plastics are rated 80 C minimum.
5. Suitable for use in terminating conduit trade size up to in.
6. Water exclusion must be determined in the end product.

Plastic Channel Letters indoor and outdoor Type Stainless Steel Fabricated channel letters.

1. These products have been evaluated for indoor & outdoor applications.
2. The suitability of the enclosure shall be determined in the end product.
3. The products shall be provided with mounting instructions.
4. These units are to be used with only Class 2 power supplies rated Max. 30 VDC or 15 VAC.
5. This product is to be connected via UL Listed (QPTZ) power limited circuit cable or other equivalent wiring means. Suitability shall be determined in the end use.
6. When provided LED drivers need to be remotely mounted inside metal electrical enclosures secured outside the sign body in raceways or behind the mounting surface.
7. Grounding is necessary from the SS body of each letter to the enclosure housing the transformer or driver.

SUITE 108
1111 ARION PKY
SAN ANTONIO, TX 78216

Class 2 power supply, Models PS12-60W-100-277V, PS12-60W-100-277V-ENC.

1. These power supplies have been evaluated to Class 2 output requirements for dc circuits with a maximum of one Class 2 output.
2. These products are provided with the following electrical ratings:

Model	Input (V, Hz, A, W)	Max Output (V, A, W)
PS12-60W-100-277V, and PS12-60W-100-277V-ENC	100-277; 50-60; 0.8; 75	12.0; 5.00; 60

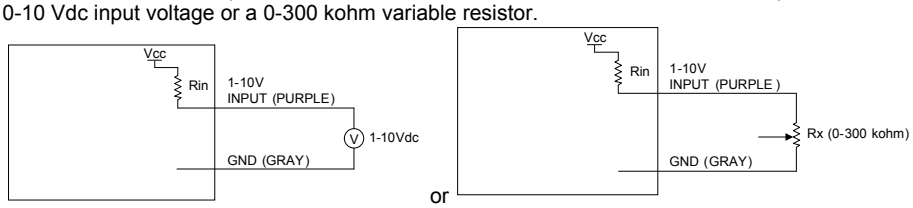
3. In the end product, power supply spacing to other heat producing components shall be at least .4 mm (1 in.) from end to end, and 101.6 mm (4 in.) from side to side.
4. These products shall be enclosed in the end product.
5. These products are suitable for factory wiring only.
6. These products have been tested in oven at min 40ºC ambient, with the maximum case temperature, Tc of 88.7ºC.
7. These products are intended for use in dry or damp locations only.
8. The suitability of input/output leads and the wring shall be determined in end product use.
9. These products are constant voltage type that requires the proper number of LED modules and controllers that do not exceed the maximum output current.
10. These LED drivers are intended to be operated on a maximum 20 A branch circuit.
11. These LED drivers are intended for use in fixed equipment only.

Class 2 power supply, Model PS1050-150W-100-277V-2O-G1-xxxx, where "xxxx" can be any alphanumeric characters or blank.

1. These power supplies have been evaluated as isolated LPS output requirements for dc circuits with a maximum of four Class 2 outputs.
2. These products are provided with the following electrical ratings:

Series No.	Input Voltage (V)	Input Current(A)	Input Power (W)	Output Voltage (Vdc)		Output Current (A)	Max. Output Power (W)
PS1050-150W-100-277V-2O-G1-xxxx	100~277 Vac, 50/60 Hz	2.1	170	Vo1	19-36	1.05	37.8
				Vo2	19-36	1.05	37.8
				Vo3	19-36	1.05	37.8
				Vo4	19-36	1.05	37.8

3. In the end product, power supply spacing to other heat producing components shall be at least 25.4 mm (1 in) from end to end and 101.6 mm (4 in) from side to side.
4. These products shall be enclosed in the end product.
5. These products are suitable for factory wiring only.
6. These products are intended for use in a dry or damp locations only.
7. The suitability of input/output leads and the wring shall be determined in end product use.
8. The output leads of these products cannot be interconnected in the end product.
9. These LED drivers are provided with a multi-conductor AWM wire consisted of two (purple and gray) 22 AWG, min 80°C, min 300 V leads for connecting a dimmer to vary the output current. The connecting diagram is shown as below. The leads are investigated for use in Class 2 output circuit and cannot be interconnected with the other output of these drivers. The dimmer may be a 0-10 Vdc input voltage or a 0-300 kohm variable resistor.



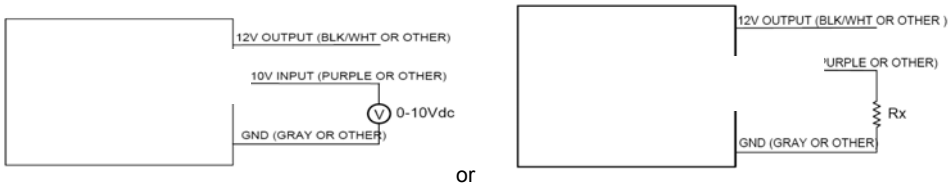
Class 2 power supplies, Models PS0700-150W-100-277V-2O-Y-xxxx, PS1050-150W-100-277V-2O-xxxx and PS12-60WSL-100-277V-xxxx, where Y can be blank or G1 and "xxxx" can be any alphanumeric character or blank.

1. These power supplies have been evaluated to Class 2 output requirements for dc circuits.
2. These products are provided with the following electrical ratings:

Model No.	Input Voltage (V)	Input Current(A)	Input Power (W)	Output Voltage (Vdc)		Output Current (A)	Max. Output Power (W)
*PS0700-150W-100-277V-2O-**Y**-xxxx	100~277 Vac, 50/60 Hz	2.1	168	Vo1	24-54	0.70	37.8
				Vo2	24-54	0.70	37.8
				Vo3	24-54	0.70	37.8
				Vo4	24-54	0.70	37.8
PS1050-150W-100-277V-2O-xxxx	100~277 Vac, 50/60 Hz	2.1	170	Vo1	19-36	1.05	37.8
				Vo2	19-36	1.05	37.8
				Vo3	19-36	1.05	37.8
				Vo4	19-36	1.05	37.8
PS12-60WSL-100-277V-xxxx	100~277 Vac, 50/60 Hz	0.9	90	12		5	60

4. These products shall be enclosed in the end product.
5. These products are suitable for factory wiring only.
6. These products are intended for use in a dry or damp locations only.

7. The suitability of input/output leads and the wiring connections shall be determined in the end product.
8. When used in CUL Certified end products, the output leads of power supplies, models PS0700-150W-100-277V-2O-**Y**-xxxx and PS1050-150W-100-277V-2O-xxxx are to be made inaccessible in the end product application.
9. In the end product, power supply spacing to other heat producing components shall be at least 25.4 mm (1 in) from end to end and 101.6 mm (4 in) from side to side.
10. These products are provided with a 0-10 Vdc input voltage or a 0-300 kohm (short/open) variable resistor dimmer leads. The suitability of the dimmer leads wiring shall be determined in end product. For reference, below is a general dimmer connection diagram.



or

GIANTECH INDUSTRIES CO LTD E343579
209-5 MIN-SHENG RD
WU FENG
TAICHUNG HSIEN, 413 TAIWAN

Class 2 LED Module, Models NA00 and NEA0.
1. The suitability of the mounting means shall be determined.
2. These products are suitable for use in dry, damp and wet location.
3. The LED Modules are intended for connection to a Class 2 power source, rated 12 Volt DC.
4. These products are rated as the following:

Model	No. of LED per Module	Max. Wattage per LED Module	Voltage (V dc)	Total Constant Current (A)
NA00	54	5 W	12	0.5
NEA0	306	23 W	12	2

5. Model NEA0 was evaluated based on being connected to a source of supply only by solder leads and have not been evaluated for supply connections made by any type of connector.
6. The suitability of the diffuser to serve as a barrier or enclosure shall be determined in the end use product. Consideration for addressing electrical, flammability, and mechanical properties shall be given.

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LED Modules, Models EV 01WXX, EV105WXX, EV205WXX, EV 07WXX, EV310WXX, EV415WXX, GL-EV1-05W-IP-XX(#) where that x may be R, G, B, Y, CW, WW, P or O indicating LED Color.
1. These products are only suitable for connection to the output of a UL Listed or R/C Class 2 Power Supply rated 12VDC.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 requirements.
3. These products are rated per the Table on Page 2. When units are connected to a Class 2 circuit, their number is to be limited to draw a total wattage of no greater than the secondary current rating of each Class 2 power supply.
4. These products are suitable for use in dry, damp and wet locations without additional enclosures.

(#) Where that x may be R (Red), G (Green), B (Blue), Y (Yellow), CW (Cool White), WW (WarmWhite) or YW (Yellow White) indicating LED Color.

LED Modules, Models GL-EV2-1W150-XX, GL-EV3-15W150H0-XX.
1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuits.
3. When these units are connected to a Class 2 supply circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.

Class 2 or LPS LED modules, Models GL-EV4-0.5WSD-160-CW, GL-EV4-0.5WSD-160-DL, GL-EV4-0.5WSD-160-WW, GL-EV4-0.5WSD-160-NW, GL-EV4-0.5WSD-160-ECW, GL-EV4-1WSD-160HO-CW, GL-EV4-1WSD-160HO-DL, GL-EV4-1WSD-160HO-WW, GL-EV4-1WSD-160HO-NW, GL-EV4-1WSD-160HO-ECW, GL-EV4-0.5WSD-160-RD, GL-EV4-0.5WSD-160-GR, GL-EV4-0.5WSD-160-BL, GL-EV4-0.5WSD-160-YL, GL-EV4-0.5WSD-160-OR.
1. These products are only suitable for connection to a Class 2 or LPS power source, rated 12 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 or LPS voltage and energy limits and which is rated greater than electrical ratings.
3. When units are connected to a Class 2 or LPS circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 or LPS supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Vdc or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. The suitability of supply leads shall be determined in end use.

Class 2 output LED drivers, Models GLPS12V-L24W,

1. These LED drivers have been evaluated using resistive load resulting in the electrical input and output noted below;

Model No.	Input				Output	
	Voltage (V)	HZ	Current (A)	Power (W)	Voltage (Vdc)	Current (A)
GLPS12V-L24W	120	50/60	0.28	32	12	2

2. These LED drivers are provided with Class 2 output.
3. These LED drivers are intended to be operated in a maximum 40°C ambient.
4. Intended for use in damp locations.
5. Was provided with AWM leads for input/output connection. The suitability of the wiring and the need for a suitable enclosure shall be considered in the end product.
6. These LED drivers are intended to be operated on a maximum 20 A branch circuit.
7. Shall be grounded through its mounting ears.
8. In the end product, LED driver spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure. Otherwise, temperature test shall be conducted.
9. In the end product, LED Drivers shall be located not less than 1 inch (25.4mm) apart when arranged end-to-end, and not less than 4 inches (102mm) apart when arranged otherwise. Otherwise, temperature test shall be conducted.

Class 2 output LED drivers,GLPS12V-L60W, GLPS24V-L60W, GLPS12V-L60W-V, GLPS24V-L60W-V, GLPS24V-L80W.

1. These LED drivers have been evaluated using resistive load resulting in the electrical input and output noted on page 1.
2. These LED drivers are provided with Class 2 output.
3. These LED drivers are intended to be operated in a maximum ambient (Ta) noted as below. Acceptance of higher ambient shall be determined in end product use.

Model	Ta (°C)
GLPS12V-L60W	40
GLPS24V-L60W	40
GLPS12V-L60W-V	40
GLPS24V-L60W-V	40
GLPS24V-L80W	40

4. These LED drivers are intended for use in dry and damp locations.
5. These LED drivers are provided with 18 AWG AWM input and output leads. The suitability of the wiring and the need for a suitable enclosure shall be considered in the end product.
6. These LED drivers are intended to be operated on a maximum 20 A branch circuit.
7. The need of the grounding means shall be determined in the end product.
8. These LED drivers shall be enclosed within a suitable end product enclosure.
9. Removed
10. In the end product, LED driver spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
11. In the end product, LED Drivers shall be located not less than 1 inch (25.4mm) apart when arranged end-to-end, and not less than 4 inches (102mm) apart when arranged otherwise.

LED drivers, Models GLPS12V-L100W-V, GLPS24V-L100W-V, GLPS24V-L60W-V-W, GLPS12V-L60W-V-W.

1. These LED drivers have been evaluated using resistive load.
2. These products have been evaluated with the following characteristics.

Model No.	Input type	Output is	Intended Location	Ta, °C.	Connection	
					Input	Output
GLPS12V-L60W-V-W	[X] Branch Circuit (Mains)	[X] Isolated [X] Class 2	Wet	60	AWM Leads	SJTW Cord
GLPS24V-L60W-V-W	[X] Branch Circuit (Mains)	[X] Isolated [X] Class 2	Wet	60	AWM Leads	AWM Leads
GLPS24V-L100W-V	[X] Branch Circuit (Mains	[X] Isolated [X] Class 2	Damp	40	AWM Leads	AWM Leads
GLPS12V-L100W-V	[X] Branch Circuit (Mains	[X] Isolated [X] Non-Class 2	Damp	40	AWM Leads	AWM Leads

5. The suitability of the input/output connection and the wiring in a suitable enclosure is also to be considered in end product use.
6. These products are intended for building in or mounted on the surface of end product. Acceptability of the LED driver with respect to mounting, spacing, casualty, temperature and segregation are to be determined as part of the end device evaluation.
7. The suitability of grounding means shall be determined in the end-use product for models GLPS24V-L100W-V, GLPS12V-L100W-V.
8. Deleted
9. In the end product, LED driver spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure. Otherwise, temperature test shall be conducted.
10. In the end product, LED Drivers shall be located not less than 1 inch (25.4mm) apart when arranged end-to-end, and not less than 4 inches (102mm) apart when arranged otherwise. Otherwise, temperature test shall be conducted.

GLOBAL SIGN PRODUCTS LLC **E323557**
110 INDUSTRIAL BLVD
PO BOX 817
EASTMAN, GA 31023

Structural Panel, Designated "Signabond V.5", "Signabond V.3", "Signabond Lite", "Signabond Lite 350".
1. This product is intended as an outer decorative covering, has not been investigated for use as an electrical enclosure.
2. The use of this product is limited to only decorative and sign body applications.
3. The suitability of the "fit" of the face material and the "secureness" of the clamp mechanisms on the sign will be judged in the end use sign application.
4. This product has not been evaluated for component support.
5. This product is acceptable for use in dry, damp and wet locations
6. The water exclusion must be determined in the end product.
7. This product has not been evaluated for the termination of conduit. Suitability of the connection of conduit shall be determined in the end product.
8. All exposed edges of a structural panel, including drilled holes, etc., are be treated with two coats of outdoor paint or wood coating.
9. A letter made from a structural panel shall have at least two points of support and shall have no point more than 10 in from a point of support
10. These panels shall be attached with screws, bolts or rivets to the structural framework so as to cause bonding to both conductive surfaces to ground, and to adequately secure each panel in place.

GLOBE TO GREEN LIGHTING LLC E344189
155A 10TH ST
PASSAIC, NJ 07055

Class 2 LED Module, Models Aurora I R, Aurora I W, Aurora II W, Aurora Mini, Aurora Extension, Aurora EX, Aurora SV, G2G NOX, and G2G AnPro, G2G SparX, G2G ArRay.
1. These products are only suitable for connection to a Class 2 power source, rated 30 Volt DC or 15 Volt AC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than 30 Volt DC or 15 Volt AC.
3. These Class 2 LED modules are rated as noted in the model list table. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated class 2.
5. These products are not required to be enclosed or protected from the weather in the end product.

GLUX VISUAL EFFECTS TECH (SHENZHEN) CO LTD E365838
Room 504, Bldg A4
Oct Eastern Ind Zone
Nanshan District
Shenzhen, Guangdong 518035 CHINA

Sign component, changing message, Model BAtn10.
1. Acceptability for multiple connections (daisy chaining) not exceeding 15 A (based on 14 AWG power supply cord) on a single branch circuit shall be determined by the end product requirements.
2. This product was tested for use at a room ambient temperature of 40°C. Testing was conducted on an open bench positioned in a vertical position facing horizontally. The need for conducting temperature testing in the end product shall be considered where the units are installed in a higher ambient.
3. The suitability of the mounting means shall be determined in the end use.
4. No supply disconnecting means was provided. The need for a separate disconnect in the end product shall be considered.
5. The suitability of power connector and power cord needs to be determined in the end use.

Sign component, Model DC limit.
1. This product was tested for use at a room ambient temperature of 40°C. The need for conducting temperature testing in the end product shall be considered where the units are installed in a higher ambient.
2. This product was tested for dry and damp locations.
3. The suitability of the mounting means shall be determined in the end use.
4. This product is intended to operate within the manufacturer's specified ratings.
5. This product is permitted only on the load-side of an isolating transformer, power supply which output rated 3-5Vdc, max. 4.2A.
6. This product has been evaluated for class 2 output.
7. Spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure; or temperature test in the end product shall be considered.
8. This product shall be located not less than 1 inch (25.4 mm) apart when arranged end-to-end, and not less than 4 inches (102 mm) apart when arranged otherwise; or temperature test in the end product shall be considered.
9. This product is not provided enclosure; suitable enclosure shall be considered in end product.
10. Grounding shall be considered in end product.
11. These devices are for factory wiring only.

GM LIGHTING LLC E326687
SUITE F
9830 W 190TH ST
MOKENA, IL 60448

LED Strips, Models LTR300-WW, LTR300-xx, LTB-8, LTB-16, LTR300WP-SO-xx, LTR60WP-SO-xx, LTR30WP-xx, LTR60WP-xx, LTR300WP-xx , LTR300-SO-PW, LTR300-SO-WW, LTR150-RGB, LTR150WP-RGB, LTR60-xx[#],LTR60-SO-xx [#]; xx suffix is a representation for any color.
1. These products are only suitable for connection to a Class 2 power source, rated 12 Volt DC or less.

2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than 15 V.
3. These Class 2 LED modules are each rated as noted in the model list tables. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 24 Vdc or less.
5. These products are not required to be enclosed or protected from the weather in the end product.

Class 2 LED strips, Model LTR120024-HO-xx, LTR120024WP-HO-xx where suffix "xx" is designation of LED colors, rated 24 Vdc
1. These products are only suitable for connection to a Class 2 power source, rated 24 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits.
3. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 24 Vdc or less.
5. These products are not required to be enclosed or protected from the weather in the end product.

GOQLED CO LTD E344463
290-31 GAMIL-DONG
GAMIL-DONG
HANAM-SI, GYEONGGI-DO 465-190 REPUBLIC OF KOREA

Class 2 LED Module, GOQ1LED, GOQ2LED, GOQ3LED, GOQ4LED, GOQ5LED, GOQ-AABC-D(#)(a). LED.
1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuit and is rated greater than 12 V DC.
3. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.

Marking – Company name or tradename "GOQ" and product designation.

GRANDLITE INTERNATIONAL CORP E352604
505 S YORBITA RD
CITY OF INDUSTRY, CA 91744

Class 2 LED Power Supply, designated EE-L20W-10V-nnnnMA, EE-L20W-12V-nnnnMA, EE-L20W-13V-nnnnMA, EE-L20W-15V-nnnnMA, EE-L20W-17V-nnnnMA, EE-L20W-18V-nnnnMA, EE-L20W-22V-nnnnMA, EE-L20W-24V-nnnnMA, EE-L20W-36V-nnnnMA, EE-L20W-52V-nnnnMA, EE-L40W-09V-nnnnMA, EE-L40W-10V-nnnnMA, EE-L40W-12V-nnnnMA, EE-L40W-13V-nnnnMA, EE-L40W-15V-nnnnMA, EE-L40W-18V-nnnnMA, EE-L40W-22V-nnnnMA, EE-L40W-24V-nnnnMA, EE-L40W-36V-nnnnMA, EE-L40W-48V-nnnnMA, where the optional suffix "Cnnnn" may be any alphanumeric character. Model EE-L90W-XXV-YZ-E, where XX can be 19, 24 or 36; Y can be G or T; Z can be G or T; and E can be any number from 170 to 999; which may be followed by suffix "DV".
1. The product shall be installed in compliance with the mounting, spacing, casualty, and segregation requirements of the ultimate application.
2. These units are provided with a Class 105(A) insulation system.
3. The suitability of the input and output connections shall be determined in each end use application.
4. These power units are intended for dry or damp location use only.
5. Strain Relief and Impact Tests have not been investigated.
6. The polymeric enclosure of each unit has not been evaluated as ultimate enclosure. The flame class of polymeric enclosure of each unit is V-2, and the necessity of additional fire barriers shall be determined in end product.
7. When conducting temperature test in the end product, the maximum temperature on the enclosure (case) shall not exceed 80°C. When provided with alternate enclosure material R/C (QMFZ2), Teijin Chemicals Ltd. (E50075),
8. Class 2 Power Supply, Model EE-L20W-52V-nnnnMA are suitable for use in US only.

GRATE SIGNS INC E227355
4044 W MCDONOUGH ST
JOLIET, IL 60431

Structural Siding Cat. No. E-Z Channel Letter
1. The aluminum siding shall be bonded to the point of conduit connection to the sign.
2. The water tightness of the enclosure requires evaluation.

GRE ALPHA ELECTRONICS LTD E238096
UNIT 323 & 325, 3RD FL
NO 1 SCIENCE PARK WEST AVE
HONG KONG SCIENCE PARK
SHATIN N T, HONG KONG

LED Class 2 Drivers, Models SLD45-108V-XX, SLD45-110V-XX, SLD45-112V-XX, SLD45-115V-XX, SLD45-118V-XX, SLD45-121V-XX, SLD45-124V-XX, SLD60-112V-XX, SLD60-115V-XX, SLD60-118V-XX, SLD60-121V-XX, SLD60-124V-XX.
1. These power supplies have a single output that complies with Class 2 output requirements.
2. Power supply, Model series –FC and –FE are suitable for use in dry, damp, and wet locations. Model series -FT is suitable for indoor use. Model series –FT is suitable for wet and damp location when provided with a UL Listed NEMA Type 3 enclosure.

3. Power Supply, Model series –FC and –FE are provided with aluminum enclosure that complies with enclosure requirements.
4. Power supply, Model series –FT shall be provided with a suitable enclosure to cover terminals.
5. Each power supply shall be installed in accordance with the installation instructions.

Class 2 LED Illumination Module, Models SLD60-xyyz-FC Series, where x can be 1 or 2; yy can be 05, 06, 08, 10, 12, 15, 18, 21, 24 or 48; and z can be B, C, D, E or F.

1. These power supplies have a maximum of two Class 2 outputs. The output of these power supplies has been evaluated to Class 2 output requirements for dc circuits. Consideration shall be given to accessibility of secondary circuits with output ratings greater than 42.4 Vdc in Canadian end product applications.
2. These products with Class 2 outputs are suitable for use in dry, damp and wet locations. When used in wet locations, the output circuits shall be inaccessible unless the output circuits are limited to a max. 30 Vdc.
3. Power supply spacing to other heat producing components shall be minimum 4 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
4. When used in wet locations, each unit shall be provided with Listed (QCRV) 1/2 inch, liquid tight conduit fittings.
5. When used in a cord connected product, the need for conducting a leakage current test shall be considered in the end product.

Class 2 LED Illumination Module, Model SLD120-xyyz-FC Series, where x can be 2; yy can be 08, 10, 12, 15, 18, 21, 24, 27, 36 or 48; and z can V.

1. These power supplies have maximum of two Class 2 outputs. The output of these power supplies has been evaluated to Class 2 output requirements for dc circuits.
2. These products with Class 2 outputs are suitable for use in dry, damp and wet locations, except models SLD120-236V-FC and SLD120-248V-FC are suitable for use in dry and damp locations due to output voltages above 30 V dc.
3. Power supply spacing to other heat producing components shall be minimum 4 inches when minimum spacing to sidewalls and top of enclosure is kept at minimum 2 inches.
4. When used in wet locations, each unit shall be provided with listed (QCRV) and CN 1/2 inch liquid tight conduit fittings.

Class 2 LED Power Supplies, Model SLD25-XXXV-FW Series, where XXX is any number, may be provided with suffix i or o.

1. These power supplies have been evaluated to Class 2 output requirements for dc circuits with a maximum of one Class 2 output.
2. These power supplies are only suitable for use in dry and damp locations.
3. In the end product, power supply spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.

Class 2 LED Power Supplies, Model Class 2 powered LED module dimmer, Model LED PWM Dimmer Module SLD-DIM, SLD-DIM1B, SLD-DIM1H, SLD-DIM1B-DUO.

1. These products have only been investigated for connection to the output of a Class 2 Power Supply.
2. The temperature test of model SLD-DIM1B-DUO was conducted at 25°C, the need to repeat temperature testing shall be considered in the end-product investigation. The case temperature of models SLD-DIM, SLD-DIM1B, and SLD-DIM1H shall not exceed 80°C.
3. A mold stress relief test was conducted at 90°C for models models SLD-DIM, SLD-DIM1B, and SLD-DIM1H.
4. These products are suitable for use in dry and damp locations.
5. Model SLD-DIM1B-DUO spacing on the PCB was evaluated for use in a potted enclosure. Spacing to the enclosure shall be considered in the end product.

GREAT LAKES SIGN SUPPLY CO E29252
SUITE 273
732 S 11TH ST
NILES, MI 49120

Electronic Sign Flasher, Model 22 with suffixes -01, -01-HO, -02, -02-HO, -A2, -A2-HO, -A2S, -C2, -C2S, or -C3.

1. Temperature testing has been conducted with the 1 and 2 circuit models in an enclosure measuring 4-3/4 by 4-1/2 by 3-1/2 inches, and with the 3 circuit model in an enclosure measuring 6 by 6 by 9 inches. Consideration shall be given to conducting a temperature test if flasher is installed in a smaller enclosure or if mounted within 2 inches of other heat producing components.
2. These flashers are rated 120/240 Vac input with maximum load switching ratings of 15A at 100 cycles per minute, 10A at switching rate of 250 cycles per minute.
3. These flasher have not been evaluated for DC load ratings.
4. These are open-type devices with a metal mounting plate. A suitable enclosure shall be provided in the end use and the suitability of the bonding means through the mounting means shall be determined in the end use.
5. These flashers as suitable for use in Dry and Damp Locations.

Electronic Sign Flasher, Models 33-C3, -C4, -C5 and Model 33-S1 to -S5 inclusive with Suffix F, M, S or XS with or without designation.

1. Temperature testing has been conducted with product in an enclosure measuring 5-5/8 by 7 by 10 inches. Consideration shall be given to conducting a temperature test if flasher is installed in a smaller enclosure or if mounted within 2 inches of other heat producing components.
2. These flashers are rated 120/240 Vac input with maximum load switching ratings of 15A at 100 cycles per minute, 10A at switching rate of 250 cycles per minute.
3. These flashers have not been evaluated for DC load ratings.
4. These are open-type devices with a metal mounting plate. A suitable enclosure shall be provided in the end use and the suitability of the bonding means through the mounting means shall be determined in the end use.
5. These components are suitable for use in Dry or Damp Locations.

Electronic Sign Flasher, Model 33S with Suffix Nos. 6 to 20 inclusive, followed by additional Suffix "M," "S," or "XS" with or without additional suffix numbers or letters.

1. Temperature testing has been conducted on a 9 circuit model in an enclosure measuring 14-1/2 by 8 by 6 inches. Consideration shall be given to conducting a temperature test if flasher is installed in a smaller enclosure or if mounted within 2 inches of other heat producing components.

2. These flashers are rated 120/240 Vac input with the through load rating of 120/240 Vac and maximum load ratings of 15 amps at a switching rate of 100cycles
3. These flasher have not been evaluated for DC load ratings.
4. These are open-type devices with a metal mounting plate. A suitable enclosure shall be provided in the end use and the suitability of the bonding means through the mounting means shall be determined in the end use.
5. These components are suitable for use in Dry or Damp Locations.

Electronic Sign Flasher, Models 66-C3, 66-C4, 66-C5 and 66-C6.

1. Temperature testing has been conducted on models 66-C6 and 66-C5 in an enclosure measuring 5 by 10 by 10-3/4 inches and models 66-C3 and 66-C4 in an enclosure measuring 5 by 8 by 9 inches. Consideration shall be given to conducting a temperature test if flasher is installed in a smaller enclosure or if mounted within 2 inches of other heat producing components.
2. These flashers are rated 120/240 Vac input with maximum load switching ratings of 15A at 100 cycles per minute, 10A at switching rate of 250 cycles per minute. These flasher are rated 120 Vac input with the through load rating of 120 Vac and maximum load ratings 20 A at a switching rate of 250 cycles per minute for models 66-C3 and 66-C4, 17.5A at a switching rate of 250 cycles per minute for models 66-C5 and 66-C6, and 12.5A at a switching rate of 430 cycles per minute for all models.
3. These flashers have not been evaluated for DC load ratings.
4. These are open-type devices with a metal mounting plate. A suitable enclosure shall be provided in the end use and the suitability of the bonding means through the mounting means shall be determined in the end use.
5. These components are suitable for use in Dry and Damp Locations.

Electronic Sign Flasher, Models 55-A4F, 55-A6F, 55-A8F, 55-A4S, 55-A6S and 55-A8S.

1. Temperature testing has been conducted with product in open air without an additional enclosure. Consideration shall be given to conducting a temperature test if flasher installed in an enclosure smaller that 12 by 12 by 12 inches, or if mounted within 4 inches of other heat producing components.
2. These flashers are rated primary - 120 V or 240 V, 60 Hz for motor driving the contracts; Contacts located in neon transformer secondary rated - 30 mA, 7500/15000 V, 60Hz Maximum. They are for use with secondary midpoint grounded transformers only.
3. These are open-type devices partially enclosed with metal mounting tabs. A suitable enclosure shall be provided in the end use and the suitability of the bonding means through the mounting means shall be determined in the end use. The suitability of conduit connections shall be determined in the end use.
4. These components are suitable for use in Dry or Damp Locations.
5. This construction generates ozone. Consideration shall be given to measuring the ozone concentration if used in a sealed overall enclosure to determine if additional evaluation is needed for the effect of ozone on other sign components. Otherwise it shall be installed in a ventilated compartment.

Electronic Sign Flasher, Models 101, 101A, 102, 1A2 and 1S2 with or without suffix designation.

1. Temperature testing has been conducted in an enclosure measuring 4 by 5-3/4 by 4-5/8 inches. Consideration shall be given to conducting a temperature test if installed in a smaller enclosure or if mounted within inches of other heat producing.
2. These flashers are rated 120/240 Vac input with maximum load switching ratings of 15A at 100 cycles per minute, 10A at switching rate of 250 cycles per minute.
3. These flashers have not been evaluated for DC load ratings.
4. These are open-type devices with a metal mounting plate. A suitable enclosure shall be provided in the end use and the suitability of the bonding means through the mounting means shall be determined in the end use.
5. These components are suitable for use in Dry and Damp Locations.

GREEN LED LIGHTING SOLUTION LLC E350477
SUITE 6G
2800 W SAHARA AVE
LAS VEGAS, NV 89102

LED Class 2 Strips, Models GL-RGB, GL-101, GL-105.

1. These products are only suitable for connection to a Class 2 power source, rated 30 Volt DC or 15 Volt AC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than 30 Volt DC or 15 Volt AC.
3. These Class 2 LED modules are rated as noted in the model list table. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated Class 2.
5. These products are not required to be enclosed or protected from the weather in the end product.

Ratings:

Model	LED Strip Length	Number of LEDs	Voltage	Current	Power
GL-RGB	500mm	30	12 Vdc	0.2 A	2.4W
GL-101	500mm	30	24 Vdc	0.3 A	7.2W
GL-101	500mm	30	12 Vdc	0.6 A	7.2W
GL-105	485mm	42	24 Vdc	0.36 A	8.6W

GREEN LED MFG E352678
ROOM B-2
2870 GESSNER DR
HOUSTON, TX 77080

LED Class 2 Strips, Modules PPL, DPL, OSPL, DPL(W), OSPL(W), DR3, DB3, DG3, DY3, KTR3, DTW3, DTB3, DTR3, WPL(W), WSPL, NSR3, NSG3, NSB3, NSR3, FPL, KGL, DGL, KR2, KB2, KG2, DR2, DB2, DG2, DDL, KDL(W), DDL(W), KRD2, KBD2, KGD2, KYD2, DRD2, DBD2, DGD2, DYD2, OSDL(W), OSGL, OSDL, DPL4, DPL40, DPL40(W), OSPL40, OSPL40(W), OSPL4, FPL40, DOL, DOR, DOB, DOG, DRGB3, WSRGB3, DSL, SSL, KSL(W), DSL(W), DR1, DB1, DG1, NSR, NSG, NSB, DRGB2, SRGB2, DRGBD, SRGBD, KRGB2, KRGB40, DRGB40, SRGB40, DPL6, OSPL6, GKP, GCP, GOL, GKPW, GR3, GB3, GG3,

GY3, GTW3, GTB3, GWP3, GWR3, GWB3, GWG3, GKD, GSC4, GSPW4, GRC4, GOC3, GOR3, GOB3, GOG3, GRGB3, GW, RGB3, GKS, GR1, GB1, GG1, GRGB2, GRC6, GOD, GOP, GOC4, GOL4, GOL6, GKSW, GKDW, GCPW, GKPW4, GRGB4, GRGBP3, GR2, GR4, GB2, GB4, GG2, GG4, GY2, GCW1, GCR1, GCB1, GCG1, GLW1, GLR1, GLB1, GLG1, GWW3, GTR3, GOW3, GOLC3, GOLW3, GOLR3, GOLB3, GOLG3, G-PCB6, G-PCB8, G-OPCB6, G-OPCB8, G-PCB6-KP1, G-PCBB-KP1, G-PCB6-KW1, G-PCB8-KW1, G-RGB8, G-LRGB10, G-PCB R, G-PCB B, G-PCB G, G-PCB-30 W, G-PCB-30 W1, G-PCB-30 R, G-PCB-30 B, G-PCB-30 G, G-PCB-57 W, G-PCB-57 W1, G-PCB-57 R, G-PCB-57 B, G-PCB-57 G, G-A/L S30, G-A/L S60, G-A/L PP30, G-A/L S30 W1, G-A/L S60W1, G-A/L PP30 W1, G-A/L PP60 W1, G-A/L S30R, G-A/L S60R, G-A/L PP30 R, G-A/L PP60 R, G-A/L S30 B, G-A/L S60 B, G-A/L PP30 B, G-A/L PP60 B, G-A/L S30 G, G-A/L S60 G, G-A/L PP30 G, G-A/L PP60 G, G-A/L RGB S30, G-A/L RGB S60, G-A/L RGB P30, G-A/L RGB P60.

1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuit and is rated greater than 12 V DC.
3. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.

GRIMCO INC **E350828**

1585 FENCORP DR
FENTON, MO 63026

Class 2 LED Module, Cat. No. H3.

1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuit and is rated greater than 15 V DC.
3. These products are each rated max. 1.5 watts per module. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means.

Structural Panel, non-electrical enclosure rated for use in electric sign components, Cat. No. MAX-Metal, MAX-Metal XL, and MAX-Metal HD.

1. Illustrate the proper cutting, pointing, installation, component securement and securement to a building surface of a structural panel.
2. Structural panels have been evaluated for wet location with 50°C ambient.
3. Structural panels may be employed as external decorative faces and are acceptable for support of complete electrical enclosures, plastic faces, and moldings that are reliably secured to the panel.
4. Structural panels are not suitable to be used as the enclosure of bare live parts or wiring.
5. Nuts and bolts must be used when fastening a ballast or transformer weighing more than 7-1/2 lbs (3.4 kg).
6. A letter made from a structural panel shall have at least two points of support and shall have no point more than 10 in. from a point of support.
7. These panels shall be attached with screws, bolts or rivets to the structural framework so as to cause bonding to both conductive surfaces to ground, and to adequately secure each panel in place.

Class 2 LED Module, Cat. Nos. K-2048, P-2072, P-3120, P-3072, P-4144, G-1270, K-2030 , K-2048.

1. These products are only suitable for connection to a Class 2 power source, rated 12 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than electrical ratings.
3. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Vdc or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. One unit is consisted one module.
7. The suitability of supply leads shall be determined in end use.

Class 2 LED Module, Cat. No. P-2072.

1. These products are only suitable for connection to a Class 2 power source, rated 24 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than electrical ratings.
3. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 24 Vdc or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. The suitability of supply leads shall be determined in end use.

LED drivers, Class 2, Model H100W-PPS.

1. These units have an isolated Non-Class 2 output.
2. The products are intended for built-in, the suitability of enclosure, mounting, input / output connections shall be considered in the end product.
4. These products are suitable for use in damp and wet locations.
5. These products are to be used in maximum ambient temperature (Ta) and Maximum case temperature (Tc) are as below :

Models	Wet location		Damp location	
	Ta	Tc	Ta	Tc
H100W-PPS	40	--	70	85

6. The LED drivers are of the constant voltage type that requires the proper number of LED modules and controllers that does not exceed the maximum output current.
7. These products are provided with Input and Output cord. The grounding continuity shall be checked in end product.
8. These products are suitable for factory wiring only.
9. The product has been evaluated as isolated output rated Non-Class 2 using a resistive load resulting in a maximum input and output.
10. These products are intended to be connected to a maximum 20 A branch circuit.
11. In the end product, LED driver spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
12. In the end product, LED Drivers shall be located not less than 1 inch (25.4mm) apart when arranged end-to-end, and not less than 4 inches (102mm) apart when arranged otherwise.

LED drivers, Class 2, Models H60W-PPS and H60W-PPS277.

1. These power supplies have been evaluated to Class 2 output requirements for dc circuits with a maximum of one Class 2 output.
2. These products are provided with the following electrical ratings:

Model Number	Input Voltage (V)	Input Current (A)	Frequency (Hz)	Output Voltage (Vdc)	Output Current (mA)
H60W-PPS	100-240	0.78	50/60	12	5
H60W-PPS277	100-277	0.90	50/60	12	5

- Two outputs: Each 12 Vdc, 3.9 A.

3. In the end product the power supply spacing to other power supplies shall be at least 25.4 mm (1 in.) from end-to-end, and 101.6 mm (4 in.) from side-to-side. When spaced closer, a temperature test is required.
4. These products shall be enclosed in the end product.
5. These products are intended for use in dry, damp or wet locations.
6. The suitability of input/output leads and the wiring shall be determined in end product use.
7. These products are provided with 18 AWG stranded, rated minimum 300 Vac, minimum 60 C (for wet location), minimum 105 C (for damp and dry location), for input and output connections. Acceptability of the leads relative to strain relief and secureness, is to be determined as part of the end device evaluation. The grounding continuity shall be checked in end product.

Company name or trademark  **or tradenames "MAX-METAL", "HANLEY LED" and product designation.**

GUANGZHOU FANGCUN HONGMEI NEON EQUIPMENT FACTORY E333976
1-3 PANLONG INDUSTRIAL AREA
LONGXI RD LIWAN
GUANGZHOU, GUANGDONG 510378 CHINA

Class 2 LED Drivers, Model Nos. HMA-60NU-R12, HMA-30NU-R12, HMA-240NU-RX, HMA-200NU-RX, HMA-150NU-RX, HMA-120NU-RX, HMA-100NU-RX, HMA-90NU-RX, HMA-60NU-RX, HMA-45NU-RX, HMA-50NU-RX, HMA-350NU-RX, HMA-700NU-RX, HMA-1050NU-RX, HMA-1400NU-RX, HMA-520NU-RX, HMA-20NU-RX, HMA-15NU-RX, HMA-12NU-RX, HMA-10NU-RX, HMA-8NU-RX, HMA-6NU-RX, HME-45N-R12, HME-60N-R12, HME-20N-R24, HME-35N-R24, HME-45N-R24, HME-60N-R24, HMT-YZ-RX, HME-100N-R12, HME-20N-R12, HME-35N-R12.

1. The output of this component complies with Class 2 requirements in the Standard for Class 2 Power Units, UL 1310.
2. In the end product, power supply spacing to other heat producing components shall be min. 2 inches spacing to sidewalls, and min. 2 inches spacing to top of enclosure.
3. These products shall be enclosed in the end product.
4. These power supplies are suitable for use in dry and damp locations.
5. These devices are intended for factory installation only.
6. This Class 2 power supply is not provided with any grounding. The enclosure must be grounded in the end product.

LED Modules, Cat. No. HM-FXXQYZTMMMM series, where XX maybe replaced with the number 12; Q may be replaced with SMD or FLUX; Y may be replaced with 20 mm, 30 mm 48 mm, 55 mm, 62 mm or 95 mm; Z may be replaced with R, Y, G, W or RGB, T may be replaced with the numbers 2, 3 and 4.

1. These products are only suitable for use in dry, damp and wet locations and supplied with a Class 2 power source rated 12 Volt DC or less.
2. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. These products are not required to be enclosed or protected from the weather in the end product.
4. These products may be secured in place in the end product by any means available.

GUANGZHOU LINONG LIGHTING TECHNOLOGY CO LTD E362256
KEYING RD
GUANGZHOU SCI-TECH LNDUSTRY PARK
TAIHE TOWN BALYUN DISTRICT
GUANGZHOU, GUANGDONG 510540 CHINA

Class 2 LED modules, Cat. Nos. LNMS5X2PN46-D12, LNMS5X2PN60-D12, LNMS5X2PF60-D12, LNMS5X3PF81-D12, LNMS5X3PN81-D12, LNMS5X4PF49-D12, LNMS5X4PN49-D12, LNMS5X2F33-D12, LNMS5X4F35-D12. Where the X may be replaced with W, R, G, B, Y or RGB, indicates color temperature.1. These products are only suitable for connection to a Class 2 power source, rated 12 Volt DC or less.

2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than electrical ratings.
3. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Vdc or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. The suitability of supply leads shall be determined in end use.

GVA LIGHTING INC **E472142**
UNITS 14
3400 RIDGEWAY DR
TAIHE TOWN BALYUN DISTRICT
MISSISSAUGA, ON L5L 0A2 CANADA

Class 2 LED module, Model Series IP-SF-3-xxxx, where xxxx is the color temperature.
1. These products are only suitable for connection to a Class 2 power source, rated **12** Volt DC.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than **12** Volt DC.
3. These Class 2 LED modules are rated as noted in the model list table. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated class 2.
5. These products are not required to be enclosed or protected from the weather in the end product.

HANGZHOU SOYANG TECHNOLOGIES CO LTD **E466438**
WEST 19TH YONGTONG INFO PLAZA
141ST HUANCHENGBEIROAD
HANGZHOU, ZHEJIANG 310004 CHINA

Structural panels, Model Aluminum composite panel.
1. Suitable for use in dry, damp and wet locations.
2. Suitable for use in decorative or sign body applications only.
3. The panel is not suitable for use in component mounting and support applications.
4. Rain tightness shall be determined in the end product.
5. Electrical spacings and bonding for grounding shall comply with the end product standard.
6. A letter made from a structural panel shall have at least two points of support and shall have no point more than 10 in. from a point of support.
7. The panel core materials are rated LDPE (Low Density Polyethylene). Consideration will need to be given to end product thermal spacings from heat producing components or temperature test.
8. These materials are available as unpainted aluminum or pre-painted aluminum.
9. This material has not been investigated for the securement of conduit, electrode housings or the like, suitability shall be determined in the end product.
10. Not suitable for use in terminating conduit.

HANGZHOU YONGDIAN ILLUMINATION CO LTD **E468148**
650 WANGMEI ROAD
LINPING STREET
YUHANG DISTRICT
311100 HANGZHOU, CHINA

Class 2 LED lighting modules, Outdoor LED light, suitable for Wet Location: DGC-20-CX1-3S-TP-3528-SHY-RGB2-E, DGC-40-CL-TP-3528-#6, XT-12-CL-TP-3528-#6 and XT-15-CL-TP-3528-#24. "#" can be represented by any letter.
1. This product is only suitable for connection to a Class 2 power source, rated 5 Volt DC or less for model DGC-20-CX1-3S-TP-3528-SHY-RGB2-E, rated 12 Volt DC or less for model DGC-40-CL-TP-3528-#6, rated 24 Volt DC or less for models XT-12-CL-TP-3528-#6, XT-15-CL-TP-3528-#24.
2. These product have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than electrical ratings.
3. These Class 2 LED modules are rated as noted in the electrical ratings tables. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. Models DGC-20-CX1-3S-TP-3528-SHY-RGB2-E, DGC-40-CL-TP-3528-#6, XT-12-CL-TP-3528-#6, XT-15-CL-TP-3528-#24 are suitable for use in wet locations with supply sources rated at electrical ratings or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. The suitability of mounting means shall be determined in end product use.

HATO LIGHTING B V **E356565**
HANDELSSTRAAT 31
6135 KK SITTARD, THE NETHERLANDS

Class 2 LED Module, Cat. No. EUL-Fixt-XXXX-XXXX-XX-XXX; "EUL" stands for the productname "EcoUnlimitLED"; "Fixt" stands for a Fixt-Length; The first four X are Arabic numerals from 200 up to 2800, these indicate the fixt-length in cm; The second four X are Arabic numerals 4250 (+/-250) or 6500 (+/-500), these indicate the Correlated Color Temperature (CCT) in Kelvin; The two X indicate the number of segments per side. Any Arabic number from 1 up to 14 segments per side; The last three X are Arabic numerals and indicate the nominal power of the design.

1. These products shall only be used in an End-enclosure for Dry and Damp Locations Only.
2. These products shall only be connected to a Class 2 power source or LPS power source, rated max. 4.17 Amps, 24 Volt DC with a maximum power limit of 100 VA.
3. Each model is allowed to contain a maximum of 14 segments, as detailed in the mounting instructions.
4. The suitability of leads shall be evaluated in end product use.
5. The need to perform an input test and a temperature test shall be evaluated in end product use.

HEICO LIGHTING, DIV OF EMD TECHNOLOGIES INC E301099
400 RUE DU PARC
ST EUSTACHE, QC J7R 0A1 CANADA

LED power supply with Class 2 outputs, Cat. Nos. LMPS-350, LMPS-750 for use with VIRGOLITE LED Modules, Types EC, EB, MB, MI followed by "+"; VIRGOLITE Types Econo-Brite, Equi-Brite, Mega-Brite, LS2, LS3, LS4, LS6, LS6-70, Mini, clipAled.

1. These power supplies has a single output. The output has been evaluated and found to comply with Class 2 output requirements.
2. These power supplies are provided with an enclosure that is suitable for installation in a damp or dry location.
3. VIRGOLITE Modules “XXXXX.XXX” must be used with Listed Class 2 Power Supplies, Models LMPS-350 or LMPS-750. These power supplies are potted.
4. The power supply Models LMPS 750 and LMPS-350 is capable of providing power to maximum number of Virgolite Models.

Virgolite Family	Length (in.)	Number of LEDs per Module	Nominal Voltage (V)	Wattage(W) per Module	Max. number of Modules Per LMPS-350/LMPS 750 Power Supplies
Econo-Brite	3.22	2	3.2	0.26	134/288
	6	3	3.2	0.41	85/182
Equi-Brite	2.6	2	3.2	0.26	134/288
	3.22	4	3.2	0.55	63/136
	6	6	3.2	0.81	43/92
Mega-Brite	3.22	6	3.2	0.81	43/92
	6	12	3.2	1.56	22/48
LS2	3.22	2	3.2	.85	42/84
LS3	6	3	3.2	1.25	30/60
LS4	3.22	4	3.2	1.52	23/46
LS6	6	6	3.2	2.1	16/32
LS6-70	6	6	3.2	1.44	25/50
clipAled	1.7	1	3.2	.39	90/192

5. Each power supply shall be installed in accordance with the installation instructions. See ILL. 2.
6. Spacing between adjacent power supplies is 1 in. end to end and 4 in. any other direction or may be used in maximum ambient temperature of 50°C.

Tradename can be "HEICO lighting" or trademark HEICO lighting.

HEILUX LLC E466443
12903 PIONEER TRAIL
EDEN PRARIE, MN 55347

Class 2 Flexible LED Panel, Models "LUMAFILM" LSXX.

1. These products are only suitable for connection to a Class 2 power source, rated 60 Volt DC max constant current source.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than 60 Volt DC.
3. These Class 2 LED modules are rated as noted in the model list table. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, or damp locations.

Marking – Company name, Tradename "LUMAFILM" and product designation.

HENGFU CORP E359095
258 XINJIA RD
SONGJIANG DISTRICT
201611 SHANGHAI, CHINA

Sign accessories, Models HF60W-SLD-12, HF60W-SLD-24.

1. These LED drivers have been evaluated using resistive load resulting in the electrical input and output noted below.

Series	Input (V, A)	Loaded Output (V dc, Ampere)
HF60W-SLD-12	100/120/240, 0.79/0.63/0.31	12, 5

Series	Input (V, A)	Loaded Output (V dc, Ampere)
HF60W-SLD-24	100/120/240, 0.789/0.642/0.313	24, 2.5

2. These LED drivers are intended for used in a maximum 20 A branch circuit.
3. These LED Drivers are suitable for use in wet locations.
4. These LED drivers are provided with Listed 18 AWG Input and 16 AWG Output Cord, type SJTW, rated 300 V, 105ºC for electrical connection, the suitability of the types, wiring and the need for a suitable enclosure shall be determined in each end use application.
5. These LED drivers are built-in type, fixed wiring connections, intended for used within sign.
6. The metallic housings were not bonded to grounding, the suitability of bonding and grounding shall be determined in each end use application.
7. These LED drivers are intended for use in the maximum Ta ambient temperature and maximum Tc case (enclosure) temperature in end products shown as below table.

When the driver with potting: R/C (QMFZ2), DOW CORNING (SHANGHAI) CO LTD (E251343), Cat. No. CN-8760.

Model No.	Tc (Degree, ºC)	Ta (Tested ambient, ºC)
HF60W-SLD-12	80	50
HF60W-SLD-24	85	50

When the driver with potting: R/C (QMFZ2), SHANGHAI JORLE FINE CHEMICAL CO LTD (E315820), Cat. No. ZR340A/B.

Model No.	Tc (Degree, ºC)	Ta (Tested ambient, ºC)
HF60W-SLD-12	80	41
HF60W-SLD-24	85	50

8. Mounting shall be determined in the end-use application.
9. In the end product, LED driver spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
10. In the end product, LED Drivers shall be located not less than 1 inch (25.4 mm) apart when arranged end-to-end, and not less than 4 inches (102 mm) apart when arranged otherwise.

HERA LIGHTING L P E357358

3025 BUSINESS PARK DR
NORCROSS, GA 30071

CLASS 2/LPS LED Backlight Panel, Model HLP.

1. These LED Backlight panels are only intended for use with a constant voltage LPS/Class 2 output power sources with 12, 24 or 36 Vdc/Maximum 5, 4.16 or 2.77 A output, respectively.
2. When products provided with more than one input connector, there shall be no interconnection of circuits allowed, and each LPS/Class 2 circuit is separately connected to each LPS/Class 2 power supply. Each input not exceeding 5 A, 4.16 or 2.77 A, respectively. Power supply with multiple Class 2 outputs may be used.
3. These LED Backlight panels are suitable for use in dry locations only.
4. These LED Backlight panels are not provided with a mounting means. The suitability is to be determined in end product use.
5. These products are to be temperature tested in end product. The maximum temperature on LED board shall not exceed 130°C. The maximum temperature of supply leads shall not exceed 105°C. The maximum temperature on Light Guide Plate shall not exceed 50°C.
6. If LPS/Class 2 type LED power sources were provided, the additional consideration should be investigated in the end products.

HIGH PERFECTION TECHNOLOGY CO LTD E249377

4 ALY 19 LN 379
ZHONGHUA RD
SHULIN DISTRICT
NEW TAIPEI, 238 TAIWAN

Class 2 LED Power Supply, designated LP1060-Series with numerical suffix -07 through -24, followed by suffix - one or two letters and - a single letter or number; Model LP2046 followed by suffix - one or two letters and - a single letter or number.

1. All models except for LP2046-YZ-E have a single output that complies with Class 2 output requirements. Model LP2046-YZ-E has 2 outputs at Class 2 limits.
2. These products are suitable for use in dry damp and wet locations only.
3. The primary sides of these power supplies are suitable for connection with threaded type conduit only.
4. The maximum rated output power for Model LP1060-13-YZ-E, LP1060-17-YZ-E and LP1060-21-YZ-E is 61 watts, for Model LP1060-24-YZ-E is 60 watts, for Model LP2046-YZ-E is max. 41 watts.
5. Power supply spacing to other heat producing components shall be minimum 4 inches when minimum spacing to sidewalls and top of enclosure is kept at minimum 2 inches.
6. When not marked for dry and damp locations only, the power supply primary bracket shall be provided with min. 3.5 threads and maximum 5 threads tapered for connection to liquid tight conduit fitting. If less than 3.5 threads, the liquid tight shall be provided with water tight fitting as shown in FIG. 4.
7. When not marked for indoor use only, all models shall have liquid tight fittings on both primary and secondary circuits.
8. When provided with the alternate conduit caps on page 3, the power supply shall be provided with an additional fire enclosure.
9. Cord connected (not cord and plug) models are suitable only for use in cord connected signs:
   A) The suitability of the cord length, type, and temperature rating shall be determined in the end use.
   B) Strain relief testing has been conducted at 20 lbs. The need for additional strain relief shall be determined in the end use.
   C) Leakage current testing has not been conducted on the cord connected models and shall be conducted in the end use.
10. Model LP1060-XX-YZ-E-DV series are provided with a dimming option for use with a 0-10VDC dimming system.

Class 2 LED Power Supply, Cat. No. LP1040-09-Cnnnn, LP1040-10-Cnnnn, LP1040-12-Cnnnn, LP1040-13-Cnnnn, LP1040-15-Cnnnn, LP1040-18-Cnnnn, LP1040-22-Cnnnn, LP1040-24-Cnnnn, LP1040-36-Cnnnn, LP1040-48-Cnnnn, LP1040-48C-Cnnnn, where the suffix "Cnnnn" is optional and nnnn may be any alphanumeric characters.

1. The product shall be installed in compliance with the mounting, spacing, casualty, and segregation requirements of the ultimate application.
2. These units are provided with a Class 105(A) or Class 130 (B) insulation system.
3. Input leads are Style 1015, No. 18 AWG, rated VW-1, 600 V, 105°C. Output leads are Style 1430, No. 18 AWG, rated VW-1, 300 V, 105°C. The suitability of the input and output connections shall be determined in each end use application.
4. These power units are intended for dry or damp location use only.
5. Strain Relief and Impact Tests have not been investigated. The suitability of the enclosure as ultimate enclosure shall be determined in the end-use application.
6. The polymeric enclosure of each unit has not been evaluated as ultimate enclosure. The flame class of polymeric enclosure of each unit is V-0 and the necessity of additional fire barriers shall be determined in end product.
7. In the end product, power supply spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
8. The output of the power supply, Model LP1040-48-Cnnnn, exceeds the Class 2 output limits. This shall be considered in the end product.

Class 2 LED Power Supply, Cat. No. LP1020-10-Cnnnn, LP1020-12-Cnnnn, LP1020-13-Cnnnn, LP1020-15-Cnnnn, LP1020-17-Cnnnn, LP1020-18-Cnnnn, LP1020-20-Cnnnn, LP1020-22-Cnnnn, LP1020-24-Cnnnn, LP1020-36-Cnnnn, LP1020-52-Cnnnn, where the suffix "Cnnnn" is optional and nnnn may be any alphanumeric characters.

1. The product shall be installed in compliance with the mounting, spacing, casualty, and segregation requirements of the ultimate application.
2. These units are provided with a Class 105(A) insulation system.
3. The suitability of the input and output connections shall be determined in each end use application.
4. These power units are intended for dry or damp location use only.
5. Strain Relief and Impact Tests have not been investigated.
6. The polymeric enclosure of each unit has not been evaluated as ultimate enclosure. The flame class of polymeric enclosure of each unit is V-2, and the necessity of additional fire barriers shall be determined in end product.
7. Multiple power supplies shall be spaced at least 25mm (1 in.) end to end or 102mm (4 in.) in other directions. If lesser spacings are used, then the Temperature Test shall be conducted in the end use product. For reference the maximum enclosure (case) temperature on the power supply was 90°C when tested at 58.4° ambient.
8. Class 2 Power Supply, Model LP1020-52-Cnnnn are suitable for use in US only.

Class 2 LED Power Supply, Cat. No. LP4240-24-xy, LP4240-15-xy, LP4240-12-xy, LP3240-15-xy and LP3240-24-xy

1. These power supplies have multiple outputs. Power supply Model LP4240-24-xy, LP4240-15-xy and LP4240-12-xy have a maximum of four Class 2 outputs. Power supply Model LP3240-24-xy has maximum three Class 2 outputs. Each output of these power supplies have been evaluated to Class 2 output requirements for dc circuits.
2. These products with Class 2 outputs are suitable for use in dry, damp and wet locations.
3. Power supply spacing to other heat producing components shall be minimum 4 inches when minimum spacing to sidewalls and top of enclosure is kept at minimum 2 inches.
4. When not marked for indoor use only, all units shall be provided with liquid tight fittings on the primary and secondary circuits.
5. Cord connected (not cord and plug) models are suitable only for use in cord connected signs:
   A) The suitability of the cord length, type, and temperature rating shall be determined in the end use.
   B) Strain relief testing has been conducted at 20 lbs. The need for additional strain relief shall be determined in the end use.
   C) Leakage current testing has not been conducted on the cord connected models and shall be conducted in the end use.

Class 2 LED Power Supply, Models LP1025-12, LP1025-24, LP1025-36, LP1025-42, LP1025-50, may be followed by optional suffix Cnnnn, where nnnn may be any alphanumeric characters.

1. These power supplies have a maximum of one Class 2 output. The output of these power supplies has been evaluated to Class 2 output requirements for dc circuits.
2. These products with Class 2 outputs are suitable for use in dry and damp locations only.
3. In the end product, power supply spacing to other heat producing components shall be minimum 4 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
4. When used in a cord connected product, the need for conducting a leakage current test shall be considered in the end product.
5. These lead connected products are suitable for use in commercial application only when marked with 277 V input voltage.
6. These units employ a Class 105 (A) insulation system on Transformer (T1).

Class 2 LED Power Supply, Models LP1017-12-Cnnnn, LP1017-24-Cnnnn and LP1017-36-Cnnnn, where nnnn may be any alphanumeric characters.

1. These power supplies have a maximum of one Class 2 output. The output of these power supplies has been evaluated to Class 2 output requirements for dc circuits.
2. These products with Class 2 outputs are suitable for use in dry and damp locations only.
3. In the end product, power supply spacing to other heat producing components shall be minimum 4 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
4 When used in a cord connected product, the need for conducting a leakage current test shall be considered in the end product.
5. These products with leads are suitable for use in commercial application only when marked with 277 V input voltage.

Class 2 LED Power Supply, Model LP1090-XX-YZ-E, where XX can be 19, 24 or 36; Y can be G or T; Z can be G or T; and E can be any number from 170 to 999. ; which may be followed by suffix “DV”.

1. These power supplies have a maximum of one Class 2 output. The output of these power supplies has been evaluated to Class 2 output requirements for dc circuits.
2. Models LP1090-TT-E are suitable for use in dry and damp locations. Models LP1090-GG-E are suitable for use in dry, damp and wet locations.
3. In the end product, power supply spacing to other heat producing components shall be minimum 4 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
4. When used in a cord connected product, the need for conducting a leakage current test shall be considered in the end product.

5. When not marked for “Dry and Damp Locations Only” the power supply primary bracket shall be provided with min. 3.5 threads and maximum 5 threads tapered for connection to liquid tight conduit fitting. If less than 3.5 threads, the liquid tight shall be provided with Listed (QCRV) 1/2 inch, liquid tight conduit fittings.
6. These products are suitable for use in commercial application only when marked with 277 V input voltage.
7. When provided with the alternate conduit caps on page 2A, the power supply shall be provided with an additional fire enclosure.
8. Cord connected (not cord and plug) models are suitable only for use in cord connected signs:
   A) The suitability of the cord length, type, and temperature rating shall be determined in the end use.
   B) Strain relief testing has been conducted at 20 lbs. The need for additional strain relief shall be determined in the end use.
   C) Leakage current testing has not been conducted on the cord connected models and shall be conducted in the end use.
9. Model LP1090-XX-YZ-E-DV series are provided with a dimming option for use with a 0-10VDC dimming system.

HP TEC E356485

100-17, ONSU-DONG, GURO-GU
SEOUL, REPUBLIC OF KOREA

Class 2 LEDs, designated as SL-XXX Series, where XXX may be replaced with alphanumeric characters.

1. These products are only suitable for connection to a Class 2 power source rated 30 Volt DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuit.
3. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.

HUBEI FLEXMEDIA CO LTD E363474

36 SMALL AND MEDIUM-SIZED
ENTERPRISE DISTRICT JIUTONG ROAD
WUJIASHAN DONGXIHU
WUHAN, HUBEI 430040 CHINA

EL Driver, Non-Class 2, Model PA100.

1. This Drivers have been evaluated to Non-Class 2 output.
2. This Diver has been evaluated using resistive load resulting in the electrical input and output noted below, and the maximum case temperature shall not exceed 90ºC when used in end product.

Model	Nominal Input			Nominal Output		
	V	Hz	A	V ac, Hz	A	W
PA100	90-240	50/60	1.8 max	100, 800 Hz	2	80

3. Dry location use only.
4. When used in fixed Sign, spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
5. When used in fixed Sign, this product shall be located not less than 1 inch (25.4mm) apart when arranged end-to-end, and not less than 4 inches (102mm) apart when arranged otherwise.
6. Do not ground the secondary circuit to the enclosure of this power unit.

HYRITE LIGHTING CO E306782

252 S 5TH AVE
CITY OF INDUSTRY, CA 91746

Class 2 LEDs Cat. Nos. LEDMX-KN Series, where X may be replaced with any letters of alphabet A through Z or blank; K may be replaced by R, A, Y, B, G or W and N may be replaced with any numbers 0 through 999.

1. These products are only suitable for connection to a Class 2 power source, rated max 15 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit.
3. Class 2 LED Module Cat. Nos. M LEDMX-K series is each rated max. 7.5 Watts per unit. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Volt DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.

LED power supply with Class 2 outputs, Cat. No. SPS-X0-12, where X is 4, 6 or 9, may be followed by the letter “C”.

1. These power supplies have a maximum of one Class 2 output. However, Model SPS-90-12 has a maximum of two Class 2 outputs. The output of these power supplies has been evaluated to Class 2 output requirements for dc circuits.
2. These products with Class 2 outputs are suitable for use in dry and damp locations.
3. In the end product, power supply spacing to other heat producing components shall be minimum 4 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
4. When used in a cord connected product, the need for conducting a leakage current test shall be considered in the end product.
5. The suitability of grounding connection shall be determined in the end-use product.

Polymeric Neon Electrodes, End Cap, Models EC-10S-U, EC-18S-U, EC-15S-U, EC-13S-U, and EC-20S-U.

1. These devices are rated max. 7500 V ac to ground. May be used with 15K mid-point grounded transformer.
2. These products are suitable for use in dry or damp locations.
3. These products are required to be enclosed or protected from the weather.

4. As of the September 5, 2008 effective date of UL879, Eighth Edition, all Integral Sleeved GTO cables indicated as suitable for use with the neon electrode enclosures covered by this report shall have a temperature rating of min. 120(C minimum for dry locations and min. 135(C for damp locations.
5. These products are only for use in Listed signs and Sections of signs and are not suitable for field installed skeletal neon or outline lighting.
6. The units shall be subjected to a High Voltage Dielectric Strength test in the end product.
7. These components were evaluated for use with the Listed GTO cables made by Transco Inc (E226224) GTO-15 and Paige Electric Co L P (E135239), GTO-15, and Hyrite Lighting Co., (E351585), GTO-15-S and GTO-10-S. Use with any other GTO type or manufacture will need to be evaluated in the end product.

HYUNDAI LED CO LTD E258512

602-6 PALGOGIL-DONG
SANGNOK-GU
ANSAN-SHI, GYEONGGI-DO 426-200 REPUBLIC OF KOREA

LED Module, Cat. No. BBBX-YZVW Series, where BBB may be any alpha characters from A to ZZZ; X may be any combinations of alphanumeric characters from A to Z or from 0 to 999; where YZV may be any combination of alphanumeric characters and W may be blank or any numeric character from 0 to 1.

1. Each Class 2 LED Modules: BBBX-YZVW Series is only suitable for connection to a Class 2 power source, max. 24 Volt dc or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits.
3. Class 2 LED modules, BBBX-YZVW Series rated max. 12 Watts per LED unit or less. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at max. 24 Volt DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.

LED Module, Cat. Nos. BFL225-YZ12 (F-LED225), BFL235-YZ12 (F-LED235), BFL435-YZ12 (F-LED435), BFL313-YZ12 (F-LED313), BFL301-YF12 (RGB301), BFL300c-YF12 (RGB300C), BFL900C-YF12 (RGB900C) and BL05-YF24 (BLO5).

1. These Class 2 LED modules are only suitable for connection to a Class 2 power source, rated 15 Volt or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits.
3. These Class 2 LED modules are rated max. 2 Watts per LED module. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at max. 15 Volts or less.
5. These products are not required to be enclosed or protected from the weather in the end product.

I LIGHT TECHNOLOGIES E223028

1093 VOLUNTEER DR
COOKEVILLE, TN 38501

Class 2 power supplies, Models PN60112DCR-3R, PN10124DCR-3R, PNC224012DCR-3R, PNC224024DCR-3R.

1. These power supplies have been evaluated for use in LED signs.
2. The power supplies have outputs that individually comply with Class 2 circuit requirements.
3. These units are suitable for use in dry and damp locations without a need for an additional enclosure.
4. The output of this power source shall not be connected to any other power source or provide power to components connected to another power source.
5. These products shall have conductors entering, leaving or residing in the wiring compartment or junction box extending at least 150 mm (6 in) inside.

ICM CORP E109022

7313 WILLIAM BARRY BLVD
NORTH SYRACUSE, NY 13212-3384

Electronic Sign Flasher, Cat. Nos. Cat. No. FPS.

l. When used in an unprotected enclosure, consideration must be given to the environmental conditions to which it will be subjected.
2. The sign flasher must be mounted on an aluminum heat sink specifically a U-shaped channel with the top 0.04 in thick, and the sides approx 0.142 in thick. The side rails are 2-11/32 in wide and the top is 2-9/l6 in wide min length is 5-5/l6 in.
3. The terminals are not suitable for field wiring and the connections to the terminals shall be determined in the end use application.
4. This device has not been investigated for loads other than incandescent types.
5. The Temperature Test was conducted in free air. The maximum temperature recorded was 78°C in a 22.6°C ambient. When provided within enclosure, consideration should be given to performing a Temperature Test.
6. The maximum load switching ratings for these flashers are 8 A at 120 Vac, and shall not be used beyond these ratings or with DC.
7. These are open-type devices with a metal mounting plate. A suitable enclosure shall be provided in the end use and the suitability of the bonding means through the mounting means shall be determined in the end use.

ILIGHT TECHNOLOGIES INC E324738

SUITE 370
118 S CLINTON
CHICAGO, IL 60661

Class 2 LED Modules, Cat. Nos. “PLEXINEON", "HYPNOTICA iS".

1. These products are only suitable for connection to a UL Listed or Recognized Class 2, 15V AC or less and 30 volt DC or less power source.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits.
3. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations.
5. These products are not required to be enclosed or protected from the weather in the end product.

ILLUMINATED LIGHTPANELS INC **E466444**
2011 NW 29th St
Oakland Park, FL 33311

LPS/Class 2, LED backlight panel, Model ILP-LP-XX-Y Series.

1. These products are only intended for use with a LPS/Class 2 output power sources with 12 Vdc, Maximum 5 A output.
2. When products provided with more than one input connector, there shall be no interconnection of circuits allowed, and each LPS/Class 2 circuit is separately connected to each LPS/Class 2 power supply. Each input not exceeding 5 A. Power supply with multiple Class 2 outputs may be used.
3. These products are suitable for use in dry, damp and wet locations with supply sources rated class 2.
4. These LED Backlight panels may be provided with a mounting means and frame. The suitability is to be determined in end product use.
5. These products are not required to be enclosed or protected from the weather in the end product.

INNOPOL-E CO LTD **E356129**
555-56 BAEKSEOK-DONG
SEOBUK-GU
CHEONAN-CITY, CHUNGCHEONGNAM-DO
331-979 REPUBLIC OF KOREA

LED Class 2 Module, Models INP-SCA13, INP-SCA12.

1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Volts DC or less.
4. These products are not required to be enclosed or protected from the weather in the end product.
5. These products may be secured in place in the end product by any means

INSIGHT LIGHTING CO **E348871**
4341 FULCRUM WAY
RIO RANCHO, NM 87144

LED Class 2 Module, Cat. Nos. ILE6, ILE9, ILE12, ILE12(-N), ILE15, ILE3-RGB; Class 2 LED Controller, Cat. No. ILC-V; cat. nos. may be provided with additional prefixes or suffixes for commercial purposes.

1. These products are only suitable for connection to a Class 2 power source rated 30 Vdc or less.
2. When units are connected to a Class 2/"LPS" circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2/"LPS" supply.
3. These products are suitable for use in dry, damp and wet locations.
4. The suitability of the mounting means shall be determined in the end-use application.
5. LED modules described in this section may be cut into segments per the manufacturer's installation instructions.
6. Units may be provided with Recognized Component (UYMR2), 3M type VHB double-sided adhesive tape. The tape must be utilized per the "Conditions of Use" as defined in the Sign Components Manual.
7. A heatsink or a means to draw heat away from the Printed Wiring Board shall be provided in the end-use application.

Diffuser Panels, Cat. Nos. IEP1, IEP2, IEP3, and IEP4.

1. Cat. nos. IEP1, IEP3, IEP4 are suitable for use in dry, damp and wet locations. Cat. no. IEP2 is suitable for use in dry locations only.
2. The panels are suitable for use as a rigid non-enclosure rated sign body, awning, face or decorative application.
3. Panels have not been investigated for use as an enclosure of live parts, insulating barrier accessibility barrier, connection of conduit or component mounting or support.
4. Panels are flame class rated HB.
5. Cat. no. IEP1 rated 50°C for clear only when min 1.0 mm thick and rated 90°C for all colors when min 1.5 mm thick.
6. Cat. no. IEP2 rated 50°C for all colors when min 1.5 mm thick.
7. Cat. no. IEP3 rated 90°C for clear only when min 1.5 mm thick.
8. Cat. no. IEP4 rated 80°C for all colors when min 0.75 mm thick and 115°C for all colors when min 1.5 mm thick.

INTERNATIONAL LIGHT TECHNOLOGIES INC **E332029**
10 TECHNOLOGY DR
PEABODY, MA 01960

LED Class 2 Module, Model No. designated 1X2, 2X2.

1. These components are only suitable for connection to a UL Listed or R/C (UYMR2), Component – Sign Accessory Class 2 power supply.
2. These components have not been evaluated for use when connected to a power source that does not comply with Class 2 requirements.

3. Lead wires are not Listed Class 2 cable. Therefore leads must be enclosed in a sign housing, wireway, raceway, or electrical enclosure.
4. Components are suitable for use in dry, damp and wet locations.

LED Class 2 Module, Cat. Nos. ILT-PC-1X2-[+], ILT-PC-2X2-[+].

[+] - May be any alphanumeric characters to represent color and number of LED per module.

1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuit and is rated greater than 15 V DC.
3. These products are each rated max. 1.5 watts per module. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.

Class 2 LED modules, Designated as ILT-XXX-Y series, where XXX and Y may be any alphanumeric characters.

1. These products are only suitable for use in dry, damp and wet locations and supplied with a Class 2 power source rated 12 Volt DC or less.
2. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. These products are not required to be enclosed or protected from the weather in the end product.
4. These products may be secured in place in the end product by any means available.

LED driver, Isolated LPS output, Model ILT-PSU-60-12.

1. These power supplies have been evaluated to LPS output requirements for dc circuits with a maximum of one LPS output.
2. These products are provided with the following electrical ratings:

Model No.	Input Voltage (Vac)	Input Freq (HZ)	Input Current (A)	Nominal Output Voltage (V dc)	Nominal Output Current (A)
ILT-PSU-60-12	100-240	50/60	1.4	12	5

3. In the end product, power supply spacing to other heat producing components shall be at least 25.4 mm (1 in) from end to end and 101.6 mm (4 in) from side to side.
4. These products shall be enclosed in the end product.
5. These products are suitable for factory wiring only.
6. These products are intended for use in a dry or damp locations only.
7. The suitability of input/output leads and the wring shall be determined in end product use.
8. These units have been tested at 40ºC ambient. The measured maximum surface temperatures are as follows. Acceptable operation at a higher temperature should be determined in end products.

Model	Surface temperature (degree C) / Location
CV1206T	59.9 / enclosure outside top of T1

9. The units are intended for operated in a maximum 20 A branch circuit.

LED module mounting rail, Model ITL-RAIL-96.

1. LED mounting rail may be cut to any required length.
2. LED modules secured in mounting rail by snap fit and friction.
3. This product is meant to accommodate LED module model ITL-PC-2X2. Any other LED module shall be investigated in the end product.
4. This product may be secured in place in the end product by any suitable means available.
5. LED mounting rail is not suitable as a raceway cover or part of an electrical enclosure.

INTERONE E349550

55-1 DEOKGYE-DONG
YANGJU-SI, GYEONGGI-DO
482-050 REPUBLIC OF KOREA

LED Class 2 Module, Model Z303, Z301.

1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Volts DC or less.
4. These products are not required to be enclosed or protected from the weather in the end product.
5. These products may be secured in place in the end product by any means available.

LED Class 2 Module, Z101 K, Z103 K, Z201 K, Z201 S, Z201 T, Z203 K, Z203 SPO, Z203 S, Z203 TPO, Z203 T, Z203 LPO, Z203 L, Z203 F, Z301 MTPO, Z301 K, Z301 S, Z301 LS, Z301 L, Z301 BB, Z303 K, Z303 SPO, Z303 S, Z303 LSPO, Z303 LS, Z303 LPO, Z303 L, Z303 FP, Z303 P, Z303 FC, Z303 C, Z303 KF, Z303 F, Z303 BB, Z401 K, Z401 S, Z401 BB, Z403 K, Z403 SPO, Z403 S, Z403 KF, Z403 F, Z403 FP, Z403 P, Z403 FC, Z403 C, Z403 BB, 2P PO, 3P PO, 3P K, STPC, STAL.

1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Volts DC or less.
4. These products are not required to be enclosed or protected from the weather in the end product.
5. These products may be secured in place in the end product by any means available.

INTERTEK CORP E307120

4TH FL, 81 HSIN TAI-WU RD, SEC 1

HSIN-CHIH, TAIPEI HSIEN 221 TAIWAN

Class 2 LED Power Supply, Models APP200AC-12, APP200AC-15, APP200AC-24, APP200AC-30.

1. These power supplies have not been provided with a suitable enclosure. In the end product these units shall be enclosed.
2. When used in a cord-connected products, the need for conducting a leakage current test shall be considered in the end product.
3. The product was tested for use at the maximum ambient temperature (Tma) of 60°C permitted by the manufacturer's specification. This product will need to be temperature tested in the end product and ambient cannot exceed 60°C.
4. These components are suitable for use in damp locations.
5. The Class 2 output of these power supplies are acceptable for use in a damp location without an additional enclosure. The Class 2 output of Models APP200AC-12, APP200AC-15 are also acceptable for use in a wet location without an additional enclosure.
6. These components have been investigated for use on a maximum branch circuit rating of 20A.

Class 2 LED Power Supply, Models APP200AC-48.

1. This power supply has not been provided with a suitable enclosure. In the end product this unit shall be enclosed.
2. When used in a cord-connected products, the need for conducting a leakage current test shall be considered in the end product.
3. The product was tested for use at the maximum ambient temperature (Tma) of 60°C permitted by the manufacturer's specification. This product will need to be temperature tested in the end product and ambient cannot exceed 60° C.
4. This component is suitable for use in damp locations.
5. This component has been investigated for use on a maximum branch circuit rating of 20A.

Class 2 LED Power Supply, Models ANP90-12P, ANP90-12PY, ANP90-15P, ANP90-15PY, ANP90-19P, ANP90-19PY, ANP90-24P, ANP90-24PY, ANP90-24P1, ANP90-24P1Y, ANP90-30P1, ANP90-30P1Y, ANP240-12P, ANP240-15P, ANP240-19P, ANP240-24P, ANP155-12AC, ANP155-15AC, ANP155-19AC, ANP155-24AC. These model numbers may or may not be followed by -277.

1. These power supplies have a maximum of four Class 2 outputs. The output of these power supplies has been evaluated to Class 2 output requirements for dc circuits.
2. These products with Class 2 outputs are suitable for use in dry, damp and wet locations.
3. In the end product, power supply spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
4. When used in wet locations, each unit shall be provided with Listed (QCRV) 1/2 inch, liquid tight conduit fittings on both primary and secondary circuits.

Class 2 LED Modules, Model Nos. QRN90-15, QRW90-15, QAN90-15, QAW90-15, QGN90-24, QGW90-15, QBN90-24, QBW90-24, QWN90-24, QWW90-24, BRN90-15, BRW90-15, BAN90-15, BAW90-15, BGN90-24, BGW90-24, BBN90-24, BBW90-24, BWN90-24, BWW90-24.

1. These products are only suitable for connection to a UL Listed or R/C (UYMR2), Component - Sign Accessory Class 2 LED power supply or UL Listed or R/C Class 2 Power Supply having continuous DC outputs rated as below in Item 3.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 requirements.
3. Class 2 LED Illumination is rated per following table. When units are connected to a Class 2 circuit, their number is to be limited to draw a total wattage of no greater than the secondary current rating of each Class 2 circuit.

The following identifies the rating to be used in calculating the maximum number of units per circuit.

LED Cluster	Load Max (mAmps)	Watts
BRxxx-15, BAxxx-15	35 mA	0.525 W
BWxxx-24, BGxxx-24, BBxxx-24	35 mA	0.84 W
QRxxx-15, QAxxx-15	35 mA	0.525 W
QWxxx-24, QGxxx-24, QBxxx-24	35 mA	0.84 W

4. These products are suitable for use in dry, damp and wet locations.
5. The weather enclosure does not require evaluation.

Class 2 LED Modules, Model Nos. Bright Eyes (BEX24-12) BE followed by W, B, G, A or R, followed by 24, followed by 12; NextGen (ABCD-12) B or T followed by W, B, G, A or R, followed by N or W, followed by 90 or 110; and MiniMod MXW80-12 Series, where X can be A, B, G, R or W

1. These products are only suitable for connection to a UL Listed or R/C (UYMR2), Component - Sign Accessory Class 2 LED power supply or UL Listed or R/C Class 2 Power Supply having continuous DC outputs rated as below in Item 3.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 requirements.
3. Class 2 LED Illumination is rated per following table. When units are connected to a Class 2 circuit, their number is to be limited to draw a total wattage of no greater than the secondary current rating of each Class 2 circuit.

The following identifies the rating to be used in calculating the maximum number of units per circuit.

LED Cluster	Load Max (mAmps)	Watts
BEX24-12	400mA per module pair	4.8 W per module pair
ABC90-12	52mA	.62 W
ABC110-12	40mA	.48 W
MiniMod MXW80-12 Series	31 mA	0.372 W

Up to 90 LED clusters may be used when the LED's are ABC90-12.
Up to 110 LED clusters are used when the LED's are ABC110-12.
Up to 160 LED clusters may be used when the LED's are of the MiniMod MXW80-12 Series.

4. These products are suitable for use in dry, damp and wet locations.
5. The weather enclosure does not require evaluation.

Class 2 LED Modules, Model Nos. SLR90-12, SLA90-12, SSR90-12, SSA90-12, SSG90-12, SSB90-12, SSW90-12.

1. These products are only suitable for connection to a UL Listed or R/C (UYMR2), Component - Sign Accessory Class 2 LED power supply or UL Listed or R/C Class 2 Power Supply having continuous DC outputs rated as below in Item 3.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 requirements.
3. Class 2 LED Illumination is rated per following table. When units are connected to a Class 2 circuit, their number is to be limited to draw a total wattage of no greater than the secondary current rating of each Class 2 circuit.

The following identifies the rating to be used in calculating the maximum number of units per circuit.

LED Cluster	Load Max (mAmps)	Watts
SLR90-12	25mA	.3 W
SLA90-12	25mA	.3 W
SSR90-12	25mA	.3 W
SSA90-12	25mA	.3 W
SSG90-12	25mA	.3 W
SSB90-12	25mA	.3 W
SSW90-12	25mA	.3 W

Up to 200 LED clusters may be used when the LED's are SXX90-12.

4. These products are suitable for use in dry, damp and wet locations.
5. The weather enclosure does not require evaluation.

Class 2 LED Power Supply, Model Nos. LPS12-D1, LPS15-D1, LPS24-D1.

1. This power supply has 1 output. The output has been evaluated and found to comply with Class 2 output requirements.
3. This power supply is provided with a metal enclosure that is suitable for use in wet locations.
4. The output of this power supply is rated 12 V DC, 5 amps, and 60 Watts, 15V, 4A, 60 Watts or 24V DC, 2.5A, 60 Watts.
5. Each power supply shall be installed in accordance with the installation instructions.

Class 2 LED Modules, Model Nos. designated as AOP120XX-Y00Z Series; where XX, Y and Z may be replaced with alphanumeric characters.

1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuit and is rated greater than 12 V DC.
3. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.

Class 2 LED Power Supply, Models ANP90-48P, ANP90-48PY, and ANP90-48P1Y, which may be followed by -277.

1. These products with Class 2 outputs are suitable for use in dry, damp and wet locations. When marked for wet location a junction box is provided on each side for conduit connection. For wet location use, the output leads are to be protected from contact with water.
2. In the end product, power supply spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
3. When used in wet locations, each unit shall be provided with junction box for use with Listed (QCRV) 1/2 inch, liquid tight conduit fitting for both primary and secondary circuits.
4. These components shall be installed in compliance with the enclosure and mounting requirements of the ultimate application.
5. The Rain Test was conducted per UL 1310 but the Standing Water Immersion Test was not conducted. When the units are mounted in a wet location at a height less than 1 foot from the ground surface or on the bottom surface of an exposed construction where water can accumulate, the need for additional evaluation shall be determined in the end product.

Tradename is "Amperor".

Sign Accessories, Dimmable Power Supplies for LED Modules, Models DIM-240, DIM-240-D, DIM-240-1.

1. These units have been evaluated to Non-Class 2 output.
2. These units have been evaluated using resistive load resulting in the electrical input and output noted below.

	Input		Output		
Model	Vdc	A	Vdc	A	W
DIM-240, DIM-240-D	10-48	Max. 5.0	10-48	0-5	Max. 240
DIM-240-1	10-24	Max. 12.5	10-24	0-12.5	Max. 300

3. These units are intended for use in dry locations. Other uses shall be considered in the end product.
4. Spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
5. These products shall be located not less than 1 inch (25.4 mm) apart when arranged end-to-end, and not less than 4 inches (102 mm) apart when arranged otherwise.
6. Do not ground the secondary circuit to the enclosure of these units.
7. These units shall be installed in compliance with the enclosure, mounting, grounding, spacing, casualty, and segregation requirements of the end product application.
8. These units shall be connected behind an power supply, the suitability shall be considered in the end product.
9. The input and output connections of these units are provided with terminal blocks suitable for copper wire size as noted below. The suitability of input and output connections shall be determined in each end use application.

Input/Output Terminal Blocks Type	Wire Size, Type AWG	Torque, lb-in (N-m)

EXCEL CELL ELECTRONIC CO LTD (E133988), Type ETB10 series	14-24 AWG, Sol/Str Wire	2.18 (0.25)

10. Terminals of dimmer were evaluated as isolated non-class 2 type, the suitability shall be considered in the end product.

LED Drivers, Isolated, Non-Class 2 output, Models ANP151-75S1-277, ANP151-110S1-277, ANP151-154S1-277, ANP151-220S1-277, ANP151-440S1-277.

1. These units have been evaluated for Non-Class 2 output.
2. These units have been evaluated using resistive load resulting in the electrical input and output noted below, and the maximum case temperature shall not exceed 90ºC when used in end product.

Model	Input			Output		
	V	Hz	A (MAX)	V dc	A	W (MAX)
ANP151-75S1-277	100-277	47-63	2.0	75	2.05	154
ANP151-110S1-277				110	1.40	
ANP151-154S1-277				154	1.00	
ANP151-220S1-277				220	0.70	
ANP151-440S1-277				440	0.35	

3. These products are intended for dry, damp or wet location use.
4. The lead wire length, routing and splicing shall comply with the requirements of the end-use application.
5. These units are not provided with a mounting means or the means is optional. The method of mounting shall be determined in the end-use application.
6. These units were tested and found to be acceptable for use in a 60°C ambient temperature. Acceptable operation at a higher temperature should be determined.
7. The suitability of grounding means shall be determined in the end-use application.
8. An acceptable enclosure shall be provided.
9. When used in fixed Signs, spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
10. When used in fixed Signs, this product shall be located not less than 1 inch (25.4mm) apart when arranged end-to-end, and not less than 4 inches (102mm) apart when arranged otherwise.
11. Do not ground the secondary circuit to the enclosure of this power unit.

LED driver, isolated output, Models ANP105-35P1-277-100, ANP105-24P1-277-100, ANP105-24P1-277-075, ANP105-42P1-277-060, ANP105-24P1-277-060, ANP105-12P1-277-060, ANP105-56P1-277-040, ANP105-40P1-277-040, ANP105-30P1-277-040, ANP105-24P1-277-040, ANP105-24P1-277-025, ANP100-285P1-277-100, ANP100-200P1-277-100, ANP100-142P1-277-100, ANP100-095P1-277-100, ANP100-071P1-277-100, ANP100-107P1-277-075, ANP100-075P1-277-075, ANP100-054P1-277-075, ANP100-086P1-277-060, ANP100-060P1-277-060, ANP100-057P1-277-040, ANP100-040P1-277-040. All models may or may not be followed with alpha characters for marketing purposes.

1. The output of these power supplies have been evaluated to other than Class 2 output requirements for dc circuits only.
2. These products are suitable for use in dry and damp locations.
3. These products are suitable for factory wiring only.
4. These components shall be installed in compliance with the enclosure and mounting requirements of the ultimate application.
5. These products are to be operated on a max. 20 A branch circuit.
6. The suitability of input/output connections is also to be considered in end product use.
7. These drivers were tested at the maximum ambient temperatures of 50 degree C.
8. These products are provided with the following electrical ratings:

Model	INPUT			OUTPUT	
	V	HZ	A	VDC	A
ANP100-285P1-277-100	100-277	47-63	1.3	285	0.35
ANP100-200P1-277-100	100-277	47-63	1.3	182	0.55
ANP100-142P1-277-100	100-277	47-63	1.3	142	0.70
ANP100-095P1-277-100	100-277	47-63	1.3	95	1.05
ANP100-071P1-277-100	100-277	47-63	1.3	71	1.40
ANP100-107P1-277-075	100-277	47-63	1.3	107	0.70
ANP100-075P1-277-075	100-277	47-63	1.3	75	1.00
ANP100-054P1-277-075	100-277	47-63	1.3	54	1.4
ANP100-086P1-277-060	100-277	47-63	1.3	86	0.70
ANP100-060P1-277-060	100-277	47-63	1.3	60	1.00
ANP100-057P1-277-040	100-277	47-63	1.3	57	0.70
ANP100-040P1-277-040	100-277	47-63	1.3	40	1.00

9. These products are suitable for use with stationary type end products only.
10. The output leads of these products shall be made inaccessible in the end product.

Component sign accessories, LED drivers, isolated output, Models ANP151-75P1-277, ANP151-110P1-277, ANP151-154P1-277, ANP151-220P1-277 and ANP151-440P1-277; LED drivers Class 2 isolated output, Models ANP106-12P1-277, ANP106-24P1-277, ANP106-30P1-277, ANP106-36P1-277 and ANP106 -48P1-277; and LED drivers Class 2 isolated output ANP105-

35P1-277-100, ANP105-24P1-277-100, ANP105-24P1-277-075, ANP105-42P1-277-060, ANP105-24P1-277-060, ANP105-12P1-277-060, ANP105-56P1-277-040, ANP105-40P1-277-040, ANP105-30P1-277-040, ANP105-24P1-277-040 and ANP105-24P1-277-025. All models may or may not be followed with alpha characters.

1. These products are provided with the following electrical ratings:

Model No.	Input Voltage (V)	Frequency (Hz)	Input Current	Output Voltag (Vdc)	Output Current (A)
ANP151-75P1-277	100-277	47-63	1.8	75	2.05
ANP151-154P1-277	100-277	47-63	1.8	154	1.0
ANP151-110P1-277	100-277	47-63	1.8	110	1.4
ANP151-220P1-277	100-277	47-63	1.8	220	0.7
ANP151-440P1-277	100-277	47-63	1.8	440	0.35
ANP106-12P1-277	100-277	47-63	1.5	12	5
ANP106-24P1-277	100-277	47-63	1.5	24	4.16
ANP106-30P1-277	100-277	47-63	1.5	30	3.33
ANP106-36P1-277	100-277	47-63	1.5	36	2.78
ANP106-48P1-277	100-277	47-63	1.5	48	2.08
ANP105-35P1-277-100	100-277	47-63	1.5	35	2.80
ANP105-24P1-277-100	100-277	47-63	1.5	24	4.16
ANP105-24P1-277-075	100-277	47-63	1.5	24	3.20
ANP105-42P1-277-060	100-277	47-63	1.5	42	1.40
ANP105-24P1-277-060	100-277	47-63	1.5	24	2.50
ANP105-12P1-277-060	100-277	47-63	1.5	12	5.00
ANP105-56P1-277-040	100-277	47-63	1.5	56	0.70
ANP105-40P1-277-040	100-277	47-63	1.5	40	1.00
ANP105-30P1-277-040	100-277	47-63	1.5	30	1.40
ANP105-24P1-277-040	100-277	47-63	1.5	24	1.67
ANP105-24P1-277-025	100-277	47-63	1.5	24	1.04

2. In the end product, power supply spacing to other heat producing components shall be at least 25.4 mm (1 in) from end to end and 101.6 mm (4 in) from side to side.
3. The ANP-151 and ANP105 Series products are suitable for use in dry damp and wet locations. The ANP106 series products are suitable for use in dry or damp locations only.
4. These products are suitable for factory wiring only.
5. The suitability of input/output leads and the wring shall be determined in end product use.
6. For ANP151 series and ANP106-48P1-277, the load powered by these products shall be enclosed in the end product applications.
7. For Canada, class 2 output terminals operating at over 42.4 V must be made inaccessible and be marked with their voltage.
8. The outputs of ANP106 and ANP105 drivers comply with the Class 2 requirements of NEC. However, for the models noted in the table above where the output of the products exceed the maximum Class 2 limit of 42.4V of the Canadian Electrical Code (CEC), the ultimate acceptance of the products for use in Canada shall be determined in the end product.
9. Model ANP106 series products are suitable for use with stationary type end products only.
10. For Canada, class 2 output terminals operating at over 42.4 V must be made inaccessible and be marked with their voltage.
11. For model ANP106 series, each output voltage of these products comply with the Class 2 reuirements of NEC. However, the measured output of these products exceed the maximum Class 2 limit of 42.4V of the Canadian Electrical Code (CEC). The ultimate acceptance of these products for use in Canada hall be determined in the end product.

INVENTRONICS (HANGZHOU) CO LTD E354416

3 FL NORTH BLDG
368 LIUHE RD
BINJIANG DISTRICT
HANGZHOU, ZHEJIANG 310052 CHINA

Class 2 power supply, Model EUV-076S012ST-xxxx, where xxxx can be any alphanumeric character or blank.

1. These power supplies have been evaluated to Class 2 output requirements for dc circuits with a maximum of one Class 2 output.
2. These products are provided with the following electrical ratings:

Model	Input (V, Hz, A, W)	Max Output (V, A, W)
EUV-076S012ST-xxxx	100-277; 50-60; 0.8; 75	12.0; 5.00; 60

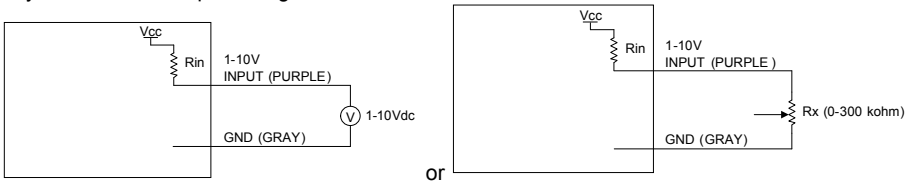
3. In the end product, power supply spacing to other heat producing components shall be at least .4 mm (1 in.) from end to end, and 101.6 mm (4 in.) from side to side.
4. These products shall be enclosed in the end product.
5. These products are suitable for factory wiring only.
6. These products have been tested in oven at min 40ºC ambient, with the maximum case temperature, Tc of 88.7ºC.
7. These products are intended for use in dry or damp locations only.
8. The suitability of input/output leads and the wring shall be determined in end product use.
9. These products are constant voltage type that requires the proper number of LED modules and controllers that do not exceed the maximum output current.
10. These LED drivers are intended to be operated on a maximum 20 A branch circuit.
11. These LED drivers are intended for use in fixed equipment only.

Class 2 Output power supply, Model EUV-096S024ST-xxxx, where “xxxx” can be any alphanumeric character or blank.

1. These power supplies have been evaluated to Isolated LPS output requirements for dc circuits with a maximum of one Class 2 output.
2. These products are provided with the following electrical ratings:

Model No.	Input Voltage (Vac)	Input Freq (HZ)	Input Current (A)	Output Voltage (V dc)	Output Current (A)	Max. Output Power (W)
EUV-096S024ST-xxxx	100-277	50/60	1.2	24	0~4	96

3. In the end product, power supply spacing to other heat producing components shall be at least 25.4 mm (1 in) from end to end and 101.6 mm (4 in) from side to side.
4. These products shall be enclosed in the end product.
5. These products are suitable for factory wiring only.
6. These products are intended for use in a dry or damp locations only.
7. The suitability of input/output leads and the wring shall be determined in end product use.
8. These LED drivers are of the constant voltage type that requires the proper number of LED modules and controllers that does not exceed the maximum output current.
9. These LED drivers are provided with a multi-conductor AWM wire consisted of two (purple and gray) 22 AWG, min 80°C, min 300 V leads for connecting a dimmer to vary the output current. The connecting diagram is shown as below. The leads are investigated for use in Class 2 output circuit and cannot be interconnected with the other output of these drivers. The dimmer may be a 0-10 Vdc input voltage or a 0-300 kohm variable resistor.



ITW Plexus / Devcon E320311

30 ENDICOTT ST
DANVERS, MA 01923

Polymeric Adhesive System, Models AO420 or Composite Welder FS, MA300 or Plastic Welder, MA830 or Metal Welder, MA205HV, MA420FS Blue, MA420FS Black, MA832GB.

1. These adhesive systems may be used for securement of any combination of surfaces listed in Table A. The end-product operating temperature is not to exceed the lowest temperature rating of the combination.
2. These adhesive systems are also suitable where exposed to high humidity and occasional exposure to water. The min temperature rating is -35 C (-31 F).
3. These adhesive systems are suitable for application to smooth flat surfaces, except where another surface configuration is noted.
4. When considering the use of the adhesive system, the strength of the adhesive joint used to position critical parts shall be capable of withstanding at least four times the max force in the as-received condition that might be applied to the joint in the end-product application.
5. The bond strength values shown in Table A were determined in accordance with ASTM D1002, Standard Test Method for Strength Properties of Adhesives in Shear by Tension Loading.
6. The materials have been evaluated for adhesive compatibility and stability only. No electrical or flammability tests have been performed. The engineer must consider the need to investigate the part for other than the properties investigated, in accordance with the applicable end-product standard and/or the requirements outlined in UL 746C, Standard for Material Used in Electrical Equipment Evaluations.
7. The suitability for the use when exposed to oil, chemicals, refrigerant, soap, X-rays, ultraviolet and the like has not been determined by this investigation, unless otherwise noted.
8. The average as-received bond strength values are as follows. When determining the suitability of the adhesive system in accordance with Item 4, the bond strength value should be based on the lowest average as-received bond strength value of the material combination.

Cat. Nos. AO420 or Composite Welder FS:

Substrate	Max Operating Temp.C (F)	As-Received Bond Strength (PSI)
AL./AL.	71 (160)	2750.0
AL./SS.	71 (160)	2538.0
AL./Fiber Glass	71 (160)	1794.0

AL./ABS	71 (160)	544.0
SS./SS.	71 (160)	3225.0
SS/Fiber Glass	71 (160)	1981.0
Fiber Glass/Fiber Glass	71 (160)	1044.0
Fiber Glass/ABS Plastic	71 (160)	508.0

Cat. Nos. MA300 or Plastic Welder:

Substrate	Max Operating Temp. C (F)	As-Received Bond Strength (PSI)
AL./AL.	71 (160)	2325.0
AL./SS.	71 (160)	2288.0
AL./Fiber Glass	71 (160)	1638.0
SS./SS.	71 (160)	3250.0
SS/Fiber Glass	71 (160)	1244.0
Fiber Glass/Fiber Glass	71 (160)	1106.0
Fiber Glass/ABS plastic	71 (160)	558.0

Cat. Nos. MA830 or Metal Welder:

Substrate	Max Operating Temp. C (F)	As-Received Bond Strength (PSI)
AL./AL.	71 (160)	2613.0
AL./SS.	71 (160)	2169.0
AL./Fiber Glass	71 (160)	1369.0
AL./ABS	71 (160)	475.0
SS./SS.	71 (160)	2350.0
SS./Fiber Glass	71 (160)	1531.0
SS./ABS	71 (160)	494.0
Fiber Glass/Fiber Glass	71 (160)	963.0
Fiber Glass/ABS Plastic	71 (160)	500.0

Cat. Nos. MA205HV:

Substrate	Max Operating Temp. C (F)	As-Received Bond Strength (PSI)
AL./AL.	71 (160)	1902.79
AL./SS.	71 (160)	1788.73
AL./Fiber Glass	71 (160)	1442.54
AL./ABS	71 (160)	590.99
SS./SS.	71 (160)	1823.39
Fiber Glass/Fiber Glass	71 (160)	1142.78
Fiber Glass/ABS Plastic	71 (160)	616.40

Cat. Nos. MA420FS Blue:

Substrate	Max Operating Temp. C (F)	As-Received Bond Strength (PSI)
AL./AL.	71 (160)	1739.64
AL./SS.	71 (160)	1760.05
AL./Fiber Glass	71 (160)	976.14
AL./ABS	71 (160)	618.89
SS./SS.	71 (160)	1788.74
Fiber Glass/Fiber Glass	71 (160)	835.56
Fiber Glass/ABS Plastic	71 (160)	609.46

Cat. Nos. MA420FS Black:

Substrate	Max Operating Temp. C (F)	As-Received Bond Strength (PSI)
AL./AL.	71 (160)	1636.69
AL./SS.	71 (160)	1766.58
AL./Fiber Glass	71 (160)	1280.51
AL./ABS	71 (160)	507.37
SS./SS.	71 (160)	1965.15
Fiber Glass/Fiber Glass	71 (160)	1025.53
Fiber Glass/ABS Plastic	71 (160)	503.85

Cat. Nos. MA823GB:

Substrate	Max Operating Temp. C (F)	As-Received Bond Strength (PSI)
AL./AL.	71 (160)	1572.20
AL./SS.	71 (160)	1775.92
AL./Fiber Glass	71 (160)	1330.90
AL./ABS	71 (160)	503.09
SS./SS.	71 (160)	1944.19
Fiber Glass/Fiber Glass	71 (160)	1110.47
Fiber Glass/ABS Plastic	71 (160)	509.93

JARVIS CORP E474780

2000 W Fulton St
Ste. F321.
Chicago, IL 60612

LED driver, isolated output, Models JAR100-142P1-277-100, JAR100-107P1-277-075, JAR100-057P1-277-040.

1. The output of these power supplies have been evaluated to other than Class 2 output requirements for dc circuits only.
2. These products are suitable for use in dry and damp locations.
3. These products are suitable for factory wiring only.
4. These components shall be installed in compliance with the enclosure and mounting requirements of the ultimate application.
5. These products are to be operated on a max. 20 A branch circuit.
6. The suitability of input/output connections is also to be considered in end product use.
7. These drivers were tested at the maximum ambient temperatures of 50 degree C.
8. These products are provided with the following electrical ratings:

Model	INPUT			OUTPUT	
	V	HZ	A	VDC	A
JAR100-142P1-277-100	100-277	47-63	1.3	142	0.70
JAR100-107P1-277-075	100-277	47-63	1.3	107	0.70
JAR100-057P1-277-040	100-277	47-63	1.3	57	0.70

9. These products are suitable for use with stationary type end products only.
10. The output leads of these products shall be made inaccessible in the end product.

JEWELITE WAGNER ZIP-CHANGE INC E90751

3100 HIRSCH ST.
MELROSE PARK, IL 60160

Aluminum Reinforced Sign Face Trim, Cat. Nos. Jewelite, Jewelite Plus.

1. The Jewelite trim and Jewelite Plus, bonded to a thermoplastic sign face is not to be considered as providing a weatherproof enclosure, therefore all internal components shall be suitable for outdoor use or shall be completely enclosed and protected from weathering.
2. The following combination of sign trims bonded to sign faces were subjected to oven, freezing and humidity tests:

Sign Face Generic Material	Solvent	Final Bond Adhesive	Sign Trim Generic Material
Methyl Methacrylate (Acrylic)	Weld-On #4 (Methy Chloride)	Weld-On #16	Cellulose Acetate Butyrate
(Polycarbonate)	None	Weld-On #55	Cellulose Acetate Butyrate
(Polycarbonate)	None	Weld-On #58	Cellulose Acetate Butyrate
(Polycarbonate)	None	Lord Adhesive #7550 A/C	Cellulose Acetate Butyrate

If any other combination is used, the above mentioned tests should be repeated.

3. A 720 h ultraviolet radiation test was conducted on the subject sign trim in order to determine the effects of ultraviolet (UV) radiation on outdoor signs employing the Jewelite or Jewelite Plus trim. Flammability and electrical characteristics of the cellulose acetate butyrate sign trim have not been evaluated.
4. The suitability of internal wiring and connections should be evaluated in the end-use application.
5. All metal is painted or plated to provide a means for protection against corrosion.
6. Components that are employed in the end product should be evaluated with respect to suitability of construction, test performance, electrical rating, mounting and operating temperature.
7. Jewelite and Jewelite Plus is suitable for acrylic and polycarbonate sign faces for indoor or outdoor use. It shall be applied in accordance with the instructions.

JIANGSU SINO OPTO CO LTD E342212

WENZHUANG RD
YIXING ECONOMIC DEVELOPMENT ZONE
YIXING, JIANGSU 214200 CHINA

LED Tubes, Cat. No. SN-T.

1. These products are suitable for use in dry, or damp locations.

2. The lamp is maintained not less than 2 inches (50.8 mm) from combustible materials such as wood or plastic and parts that are a source of heat or arcing. Spacing from lampholder to sign housing is zero.
3. This LED lamp is not for use with internally shunted bipin lampholders used with fluorescent instant start lamps.

LED Tubes, Cat. No. SN-T8-4.

1. These products are suitable for use in dry locations.
2. The lamp is maintained not less than 2 inches (50.8 mm) from combustible materials such as wood or plastic and parts that are a source of heat or arcing. Spacing from lampholder to sign housing is zero.
3. This LED lamp is not for use with internally shunted bipin lampholders used with fluorescent instant start lamps.
4. These components are not suitable for use with dimmers.
5. The lamp pins are connected to power supply only at one end, the other end serves as means of mechanical support only.

JIANGYIN HRL NEW MATERIAL TECHNOLOGY CO LTD E473575

188, Huasheng Road, Huashi Industrial Zone
Jiangyin City, Jiangsu CHINA

Structural Panel, designated "ACM UB."

1. Illustrate the proper cutting, pointing, installation, component securement and securement to a building surface of a structural panel.
2. Structural panels have been evaluated for wet location with 50°C ambient.
3. Structural panels may be employed as external decorative faces and are acceptable for support of complete electrical enclosures, plastic faces, and moldings that are reliably secured to the panel.
4. Structural panels are not suitable to be used as the enclosure of bare live parts or wiring.
5. Nuts and bolts must be used when fastening a ballast or transformer weighing more than 7-1/2 lbs (3.4 kg); and
6. A letter made from a structural panel shall have at least two points of support and shall have no point more than 10 in. from a point of support.

JIANGYIN HUAHONG ALUBOND METAL INDUSTRIAL CO LTD E353283

70 CHENGLU RD
HUASHI TOWN
JIANGYIN, JIANGSU 210041 CHINA

Structural Panel, Model Aluminum composite panel.

1. Suitable for use in dry, damp and wet locations.
2. Suitable for use in decorative and sign body applications only.
3. The panel is not suitable for use in component mounting and support applications.
4. Rain tightness shall be determined in the end product.
5. Electrical spacings and bonding for grounding shall comply with the end product standard.
6. A letter made from a structural panel shall have at least two points of support and shall have no point more than 10 in. from a point of support.
7. The panel core materials are rated Polyethylene. Consideration will need to be given to end product thermal spacings from heat producing components or temperature test.
8. These materials are available as unpainted aluminum or pre-painted aluminum.
9. This material has not been investigated for the securement of conduit, electrode housings or the like, suitability shall be determined in the end product.
10. Not suitable for use in terminating conduit.
11. The panel is rated 75°C. Suitability shall be determined in the end product when subjected to higher than the rated temperature.

JIANGYIN PIVOT DECORATIVE MATERIALS CO LTD E341462

PIVOT INDUSTRIAL PARK
9TH HUAXI VILLAGE
HUASHI TOWN
JIANGYIN, JIANGSU 214421 CHINA

Structural Panel, Model Aluminum composite panel.

1. Suitable for use in dry, damp and wet locations.
2. Suitable for use in decorative and sign body applications only.
3. Suitable for use in component support applications. When threaded directly into the panels, screws shall be no smaller/finer than No 10. Suitability of smaller and/or finer screws shall be determined.
4. Rain tightness shall be determined in the end product.
5. Electrical spacings and bonding for grounding shall comply with the end product standard.
6. Suitable for use in terminating conduit in 1/2 in Trade Size.
7. A letter made from a structural panel shall have at least two points of support and shall have no point more than 10 in. from a point of support
8. These materials are rated 50∘C, consideration will need to be given to end product thermal spacings from heat producing components or temperature test.
9. These materials are available as unpainted aluminum or pre-painted aluminum.

JIAXING LONVER ELECTRONICS CO LTD E470866

2F NO 7 BUILDING
BOLMA INDUSTRIAL PARK, WEST ZHONGSHAN ROAD
XIUZHOU DISTRICT

JIAXING, ZHEJIANG 31400 CHINA

Sign component flasher, Model SCR16.

1. The suitability of the mounting means shall be determined in the end use.
2. This devices is rated as specified below.

Catalog Number	Input Rating	Output Rating	Type Load
SCR16	120 V ac, 2.5 A	55 V ac, 3.2 A	LED/600 W Max.

3. This product have been evaluated for use in dry location. When used in damp and wet location, it should be evaluated in the end products.
4. This is open-type devices with a metal mounting plate. A suitable enclosure shall be provided in the end use and the suitability of the bonding means through the mounting means shall be determined in the end use. Grounding test and mounting means should be determined in the end products.
5. These products were evaluated for use at ambient temperature of 40°C max. The need for conducting temperature testing in the end product shall be considered where the units are installed in a higher ambient.
6. Impact test, leakage current test, strain relief test, mold stress relief test, conduit knockout and twistout test should be determined at the end products.

JINBO KECHUANG ELECTRONICS CO LTD **E350225**
343 YANHE RD EAST
XIANGZHOU
ZHUHAI, GUANGDONG 519001 CHINA

Class 2 LED Drivers, Models JLV-12060KA-U and JLV-12030KA-U.

1. The outputs of the units comply with Class 2 criteria of UL 1310 and CSA C22.2 No. 223-M91.
2. The device has been evaluated for dry and damp locations use only.
3. The LED Drivers are provided with 18 AWG input leads and 18 AWG output leads. The suitability of the wiring and the need for a suitable enclosure shall be considered in the end product.
4. The housings of the LED Drivers do not qualify as Enclosure, and Impact Test has not been conducted. The suitability of the housing as ultimate enclosure shall be determined in the end use application.
5. Refer to below table for the maximum temperature measured on housing outside surface during the Temperature Test when shifted to Ambient Temperature 50□C. The necessity of repeated Temperature Test shall be determined in each end use application.

Models	Maximum temperature measured on housing outside surface
JLV-12060KA-U	73
JLV-12030KA-U	73

6. The LED Drivers are of the constant voltage type that requires the proper number of LED modules and controllers that does not exceed the maximum output current (or maximum output wattage).
7. A temperature test is not required if the LED drivers are spaced at least 1 in. apart end to end or 4 in. apart in other directions. Spacing to plastic shall be 1 inch minimum and to metal may be zero in. The need for a temperature test shall be considered if the LED driver is mounted closer than the referenced spacings. For reference these LED drivers have been tested in a 50 C ambient and maximum case temperature is 73C.

LED power supplies, Models JLV-12060KA-US, JLV-12100KA-US, JLV-12120KA-US, JLV-12150KA-US.

1. These units have been evaluated for LPS output for model JLV-12060KA-US; Non-LPS output for models JLV-12100KA-US, JLV-12120KA-US and JLV-12150KA-US.
2. The products have been tested at 50 ºC ambient with rated load. The measured surface temperatures under specified ambient conditions were as tabulated below. Acceptable operation at a higher temperature should be determined in end products.

Model	Housing outside above main transformer	Housing outside under main transformer
JLV-12060KA-US	95.96	90.73
JLV-12100KA-US	101.69	100.52
JLV-12120KA-US	91.82	86.55
JLV-12150KA-US	101.91	97.62

3. These products are intended for dry, damp or wet location use.
4. The products are provided with input and output lead wires. The lead wire length, routing and splicing shall comply with the requirements of the end-use application.
5. These units are not provided with a mounting means. The method of mounting shall be determined in the end-use application.
6. The products have housing that do not qualify as being enclosure, the suitability of the enclosure as ultimate enclosure shall be determined in the end use application.
7. The units are intended for factory installed only.
8. The suitability of grounding means shall be determined in the end-use application.
9. The output of all models has been evaluated as isolated SELV.
10. When used in fixed Signs, spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
11. When used in fixed Signs, this product shall be located not less than 1 inch (25.4mm) apart when arranged end-to-end, and not less than 4 inches (102mm) apart when arranged otherwise.
12. Do not ground the secondary circuit to the metal housing of this power unit.

JKL COMPONENTS CORP **E339601**
13343 PAXTON ST
PACOIMA, CA 91331

Class 2 LED Modules, designated as ZAF-336-24, ZAF-486-24, ZAF-636-24, ZAF-936-24, ZAF-1236-24; may be followed by additional suffixes for color temperature.

1. These products are only suitable for connection to a Class 2 power source rated 24 Volt DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuit and is rated greater than 24V DC.
3. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 24 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means

LED Illumination Modules, ZM-4047-CW, ZM-1957-CW, ZM-1543-R.

1. Each Class 2 LED Modules is only suitable for connection to a Class 2 power source, max. 24 Volt dc or less. .
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits.
3. Class 2 LED modules, rated max. 12 Watts per LED unit or less. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at max. 24 Volt DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.

Class 2 LED Modules, Cat. No. ZWF-XXXX-XX, where XXXX-XX will be replaced with alpha-numeric digits that indicated length and color.

1. These Class 2 LED modules are only suitable for connection to a Class 2 power source, rated 15 Volt or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits.
3. These Class 2 LED modules are rated max. 2 Watts per LED module. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at max. 15 Volts or less.
5. These products are not required to be enclosed or protected from the weather in the end product.

Class 2 LED Modules, Cat. No. ZWF-337-24CW, ZWF-438-24CW, ZWF-638-24CW, ZWF-939-24CW, ZWF-1239-24CW, ZWF-337-24WW, ZWF-438-24WW, ZWF-638-24WW, ZWF-939-24WW, ZWF-1239-24WW.

1. Each Class 2 LED Module is only suitable for connection to a Class 2 power source, max. 24 Volt dc or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits.
3. Class 2 LED modules rated max. 12 Watts per LED unit or less. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at max. 24 Volt DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.

JOHNSON WALKER & ASSOCIATES L LC, DBA IMPERIAL PLASTICS MFG E225580

4337 MILL ST
NORTH BRANCH, MI 48461

Aluminum Reinforced Sign Face Trim, designated Signatrim.

1. Acceptable for use in dry, damp and wet locations.
2. Water exclusion must be determined in the end product.
3. Minimum 5 cm (2 in.) spacing from heat producing components required.
4. The specified solvents are continuously applied to edge of acrylic or polycarbonate sign face. Additional specified adhesives may be applied for the final bond.

Sign Face Generic Material	Solvent	Final Bond Adhesive	Sign Trim Generic Material
Methyl Methacrylate (Acrylic)	Methylene Chloride	Methylene Chloride	Cellulose Acetate Butyrate
Methyl Methacrylate (Acrylic)	Weld-ON #4 Methylene Chloride	Weld-ON # 16	Cellulose Acetate Butyrate
Polycarbonate	Transco Channel Bond	Transco Channel Bond	Cellulose Acetate Butyrate

5. The suitability of the securement or “fit” of this trip cap shall be determined in the end product. Screws or solvents are considered acceptable for permanent mounting.

JS LED TECHNOLOGY CORP, DBA JS LED POWER INC E308859

1318 MAINE AVE
BALDWIN PARK, CA 91706

Class 2 LED Modules, Cat. No. JE-00ABCD-XY-EZ Series, where A, B, C, D, E, Z, X and Y may be any alphanumeric characters, or suffixes may be blank.

1. These products are only suitable for connection to a Class 2 power source rated 12 Volt AC/DC or less.
2. These products are each rated max. 24 watts per module. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. These products are suitable for use in dry, damp and wet locations.
4. These products are not required to be enclosed or protected from the weather in the end product.
5. When these products are used in applications other than signs or outline lighting, the need to conduct a temperature test shall be considered.

Class 2 Power Supply, Cat. Nos. MJ-ABCD-WXYZ Series, where AB is 12, and CD-WXYZ is 20-1670, 40-3300 or 60-5000.

1. These power supplies have a maximum of one Class 2 outputs. The output of these power supplies have been evaluated to Class 2 output requirements for dc circuits.
2. These products with Class 2 outputs are suitable for use in dry and damp locations only.
3. In the end product, power supply spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
4. These products have not been subjected to Leakage Current, Strain Relief, and Impact Tests. The need to conduct these tests shall be considered in the product. In addition to these tests, the need to conduct the Mold Stress test on model MJ-1260-500 shall be considered in the end product.
5. These products shall be provided with additional enclosure when used in the end product.

LED illumination modules, Class 2 LEDs, Cat. Nos. Cat. Nos. JE-001X (HS-F504BR4TN), JE-002X (HS-F504BN4TN), JE-003X (HS-F504BB4TN), JE-004X, JE-005X (HS-F504BY4TN), JE-006X (HS-R483AR4CY or HS-R484CN4CY or HS-R484CB4CY), where X may be replaced with A, B, G, M, R or W.

1 These products are only suitable for connection to a Class 2 power source, rated 15 Volt (DC or AC) or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit.
3. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations.
5. These products are not required to be enclosed or protected from the weather in the end product.

Class 2 LED Controllers, HM-12RGB5A3-XY Series, where suffix X and Y may be any alphanumeric characters or blank for marketing purpose only.

1. These products are only suitable for connection to the output of a UL Listed or R/C Class 2 Power Supply rated max 24VDC.
2. These products are rated per the Table below. When units are connected to a Class 2 circuit, their ratings are to be limited to draw a total wattage of no greater than the secondary current rating of each Class 2 power supply.

Model	Input - Class 2	Output - Class 2	
HM-12RGB5A3-XY Series	12 - 24 Vdc	10 – 24 V	24 W

3. These products are suitable for use in dry, and damp.
4. These products are each rated max. 24 watts. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.

Class 2 Power Supply, Models MJ-1220, MJ-1240 and MJ-1260.

1. These power supplies have been evaluated to Class 2 output requirements for dc circuits with a maximum of one Class 2 output.
2. These products are provided with the following electrical ratings:

Model Number	Input Voltage (V)	Input Current (A)	Frequency (Hz)	Output Voltage (Vdc)	Output Current (mA)
MJ-1260	110~240, 277	1	50/60	12	500
MJ-1240	110~240	1	50/60	12	3.3
MJ-1220	110~240	1	50/60	12	1.67

3. In the end product, power supply spacing to other heat producing components shall be at least 25.4 mm (1 in.) from end-to-end, and 101.6 mm (4 in.) from side-to-side.
4. These products shall be enclosed in the end product.
5. These products are suitable for factory wiring only.
6. These products are intended for use in a dry or damp locations only.
7. The suitability of input/output leads and the wiring shall be determined in end product use.
8. Model MJ-1260 shall be subjected to a temperature test in the end product and the maximum enclosure temperature is not to exceed 79.4°C for this power supply.
9. Models MJ-1220 and model MJ-1240 shall be subjected to a temperature test in the end product and the maximum enclosure temperature is not to exceed 84°C for these power supplies.

LED drivers, isolated output, Models MJ-1230, MJ-2430, MJ-2460, MJ-12100L, MJ-24100L, MJ-12150, MJ-12200, MJ-24200, MJ-60-5000-CN, MJ-60-5000-ON, MJ-60-5000-OJ, MJ-60-2500-CN, MJ-60-2500-ON, MJ-60-2500-OJ, MJ-60-1250-CN, MJ-60-1250-ON, MJ-60-1250-OJ, MJ-30-2500, MJ-30-1250 and MJ-30-0625.

1. These products are provided with the following electrical ratings:

Model No.	Input Voltage (Vac)	Input Freq (HZ)	Input Current (A)	Nominal Output Voltage (V dc)	Nominal Output Current (A)
MJ-1230	100-240	50/60	0.7	12	2.5
MJ-2430	100-240	50/60	0.7	24	1.25
MJ-2460	100-240	50/60	1.4	24	2.5
MJ-12100L	100-240	50/60	1.4	12	8.4
MJ-24100L	100-240	50/60	1.4	24	4.2
MJ-12150	110-240	50/60	2	48	3.125
MJ-12200	100-240	50/60	2.8	12	16.5
MJ-24200	100-240	50/60	2.8	24	8.4
MJ-60-5000-CN, MJ-60-5000-ON, MJ-60-5000-OJ	100-277	50/60	0.73	5-12	5
MJ-60-2500-CN, MJ-60-2500-ON, MJ-60-2500-OJ	100-277	50/60	0.70	14-24	2.5
MJ-60-1250-CN, MJ-60-1250-ON, MJ-60-1250-OJ	100-277	50/60	0.69	34-48	1.25
MJ-30-2500	100-277	50/60	0.35	5-12	2.5

MJ-30-1250	100-277	50/60	0.35	17-24	1.25
MJ-30-0625	100-277	50/60	0.35	39-48	0.625

2. In the end product, power supply spacing to other heat producing components shall be at least 25.4 mm (1 in.) from end-to-end, and 101.6 mm (4 in.) from side-to-side.
3. These products shall be enclosed in the end product.
4. These products are suitable for factory wiring only.
5. These products are intended for use in a dry or damp locations only.
6. The suitability of input/output leads and the wring shall be determined in end product use.
7. Models MJ-60-5000-CN, MJ-60-2500-CN, MJ-60-1250-CN, MJ-60-5000-ON, MJ-60-2500-ON and MJ-60-1250-ON shall be subjected to a temperature test in the end product, where the maximum enclosure temperature is not to exceed 67.9°C.
8. The load powered by these products shall be enclosed in the end product applications.

LED Drivers, Isolated Class 2 Output, Models MJ-1260 and MJ-2460.

1. These products are provided with the following electrical ratings:

Model No.	Input Voltage (VAC)	Input Freq (HZ)	Input Current (A)	Output Voltage (Max. V dc)	Output Current (Max. A)
MJ-1260	100-240	50/60	1.4	12	5
MJ-2460	100-240	50/60	1.4	24	2.5

2. In the end product, power supply spacing to other heat producing components shall be at least 25.4 mm (1 in) from end to end and 101.6 mm (4 in) from side to side.
3. These products shall be enclosed in the end product.
4. These products are suitable for factory wiring only.
5. These products are intended for use in dry or damp locations only.
6. These power supplies have one dc output.
7. Only the output of models MJ-1260 and MJ-2460 are each Class 2.
8. The suitability of input/output leads and the wring shall be determined in end product use.
9. These drivers were tested at 40ºC max. ambient temperature. The need for conducting temperature test shall be considered in the end product applications.

LED drivers, isolated non-Class 2 output, Models MJ-12100, MJ-12150, MJ-24100, MJ-24150, MJ-12200 and MJ-24200.

1. These products are provided with the following electrical ratings:

Model No.	Input Voltage (VAC)	Input Freq (HZ)	Input Current (A)	Output Voltage (Max. V dc)	Output Current (Max. A)
MJ-12100	100-240	50/60	1.4	12	8.4
MJ-24100	100-240	50/60	1.4	24	4.2
MJ-12150	100-240	50/60	1.5	12	12.5
MJ-24150	100-240	50/60	1.5	24	6.25
MJ-12200	100-240	50/60	2.8	12	16.5
MJ-24200	100-240	50/60	2.8	24	8.25

2. In the end product, power supply spacing to other heat producing components shall be at least 25.4 mm (1 in) from end to end and 101.6 mm (4 in) from side to side.
3. These products shall be enclosed in the end product.
4. These products are suitable for factory wiring only.
5. These products are intended for use in dry or damp locations only.
6. These power supplies have one dc output.
78. The suitability of input/output leads and the wring shall be determined in end product use.
8. These drivers were tested at 40ºC max. ambient temperature. The need for conducting temperature test shall be considered in the end product applications.

LED drivers, Class 2 LED panels, designated as SZ-PLAWBC Series, where A, B and C may be any alphanumeric numeric characters.

1. These products are only suitable for connection to a Class 2 power source rated 24 Volt DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuit.
3. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. The ultimate installation of these panels shall be determined in the end product applications.

Component sign accessories, non-extendable portable flexible lighting products employing LED lamps, Designated as "Flex Light".

1. These products are suitable for use in dry and damp locations.
2. When these products are used in applications other than signs the need to conduct a temperature test shall be considered.
4. The suitability of wiring connection of these products shall be determined in the end product applications.
5. These products were not subjected to flexing test or other mechanical bending tests. The need for additional applicable mechanical flexing or bending tests shall be considered in the end product.
6. These devices are intended for factory installation only and are not intended for field wiring, field cutting or field splicing.

7. The operation temperature of flexible light body shall not exceed 60 °C based on the functional use temperature for portable products.
8. These components shall be provided with a means for mounting in the end use application.
9. The suitability of installation of these products shall be determined in the end product applications.
10. These products shall be enclosed in the end product applications.
11. The need to conduct end cap pull, insulation resistance, crush, grounding and leakage tests shall be determined in the end product applications.

Class 2 LED Modules, Cat. No. JDS-XXXX-YZ, where XXXX may be 3535, 5050, 5630, 2835; Y may be 1 or 3 and Z may be T or blank.

1. These products are only suitable for use in dry, damp and wet locations and supplied with a Class 2 power source rated 12 Volt DC or less.
2. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. These products are not required to be enclosed or protected from the weather in the end product.
4. These products may be secured in place in the end product by any means available.

JUSTIN INC E235322

2663 N LEE AVE
SOUTH EL MONTE, CA 91733

Class 2 Power Supply, Model 601-12DC, 601-12DCR, 101-24DCR, C2240-12DCR, C2240-24DCR, C2240-12, C2240-12-240, C2240-24, and C2240-24-240.

8. These power supplies have been evaluated for use in LED signs.
9. The power supplies have outputs that individually comply with Class 2 circuit requirements.
10. These units are suitable for use in dry and damp locations without a need for an additional enclosure.
11. The output of this power source shall not be connected to any other power source or provide power to components connected to another power source.
12. These products shall have conductors entering, leaving or residing in the wiring compartment or junction box extending at least 150 mm (6 in) inside.

Class 2 Power Supply, Model 601-12DC-LC, 601-12DCR-LC, 101-24DCR-LC, C2240-12DCR-LC, C2240-24DCR-LC, C2240-12-LC, C2240-12-240-LC, C2240-24-LC, and C2240-24-240-LC.

1. These power supplies have been evaluated for use in portable LED signs.
2. The power supplies have outputs that individually comply with Class 2 circuit requirements.
3. These units are suitable for use in dry and damp locations without a need for an additional enclosure.
4. The output of this power source shall not be connected to any other power source or provide power to components connected to another power source.
5. The attachment plug on the end of the power supply cord is not to be removed.

KASON INDUSTRIES INC E363080

57 AMLAJACK BLVD
NEWNAN, GA 30265

Power supplies with Class 2 output circuits, Model 61815000200.

1. The product shall be installed in compliance with the mounting, spacing, casualty, and segregation requirements of the ultimate application.
2. These units are provided with a Class 105(A) insulation system.
3. Input leads are Style 1015, No. 18 AWG, rated VW-1, 600 V, 105(C. Output leads are Style 1430, No. 18 AWG, rated VW-1, 300 V, 105°C. The suitability of the input and output connections shall be determined in each end use application.
4. These power units are intended for dry or damp location use only.5. Strain Relief and Impact Tests have not been investigated. The suitability of the enclosure as ultimate enclosure shall be determined in the end-use application.
6. The polymeric enclosure of each unit has not been evaluated as ultimate enclosure. The flame class of polymeric enclosure of unit is V-2 and the necessity of additional fire barriers shall be determined in end product.
7. In the end product, power supply spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
8. The output of the power supply exceeds the Class 2 output limits. This shall be considered in the end product.

KBJ SIGN INC E350092

1800 W ADAMS BLVD
LOS ANGELES, CA 90018

Class 2 LED Modules, KPL, FPL, KR3.

1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuit and is rated greater than 12 V DC.
3. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.

LED Class 2 Module, KBJ-301, KBJ-303, KBJ-301-S, KBJ-303-S, KBJ-3RGB, KBJ-401, KBJ-403-S, KBJ-4RGB, KBJ-201T, KBJ-201S, KBJ-203T, KBJ-203S, KBJ-301MT, KBJ-301M, KBJ-303M, KBJ-301L, KBJ-303L, KBJ-301BB, KBJ-303P, KBJ-303FP..

1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.

3. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Volts DC or less.
4. These products are not required to be enclosed or protected from the weather in the end product.
5. These products may be secured in place in the end product by any means available.

KEYSTONE TECHNOLOGIES LLC E356111
PO BOX 246
AMBLER, PA 19002

Class 2 LED Modules, Models KTLD-80-1-24V, KTLD-60-1-12V, KTLD-60-1-24V, KTLD-60-1-24V-SC, KTLD-60-UV-24V, KTLD-60-UV-24V-SC, KTLD-60-UV-24V-DIW, KTLD-60-UV-1214V, KTLD-60-UV-1214V-SC, KTLD-60-1-24V-W2, KTLD-60-UV-24V-W2, KTLD-60-UV-12V-W2, KTLD-100-UV-24V-66-AP2, KTLD-24-1-12V-AK1, KTLD-60-UV-12V.

1. These LED drivers have been evaluated using resistive load resulting in the electrical input and output noted on page 1.
2. These LED drivers are provided with Class 2 output.
3. These LED drivers are intended to be operated in a maximum ambient (Ta) noted as below. Acceptance of higher ambient shall be determined in end product use.

Model	Ta (°C)
KTLD-80-1-24V	40
KTLD-60-1-12V	40
KTLD-60-1-24V	40
KTLD-60-1-24V-SC	40
KTLD-60-UV-24V	40
KTLD-60-UV-24V-SC	40
KTLD-60-UV-24V-DIW	52
KTLD-60-UV-1214V	40
KTLD-60-UV-1214V-SC	40
KTLD-60-UV-12V	40

4. These LED drivers are intended for use in dry and damp locations.
5. These LED drivers are provided with 18 AWG AWM input and output leads. The suitability of the wiring and the need for a suitable enclosure shall be considered in the end product.
6. These LED drivers are intended to be operated on a maximum 20 A branch circuit.
7. The need of the grounding means shall be determined in the end product.
8. These LED drivers shall be enclosed within a suitable end product enclosure.
9. For model KTLD-60-UV-24V-DIW, the conduit knockout test was not conducted. The suitability is to be determined in end product.
10. In the end product, LED driver spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
11. In the end product, LED Drivers shall be located not less than 1 inch (25.4 mm) apart when arranged end-to-end, and not less than 4 inches (102 mm) apart when arranged otherwise.

LED drivers, Models KTLD-10-1N-12V-F3, KTLD-10-1N-24V-F3, KTLD-12-1-350-FDIM-AF1, KTLD-24-1-24V-AK1, KTLD-24-UV-12V-AK1, KTLD-24-UV-24V-AK1, KTLD-150-UV-24V-66-AP3, KTLD-60-UV-12V-66-AP4, KTLD-60-UV-24V-66-AP4, KTLD-100-UV-24V, KTLD-100-UV-12V

1. These LED drivers have been evaluated using resistive load.
2. These products have been evaluated with the following characteristics.

Model No.	Input type	Output is	Intended Location	Ta, °C.	Connection	
					Input	Output
KTLD-10-1N-12V-F3	[X] Branch Circuit (Mains)	[X] Isolated [X] Class 2	Damp	60	AWM Leads	AWM Leads
KTLD-10-1N-24V-F3	[X] Branch Circuit (Mains	[X] Isolated [X] Class 2	Damp	60	AWM Leads	AWM Leads
KTLD-150-UV-24V-66-AP3	[X] Branch Circuit (Mains)	[X] Isolated [X] Non-Class 2	Wet	60	SJTW Cord	SJTW Cord
KTLD-60-UV-12V-66-AP4	[X] Branch Circuit (Mains)	[X] Isolated [X] Class 2	Wet	60	AWM Leads	SJTW Cord
KTLD-60-UV-24V-66-AP4	[X] Branch Circuit (Mains)	[X] Isolated [X] Class 2	Wet	60	AWM Leads	AWM Leads
KTLD-100-UV-24V	[X] Branch Circuit (Mains	[X] Isolated [X] Class 2	Damp	40	AWM Leads	AWM Leads
KTLD-100-UV-12V	[X] Branch Circuit (Mains	[X] Isolated [X] Non-Class 2	Damp	40	AWM Leads	AWM Leads
KTLD-12-1-350-FDIM-AF1	[X] Branch Circuit (Mains)	[X] Isolated [X] Class 2	Damp	40	AWM Leads	AWM Leads

KTLD-24-1-24V-AK1	[X] Branch Circuit (Mains)	[X] Isolated [X] Class 2	Damp	40	AWM Leads	AWM Leads
KTLD-24-UV-24V-AK1	[X] Branch Circuit (Mains)	[X] Isolated [X] Class 2	Damp	40	AWM Leads	AWM Leads
KTLD-24-UV-12V-AK1	[X] Branch Circuit (Mains)	[X] Isolated [X] Class 2	Damp	40	AWM Leads	AWM Leads

5. The suitability of the input/output connection and the wiring in a suitable enclosure is also to be considered in end product use.
6. These products are intended for building in or mounted on the surface of end product. Acceptability of the LED driver with respect to mounting, spacing, casualty, temperature and segregation are to be determined as part of the end device evaluation.
7. The suitability of grounding means shall be determined in the end-use product for models KTLD-10-1N-12V-F3, KTLD-10-1N-24V-F3, KTLD-100-UV-24V, KTLD-100-UV-12V, KTLD-24-1-24V-AK1, KTLD-24-UV-12V-AK1, KTLD-24-UV-24V-AK1.
8. For models KTLD-10-1N-12V-F3, KTLD-10-1N-24V-F3, KTLD-12-1-350-FDIM-AF1, the suitability of the driver enclosure as final enclosure shall be evaluated in end product.
9. In the end product, LED driver spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure. Otherwise, temperature test shall be conducted.
10. In the end product, LED Drivers shall be located not less than 1 inch (25.4mm) apart when arranged end-to-end, and not less than 4 inches (102mm) apart when arranged otherwise. Otherwise, temperature test shall be conducted.

KOHA CO LTD **E359246**
2-6-8 KOUYAMA
NERIMA-KU
TOKYO, 176-0022 JAPAN

Sign accessories, Class 2/LPS LED module, Models FA039FN12V50, FA039FD12V65 and FA039FD12V80.
1. These products are only suitable for connection to a Class 2 or LPS power source rated 12 Volt DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 or LPS voltage and energy limited circuits.
3. When these units are connected to a Class 2 or LPS supply circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 or LPS supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Volts DC or less.
5. These products may be secured in place in the end product by any means available.

LAMINATORS INC **E60612**
3255 PENN AVE
HATFIELD, PA 19440

Structural panels, consisting of a plywood or plastic core, faced on both sides with sheet metal, Types CPA, S2S.
1. The structural panel may be employed as external decorative faces and for the support of complete electrical enclosures.
2. The structural panels shall not be used to enclose bare live parts or wiring; such parts shall be enclosed in a wireway complying with the Standard for Electric Signs.
3. The complete enclosure, plastic faces, and moldings may rely upon the structural panels for support. These components are to be reliably secured to the panel and if sheet metal screws are employed, they shall not strip when tested as described in Paragraph 57 of the Standard for Electric Signs (UL 48).
4. All exposed edges of these panels including drilled holes, etc. shall be treated with two coats of asphalt based paint or a R/C Sign Accessory (UYMR2) wood coating.
5. The metal faces shall be grounded in accordance with the Standard for Electric Signs (UL 48). Separate grounding straps shall be used when necessary.
6. Acceptable for use in dry, damp and wet locations
7. Limited to only decorative and sign body applications
8. Water exclusion must be determined in the end product
9. Minimum 5 cm (2 in) spacing from heat producing components required
10. Suitable for use in terminating conduit
11. Not suitable for the support of components weighing more than 7.5lbs (3.4 kg).

Structural panels, Types Omega-Bond 2mm, Omega-Bond 3mm, Omega-Bond 4mm, Omega-Bond 6mm.
1. This product is intended as an outer decorative covering, has not been investigated for use as an electrical enclosure.
2. Structural panels may be employed as external decorative faces and are acceptable for support of complete electrical enclosures, plastic faces, and moldings that are reliably secured to the panel.
3. This product is acceptable for use in dry, damp and wet locations
4. The water exclusion must be determined in the end product.
5. Suitable for use in component support applications. When threaded directly into the panels, suitability of screws shall be determined in the end product.
6. Nuts and bolts must be used when fastening a ballast or transformer weighting more than 7-1/2 lbs (3.4 kg).
7. A letter made from a structural panel shall have at least two points of support and shall have no point more than 10 in. from a point of support.
8. These materials are rated Polyethylene. Consideration will need to be given to end product thermal spacings from heat producing components or temperature test.
9. These materials are available as unpainted aluminum or pre-painted aluminum.
10. This material has not been investigated for the securement of conduit, electrode housings or the like, suitability shall be determined in the end product.
11. These panels shall be attached with screws, bolts or rivets to the structural framework so as to cause bonding to both conductive surfaces to ground, and to adequately secure each panel in place.

LANE TECHNICAL SALES INC E319901

6465 N AVONDALE AVE
CHICAGO, IL 60631

Class 2 LEDs, Models LTS-UL-LLHID-12WW-SMD, LTS-UL-LLHID-24WW-SMD, LTS-UL-HID-xx, LTS-UL-WHID-xx, LTS-UL-HID30-xx, LTS-UL-WHID30-xx, LTS-UL-ID-xx, LTS-UL-TWF2-xx; "xx" suffix is a representation for any color.

1. These products are only suitable for connection to a Class 2 power source, rated 12 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than 15 V.
3. These Class 2 LED modules are each rated as noted in the model list tables. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 24 Vdc or less.
5. These products are not required to be enclosed or protected from the weather in the end product.

Class 2 LED strips, Models SC-ID-W-24V (same as LTS-ID-24V-xx), SC-XID-3020-W (same as LTS-XID-3020-xx), SC-XID1-3528-XX (same as LTS-XID1-3528-xx), LTS-UL-XID-3528-XX, SC-W1XID1-3528-XX-24V (same as LTS-W1XID1-3528-24V-xx), where "XX" suffix is a representation for any color.

1. These products are only suitable for connection to a Class 2 power source, rated 24 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits.
3. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 24 Vdc or less.
5. These products are not required to be enclosed or protected from the weather in the end product.

LED ERA LLC E365373

SUITE 100
2685 LANGFORD RD
NORCROSS, GA 30071

Sign accessories, Class 2 led modules, Z201 T, Z201 S, Z203 T, Z203 S, Z301 MTPO, Z301 S, Z303 S, Z301 LS, Z303 LS, Z301 L, Z303 L, Z301 BB, Z303 KF, Z303F, Z303P, Z303 FP, Z401 S, Z403 S, Z403 F, Z403 C, STPC, STAL**.**

1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Volts DC or less.
4. These products are not required to be enclosed or protected from the weather in the end product.
5. These products may be secured in place in the end product by any means available.

LED FOR YOU CO LTD E345929

359-4 DAESSANGNYEONG-RI
CHOWOL-EUP
GWANGJU-SI, KYUNGGI-DO REPUBLIC OF KOREA 1

Class 2 LED Module, Models LFU-2SW, LFU-2SR, LFU-2SG, LFU-2SB, LFUC-2SW, LFUC-2SR, LFUC-2SG, LFUC-2SB, LFUH-2SW, LFUH-2SR, LFUH-2SG, LFUH-2SB, LFU-2SC, LFUC-2SC, LFUH-2SC, LFU-3SW, LFU-3SR, LFU-3SG, LFU-3SB, LFUC-3SW, LFUC-3SR, LFUC-3SG, LFUC-3SB, LFUH-3SW, LFUH-3SR, LFUH-3SG, LFUH-3SB, LFU-3SWW, LFUC-3SWW, LFUH-3SWW, LFUP-3SW, LFUPC-3SW, LFUPH-3SW, LFUPH-3SWC, LFU-3SC, LFUC-3SC, LFUH-3SC, LFU-3SWC, LFUC-3SWC, LFUH-3SWC, LFUP-3SWC, LFUPC-3SWC, LFU-4SW, LFU-4SR, LFU-4SG, LFU-4SB, LFUC-4SW, LFUC-4SR, LFUC-4SG, LFUC-4SB, LFUH-4SW, LFUH-4SR, LFUH-4SG, LFUH-4SB, LFU-4SC, LFUC-4SC, LFUH-4SC.

1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuit and is rated greater than 12 V DC.
3. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.

Class 2 LED Modules: LFU-C2SW, LFU-C2SR, LFU-C2SG, LFU-C2SB, LFU-C2S, LFU-C3SW, LFU-C3SR, LFU-C3SG, LFU-C3SB, LFU-C3S, CLG3-90K, LFU-C4SW, LFU-C4SR, LFU-C4SG, LFU-C4SB, LFU-C4S.

1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuit and is rated greater than 12 V DC.
3. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means.

LED INC E255480

#22 1601 FAIRVIEW DR
CARSON CITY, NV 89701

LED Illumination Modules, Cat. No. Series 04021-XXXX and 04022-XXXX, where XXXX can be 2000, 4000, 5000, 6000 or 9000
1. These products are only suitable for connection to a Class 2 power source, rated 12 Volt or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than 15 V.
3. Class 2 LEDs, Series 04021-XXXX and 04022-XXXX are each rated max. 1.2 Watts per unit. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 15 V or less.
5. These products are not required to be enclosed or protected from the weather in the end product.

LED Illumination Modules, "1 Watt High Power LED Module", Model designation 04024-XXXX, where XXXX is any number combination.
1. These products are only suitable for connection to a Class 2 power source, rated 15 Volt or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than 15 V.
3. Class 2 LEDs, “1 Watt High Power LED Module”, model designation 04024-9000 is each rated max. 3.0 Watts per unit. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 15 V or less.
5. These products are not required to be enclosed or protected from the weather in the end product.

LED Illumination Modules, Cat. Nos. 04022-8800, 04025-XXXX series, where XXXX is any number combination..
1. These products are only suitable for connection to a Class 2 power source, rated 15 Volt or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than 15 V.
3. Class 2 LED modules, Cat. No.04022-XXXX and Cat. No. 4025-XXXX are each rated max. 1.2 Watts per unit. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 15 V or less.
5. These products are not required to be enclosed or protected from the weather in the end product.

LED Illumination Modules, Cat. No. 04026-XXXX Series, where XXXX is any number combination.
1. These products are only suitable for connection to a Class 2 power source rated 15 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit and which is rated greater than 15 V DC.
3. These products are each rated max. 1.5 watts per module. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 15 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.
7. When these products are used in applications other than signs or outline lighting, the need to conduct a temperature test shall be considered.

Flexible LED Modules, Cat. No. 06031-XXXX series and Ribbon Led lighting Cat. No. 06050-xxxx, where XXXX is any number combination.
1. These products are only suitable for connection to a Class 2 power source, rated 15 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than 15 V.
3. Class 2 LED modules, Cat. No. 06050-XXXX series are each rated max50 Watts per unit. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 15 V or less.
5. These products are not required to be enclosed or protected from the weather in the end product.

Class 2 LED Module designated "RGB Border Lite".
1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuit and is rated greater than 12 V DC.
3. These products are each rated max. 15 watts per module. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.

Class 2 LED Module Models 04007-1000 and 04007-6000.
1. These products are only suitable for connection to the output of a UL Listed or Recognized Class 2 power supply rated max 12 VDC.
2. These products are rated per the Table below. When the units are connected to the Class 2 supply, their loads are to be limited to draw a total power or current of no greater than the output power or current rating of the Class 2 power supply.

	Max. Input – Class 2	Each Output – Class 2		Number of
Model	Vdc	Max. Vdc	Max. VA	Outputs
04007-1000	12	12	36	3
04007-6000	12	12	24	3

3. These products are suitable for use in dry and damp locations.
4. These drivers are provided with a max. of 3, Class 2 outputs.
5. These products are suitable for factory wiring only.
6. These products shall be enclosed in the end product.

Class 2 LED Modules, Model 04027-XXXX, where XXXX is any number combination.
1. These products are only suitable for connection to a Class 2 power source, rated 12 Volt DC or less for model 04027-XXXX.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than electrical ratings.

3. These Class 2 LED modules are each rated as noted in the electrical ratings tables. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at electrical ratings or less.
5. These products are not required to be enclosed or protected from the weather in the end product.

LED KINGDOM INC E364597

SUITE 102
3701 N JOHN YOUNG PKY
ORLANDO, FL 32804

Class 2 LED Modules, Cat. Nos. PT-2D-XXVN, VL-3D-XXVN, DM-3D-XXCP, XX may be any alphanumeric character to indicate LED color.

1. These products are only suitable for connection to a Class 2 power source, rated 12 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than electrical ratings.
3. These Class 2 LED modules are each rated as noted in the model list tables. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Vdc or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. For M601C series, three units are consisted one module.
7. The suitability of supply leads shall be determined in end use.

Class 2 LED Modules, Cat. Nos. BY-5D-XXCL, BY-3D-XXCL, XX may be any alphanumeric character to indicate LED color.

1. These products are only suitable for connection to a Class 2 power source, rated 24 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than electrical ratings.
3. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 24 Vdc or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. The suitability of supply leads shall be determined in end use.

Class 2 LED Modules, Cat. Nos. NC-3D-XXCL, PA-BB-CCDD-XX, CST-BB-CCDD-XX, XX may be any alphanumeric character to indicate LED color and BB may be replaced with any numeric character from 0 to 9 or any alpha characters combination from A to Z, which indicates product LED quantity, CC may be replaced with any alpha characters combination from A to Z, which indicates LED color.

DD may be replaced with any alpha characters combination from A to Z, indicates product LED encapsulation types.

XX may be blank or any numeric character from 0 to 1 or any alpha characters combination from A to Z, indicates product generation.

1. These products are only suitable for connection to a Class 2 power source, rated 24 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than electrical ratings.
3. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 24 Vdc or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. The suitability of supply leads shall be determined in end use.

LED Drivers, Class 2, Models EVE-30-12, EVE-30-24.

1. The power supply has been evaluated to Class 2 output requirements for dc circuits with a maximum of one Class 2 output.
2. The products are intended to be built-in, the suitability of enclosure, mounting, input / output connections shall be considered in the end product.
4. The products are intended for use in damp and wet locations.
5. These products are to be used in maximum ambient temperature (Ta) and Maximum case temperature (Tc) are as below :

Models	Wet location		Damp location	
	Ta	Tc	Ta	Tc
EVE-30-12	40	--	70	85
EVE-30-24	40	--	70	85

6. These LED drivers are of the constant voltage type that requires the proper number of LED modules and controllers that does not exceed the maximum output current.
7. These products are suitable for factory wiring only.
8. These products have been evaluated using a resistive load resulting in a maximum input and output.
9. The products are intended to be connected to a maximum 20 A branch circuit.
10. Humidity and Rain tests have been conducted for reference only. The need to repeat these tests shall be considered when mounted in the end-product.
11. In the end product, LED driver spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
12. In the end product, LED Drivers shall be located not less than 1 inch (25.4mm) apart when arranged end-to-end, and not less than 4 inches (102mm) apart when arranged otherwise.

LED Drivers, isolated, non-Class 2, Models EVE-60-12A, EVE-60-24A, EVE-100-12A, EVE-100-24A, EVE-150-12A, EVE-150-24A.

1. These units have an isolated Non-Class 2 output.
2. The products are intended for built-in, the suitability of enclosure, mounting, input / output connections shall be considered in the end product.
4. These products are suitable for use in damp and wet locations.
5. These products are to be used in maximum ambient temperature (Ta) and Maximum case temperature (Tc) are as below :

Models	Wet location	Damp location

	Ta	Tc	Ta	Tc
EVE-60-12A	40	--	70	85
EVE-60-24A	40	--	70	85
EVE-100-12A	40	--	65	85
EVE-100-24A	40	--	65	85
EVE-150-12A	40	--	50	75
EVE-150-24A	40	--	50	75

6. The LED drivers are of the constant voltage type that requires the proper number of LED modules and controllers that does not exceed the maximum output current.
7. These products are provided with Input and Output cord. The grounding continuity shall be checked in end product.
8. These products are suitable for factory wiring only.
9. The product has been evaluated as isolated output rated non-Class 2 using a resistive load resulting in a maximum input and output.
10. These products are intended to be connected to a maximum 20 A branch circuit.
11. In the end product, LED driver spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
12. In the end product, LED Drivers shall be located not less than 1 inch (25.4mm) apart when arranged end-to-end, and not less than 4 inches (102mm) apart when arranged otherwise.

LED Drivers, isolated, Class 2, Models EVE-60-12, EVE-60-24, EVE-100-12, EVE-100-24.

1. These power supplies have been evaluated to Class 2 output requirements for dc circuits with a maximum of one Class 2 output.
2. These products are provided with the following electrical ratings:

Model Number	Input Voltage (V)	Input Current (A)	Frequency (Hz)	Output Voltage (Vdc)	Output Current (mA)
EVE-60-12	100-240	0.78	50/60	12	5
EVE-60-24	100-240	0.78	50/60	24	2.5
EVE-100-12	100-240	1.25	50/60	12	3.9 #
EVE-100-24	100-240	1.25	50/60	24	4.0

- Two outputs: Each 12 Vdc, 3.9 A.

3. In the end product the power supply spacing to other power supplies shall be at least 25.4 mm (1 in.) from end-to-end, and 101.6 mm (4 in.) from side-to-side. When spaced closer, a temperature test is required.
4. These products shall be enclosed in the end product.
5. These products are suitable for factory wiring only.
6. These products are intended for use in dry, damp or wet locations.
7. The suitability of input/output leads and the wiring shall be determined in end product use.
8. These products are provided with 18 AWG stranded, rated minimum 300 Vac, minimum 60 C (for wet location), minimum 105 C (for damp and dry location), for input and output connections. Acceptability of the leads relative to strain relief and secureness, is to be determined as part of the end device evaluation. The grounding continuity shall be checked in end product

Class 2 LED modules, Class 2, Models 5050V12-IN60XX, 5050V12-SL30XX, 5050V12-SL60XX, 5050V12-IN30F, 5050V12-SL30F, 5050V12-IN60F, 5050V12-SL60F, 5050V12-OD60F,2835V12-IN60XX-EG, 2835V12-IN60XX-PW, 2835V12-SL60XX-EG, 2835V12-SL60XX-PW, 2835V24-IN120XX,

1. These products are only suitable for connection to a Class 2 power source, rated 24 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than electrical ratings.
3. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 24 Vdc or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. The suitability of supply leads shall be determined in end use.

Class 2 LED modules, class 2, Models PT-3D-CCVN-XX[+], VL-3D-CCVN-XX[+].

1. These products are only suitable for connection to a Class 2 power source, rated 12 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than electrical ratings.
3. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Vdc or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. One unit is consisted one module.
7. The suitability of supply leads shall be determined in end use.

Class 2 LED modules, class 2, Models BB-3D-XXCL[%], BB-5D-XXCL[%],

1. These products are only suitable for connection to a Class 2 power source, rated 24 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than electrical ratings.
3. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 24 Vdc or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. The suitability of supply leads shall be determined in end use.

Class 2 LED modules, class 2, Models BB-1D-XXCL-PW[%], BB-1D-XXCL-EG[%].

1. These products are only suitable for connection to a Class 2 power source, rated 24 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than electrical ratings.
3. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 24 Vdc or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. The suitability of supply leads shall be determined in end use.

LED Drivers, isolated, Class 2, Models VAL-60-12, VAL-60-24, VAL-100-12, VAL-100-24. 1. These power supplies have been evaluated to Class 2 output requirements for dc circuits with a maximum of one Class 2 output.

2. These products are provided with the following electrical ratings:

Model Number	Input Voltage (V)	Input Current (A)	Frequency (Hz)	Output Voltage (Vdc)	Output Current (mA)
VAL-60-12	100-277	0.90	50/60	12	5
VAL-60-24	100-277	0.90	50/60	24	2.5
VAL-100-12	100-277	2.20	50/60	12	3.9 #
VAL-100-24	100-277	2.20	50/60	24	4.0

- Two outputs: Each 12 Vdc, 3.9 A.

3. In the end product the power supply spacing to other power supplies shall be at least 25.4 mm (1 in.) from end-to-end, and 101.6 mm (4 in.) from side-to-side. When spaced closer, a temperature test is required.
4. These products shall be enclosed in the end product.
5. These products are intended for use in dry, damp or wet locations.
6. The suitability of input/output leads and the wiring shall be determined in end product use.
7. These products are provided with 18 AWG stranded, rated minimum 300 Vac, minimum 60 C (for wet location), minimum 105 C (for damp and dry location), for input and output connections. Acceptability of the leads relative to strain relief and secureness, is to be determined as part of the end device evaluation. The grounding continuity shall be checked in end product

LEDELS LIGHTING CO LTD E468389

5F, BLOCK C, MINGJINHAI IND. PARK, ZHOUSHI ROAD, SHIYAN, BAO-AN 518107 SHENZHEN, CHINA

Class 2 LED Light, designated as LL-F12P600W1LXX and FYYTXXXXWXX series; where XX can be combinations of any numbers and letters.

1. These products are only suitable for connection to a Class 2 or LPS power source rated 24 Volt DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 or LPS voltage and energy limited circuits.
3. When these units are connected to a Class 2 or LPS supply circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 or LPS supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 24 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.
7. The suitability of heatsinking for these LED modules shall be determined in the end product.
8. When these products are used in applications other than signs the need to conduct a temperature test shall be considered.

LEDING SOLID STATE LIGHTING LTD E357006

47B SANJIANG INDUSTRY DONGGUAN, GUANGDONG 523460 CHINA

Class 2 LED modules, Cat. No. MXX-XXX-XX-XX-XXX series; The first X can be any one of the Arabic numerals of 1-9, these indicate LED quantity; The second X can be any letter in alphabet, represent for beam angel; The third X is for the supplier of the lamp; The fourth X is for the model of the lamp; The fifth X can be any one of alphanumeric characters; The sixth and seventh X is for the color; The eighth and ninth X is for the product versions; The last three X are for the input voltage, 12V represent the input voltage is 12VDC, 15V represent the input voltage is 15VDC.

1. These products are only suitable for connection to a Class 2 power source, rated 15 Volt DC or less. (For model MXX-XXX-XX-XX-15V)
2. These products are only suitable for connection to a Class 2 power source, rated 12 Volt DC or less. (For model MXX-XXX-XX-XX-12V)
3. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than electrical ratings.
4. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
5. These products are suitable for use in dry, damp and wet locations with supply sources rated at 15 Vdc or less. (For model MXX-XXX-XX-XX-15V)
6. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Vdc or less. (For model MXX-XXX-XX-XX-12V)
7. These products are not required to be enclosed or protected from the weather in the end product.
8. The suitability of supply leads shall be determined in end use.

LEDYOUNG TECHNOLOGY CORP E341676

11TH FL-1

NO 888 JING GUO RD
TAOYUAN, 330 TAIWAN

CLASS 2/LPS LED Backlight Panel, Model 48-48-A, 48-48-M.

1. These LED Backlight panels are only intended for use with a constant voltage LPS/Class 2 output power sources with 12, 24 or 36 Vdc/Maximum 5, 4.16 or 2.77 A output, respectively.
2. When products provided with more than one input connector, there shall be no interconnection of circuits allowed, and each LPS/Class 2 circuit is separately connected to each LPS/Class 2 power supply. Each input not exceeding 5 A, 4.16 or 2.77 A, respectively. Power supply with multiple Class 2 outputs may be used.
3. Model 48-48-A is suitable for use in dry locations only, Model 48-48-M is suitable for use in damp locations.
4. These LED Backlight panels are not provided with a mounting means. The suitability is to be determined in end product use.
5. These products are to be temperature tested in end product. The maximum temperature on LED board shall not exceed 130°C. The maximum temperature of supply leads shall not exceed 105°C. The maximum temperature on Light Guide Plate shall not exceed 50°C.
6. If LPS/Class 2 type LED power sources were provided, the additional consideration should be investigated in the end products.

LEOTEK ELECTRONICS CORP **E321017**
50 LUNG-YUAN 7TH RD.
LUNG-TAN
TAOYUAN HSIEN, TAIWAN

Power Supply with Class 2 outputs, Models LP1090-19-YZ-E, LP1090-24-YZ-E, LP1090-36-YZ-E.

1. These power supplies have a maximum of one Class 2 output. The output of these power supplies has been evaluated to Class 2 output requirements for dc circuits.
2. Models LP1090-TT-E are suitable for use in dry and damp locations. Models LP1090-GG-E are suitable for use in dry, damp and wet locations.
3. In the end product, power supply spacing to other heat producing components shall be minimum 4 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
4. When used in a cord connected product, the need for conducting a leakage current test shall be considered in the end product.
5. When not marked for “Dry and Damp Locations Only” the power supply primary bracket shall be provided with min. 3.5 threads and maximum 5 threads tapered for connection to liquid tight conduit fitting. If less than 3.5 threads, the liquid tight shall be provided with Listed (QCRV) 1/2 inch, liquid tight conduit fittings.
6. These products are suitable for use in commercial application only when marked with 277 V input voltage.
7. When provided with the alternate conduit caps on page 2A, the power supply shall be provided with an additional fire enclosure.
8. Cord connected (not cord and plug) models are suitable only for use in cord connected signs:
   A) The suitability of the cord length, type, and temperature rating shall be determined in the end use.
   B) Strain relief testing has been conducted at 20 lbs. The need for additional strain relief shall be determined in the end use.
   C) Leakage current testing has not been conducted on the cord connected models and shall be conducted in the end use.
9. Model LP1090-XX-YZ-E-DV series are provided with a dimming option for use with a 0-10VDC dimming system.

Power Supply with Class 2 outputs, Models LP4240-24-XY, LP4240-15-XY, LP4240-12-XY, LP3240-24-XY, LP3240-15-XY.

1. These power supplies have multiple outputs. Power supply Model LP4240-24-xy, LP4240-15-xy and LP4240-12-xy have a maximum of four Class 2 outputs. Power supply Models LP3240-15-xy and LP3240-24-xy has maximum three Class 2 outputs. Each output of these power supplies have been evaluated to Class 2 output requirements for dc circuits.
2. These products with Class 2 outputs are suitable for use in dry, damp and wet locations.
3. Power supply spacing to other heat producing components shall be minimum 4 inches when minimum spacing to sidewalls and top of enclosure is kept at minimum 2 inches.
4. When not marked for dry and damp locations only, all units shall be provided with liquid tight fittings on the primary and secondary circuits.
5. Cord connected (not cord and plug) models are suitable only for use in cord connected signs:
   A) The suitability of the cord length, type, and temperature rating shall be determined in the end use.
   B) Strain relief testing has been conducted at 20 lbs. The need for additional strain relief shall be determined in the end use.
   C) Leakage current testing has not been conducted on the cord connected models and shall be conducted in the end use.

Class 2 LED Power Supply, Models LP1025-12, LP1025-24, and LP1025-36; may be followed by optional suffix Cnnnn, where nnnn may be any alphanumeric characters.

1. These power supplies have a maximum of one Class 2 output. The output of these power supplies has been evaluated to Class 2 output requirements for dc circuits.
2. These products with Class 2 outputs are suitable for use in dry and damp locations only.
3. In the end product, power supply spacing to other heat producing components shall be minimum 4 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
4. When used in a cord connected product, the need for conducting a leakage current test shall be considered in the end product.
5. These lead connected products are suitable for use in commercial application only when marked with 277 V input voltage.
6. These units employ a Class 130 (B) insulation system on Transformer (T1).

Class 2 LED Power Supply, Models LP1017-12-Cnnnn, LP1017-24-Cnnnn and LP1017-36-Cnnnn, where nnnn may be any alphanumeric characters, and LP1090-XX-YZ-E, where XX can be 19, 24 or 36; Y can be G or T; Z can be G or T; and E can be any number from 170 to 999.

1. These power supplies have a maximum of one Class 2 output. The output of these power supplies has been evaluated to Class 2 output requirements for dc circuits.
2. These products with Class 2 outputs are suitable for use in dry and damp locations only.
3. In the end product, power supply spacing to other heat producing components shall be minimum 4 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
4. When used in a cord connected product, the need for conducting a leakage current test shall be considered in the end product.

5. These products with leads are suitable for use in commercial application only when marked with 277 V input voltage.

Class 2 LED Power Supply, Cat. No. LP1020-10-Cnnnn, LP1020-12-Cnnnn, LP1020-15-Cnnnn, LP1020-18-Cnnnn, LP1020-22-Cnnnn, LP1020-24-Cnnnn and LP1020-36-Cnnnn, where the optional suffix "Cnnnn" may be any alphanumeric character.

1. The product shall be installed in compliance with the mounting, spacing, casualty, and segregation requirements of the ultimate application.
2. These units are provided with a Class 105(A) or Class 130 (B) insulation system.
3. The suitability of the input and output connections shall be determined in each end use application.
4. These power units are intended for dry or damp location use only.
5. Strain Relief on input lead construction and Impact Tests have not been investigated.
6. The polymeric enclosure of each unit has not been evaluated as ultimate enclosure. The flame class of polymeric enclosure of each unit is V-0, and the necessity of additional fire barriers shall be determined in end product.
7. Multiple power supplies shall be spaced at least 25mm (1 in.) end to end or 102mm (4 in.) in other directions. If lesser spacings are used, then the Temperature Test shall be conducted in the end use product. For reference the maximum enclosure (case) temperature on the power supply was 90°C when tested at 58.4°C ambient.

Class 2 LED Power Supply, Cat. No. LP1040-09-Cnnnn, LP1040-10-Cnnnn, LP1040-12-Cnnnn, LP1040-13-Cnnnn, LP1040-15-Cnnnn, LP1040-18-Cnnnn, LP1040-22-Cnnnn, LP1040-24-Cnnnn and LP1040-36-Cnnnn. where "Cnnnn" could be defined as any alphanumeric characters for marketing purpose, or blank.

1. The product shall be installed in compliance with the mounting, spacing, casualty, and segregation requirements of the ultimate application.
2. These units are provided with a Class 105(A) or Class 130 (B) insulation system.
3. Input leads are Style 1015, No. 18 AWG, rated VW-1, 600 V, 105°C. Output leads are Style 1430, No. 18 AWG, rated VW-1, 300 V, 105°C. The suitability of the input and output connections shall be determined in each end use application.
4. These power units are intended for dry or damp location use only.
5. Strain Relief and Impact Tests have not been investigated. The suitability of the enclosure as ultimate enclosure shall be determined in the end-use application.
6. The polymeric enclosure of each unit has not been evaluated as ultimate enclosure. The flame class of polymeric enclosure of each unit is V-0 and the necessity of additional fire barriers shall be determined in end product.
7. In the end product, power supply spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.

Class 2 LED Power Supply, Cat. No. LP1060-Series with numerical suffix –07 through 24 followed by suffix - one or two letters and - a single letter or number, and Model LP2046 followed by suffix – one or two letters and - a single letter or number.

1. These power supplies have a single output that complies with Class 2 output requirements.
2. These products are suitable for use in dry damp and wet locations only.
3. The primary sides of these power supplies are suitable for connection with threaded type conduit only.
4. The maximum rated output power for Model LP1060-13-YZ-E, LP1060-17-YZ-E and LP1060-21-YZ-E is 61 watts, for Model LP1060-24-YZ-E is 60 watts.
5. Power supply spacing to other heat producing components shall be minimum 4 inches when minimum spacing to sidewalls and top of enclosure is kept at minimum 2 inches.
6. When not marked for indoor use only the power supply primary bracket shall be provided with min. 3.5 threads and tapered for connection to liquid tight conduit fitting.
7. When not marked for indoor use only, all models shall have liquid tight fittings on both primary and secondary circuits.
8. When provided with the alternate conduit caps on page 3, the power supply shall be provided with an additional fire enclosure.
9. Cord connected (not cord and plug) models are suitable only for use in cord connected signs:
   A) The suitability of the cord length, type, and temperature rating shall be determined in the end use.
   B) Strain relief testing has been conducted at 20 lbs. The need for additional strain relief shall be determined in the end use.
   C) Leakage current testing has not been conducted on the cord connected models and shall be conducted in the end use.
10. Model LP1060-XX-YZ-E-DV series are provided with a dimming option for use with a 0-10VDC dimming system.

Class 2 LED Power Supply, Cat. No. LP4240-24-xy, LP4240-15-xy, LP4240-12-xy, LP3240-15-xy and LP3240-24-xy

1. These power supplies have multiple outputs. Power supply Model LP4240-24-xy, LP4240-15-xy and LP4240-12-xy have a maximum of four Class 2 outputs. Power supply Models LP3240-15-xy and LP3240-24-xy has maximum three Class 2 outputs. Each output of these power supplies have been evaluated to Class 2 output requirements for dc circuits.
2. These products with Class 2 outputs are suitable for use in dry, damp and wet locations.
3. Power supply spacing to other heat producing components shall be minimum 4 inches when minimum spacing to sidewalls and top of enclosure is kept at minimum 2 inches.
4. When not marked for dry and damp locations only, all units shall be provided with liquid tight fittings on the primary and secondary circuits.
5. Cord connected (not cord and plug) models are suitable only for use in cord connected signs:
   A) The suitability of the cord length, type, and temperature rating shall be determined in the end use.
   B) Strain relief testing has been conducted at 20 lbs. The need for additional strain relief shall be determined in the end use
   C) Leakage current testing has not been conducted on the cord connected models and shall be conducted in the end use.

LEOTEK ELECTRONICS USA CORP E232725

1955 LUNDY AVE
SAN JOSE, CA 95131

Class 2 LED Channel Lite, Cat. Nos. CLM-XXR, E, Y, G, B or W, followed by –RW or -RD where XX represents 01 to 100 strings of LED modules.

1. These products are only suitable for connection to a UL Listed or Recognized Class 2, 12 volt DC power source.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited supplies.
3. Class 2 LED “Channel Lite”, CLM-XXR, E, Y, G, B, or W followed by -RW, module is rated 0.3 Watts per module. When modules are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply per Class 2 circuit.
4. LM-XXR, E, Y, G, B, or W followed by -RW, modules are provided with wire soldered on the printed wiring board for connection.

5. These products are suitable for use in dry, damp and wet locations. These products are not required to be enclosed or protected from weather.

Class 2 LED Tubes, Cat. Nos. "BTL-96X-PAX" Series, where "X" may be replaced by B, G, W, R, E and Y.

1. These products are only suitable for connection to a UL Listed or Recognized Class 2, 24 volt DC power source or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited supplies.
3. These products are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply per Class 2 circuit.
4. These products are provided with wire soldered on the printed wiring board for connection.
5. These products are suitable for use in dry, damp and wet locations when provided with housing for Class 2 LEDs.

Class 2 LED Modules, Cat. No. "PEM-XXX" Series, where XXX is any alpha-numeric combination denoting LED color, type, or number of modules.

1. These products are only suitable for connection to the output of a UL Listed or R/C (UYMR2), Component – Sign Accessory Class 2 LED power supply or UL Listed or R/C Class 2 Power Supply rated 12VDC.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 requirements.
3. When units are connected to a Class 2 circuit, their number is to be limited to draw a total wattage of no greater than the secondary current rating of each Class 2 power supply.
4. These products are suitable for use in dry, damp and wet locations without additional enclosures.

Class 2 LED Modules, Model BTS-600W-BMW.

1. These products are only suitable for connection to a UL Listed or Recognized Class 2, 25 volt DC power source or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited supplies.
3. These products are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply per Class 2 circuit.
4. These products are provided with wire soldered on the printed wiring board for connection.
5. These products are suitable for use in dry, damp and wet locations when provided with housing for Class 2 LED modules.

Class 2 LED Modules, Models CLM-RDP-XX, CLM-RDP2-XX and CLM-RMP2-XX series, where XX may be any alphanumeric characters.

1. These products are only suitable for connection to a Class 2 power source rated 15 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit and which is rated greater than 15 V DC.
3. These products are each rated max. 75 watts per module. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 15 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.
7. When these products are used in applications other than signs or outline lighting, the need to conduct a temperature test shall be considered.

Class 2 LED Modules, Models "Lite-Stik", CLX-YZAB series, where X, Y, Z, A and B may be any alphanumeric characters.

1. These products are only suitable for connection to a Class 2 power source rated 24 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit and which is rated greater than 24 V DC.
3. These products are each rated max. 48 watts per module. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 24 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.
7. When these products are used in applications other than signs or outline lighting, the need to conduct a temperature test shall be considered.

Class 2 LED Modules, designated as “Cooler Light” CL5-AABBXYZ Series, where AA can be a combination of any alphanumeric characters from 1 to 6, or A to Z; BB may be any numeric characters from 01 to 36; X may be any letter A to Z; and YZ may be a combination of any alphanumeric characters from 1 to 9, or A to Z.

1. These products are only suitable for connection to a Class 2 power source rated 60 Volt DC or less.
2. When these products are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. These products are suitable for use in dry and damp locations with supply sources rated at 60 Volts DC or less.
4. These products are rated as the following:

Model Designation	Input Voltage (Vac or dc)	Input Constant Current (A)	Input Frequency (Hz)
“Cooler Light” CL5-AABBXYZ Series	60	0.7	60

5. When these products are used in applications other than signs or outline lighting, the need to conduct a temperature test shall be considered.

LEVELIQQ CORPORATION E468873
SHIBADAIMON EXCELLENT BUILDING 7F, 2-6-6 SHIBADAIMON MINATO-KU, TOKYO 105-0012 JAPAN

Class 2/LPS LED Module, Model renDy-WM-CCD.

1. These products are only suitable for connection to a Class 2 or LPS power source.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited supplies. .
3. When these units are connected to a Class 2 or LPS supply circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 or LPS supply.

4. These products are suitable for use in dry and damp locations.
5. These products may be secured in place in the end product by any means available.

Marking – Company name and product designation or trademark 

LEYARD OPTOELECTRONIC CO LTD **E326659**
9 ZHENG HONG QI W ST
HAIDIAN DISTRICT
100000 BEIJING, CHINA

Class 2 LED Modules, Model IV.
1. Acceptability for multiple connections (daisy chaining) not exceeding 16 A on a single branch circuit shall be determined by the end product requirements.
2. This product was tested for use at a room ambient temperature of 25°C. Testing was conducted with the unit in a test box with dimensions that were 2 inches from the nearest projection on the sides and 12 inches from the top and bottom. The need for conducting temperature testing in the end product shall be considered where the units are installed in a higher ambient.
3. The unit is provided with four threaded nipple at the corner of the housing and provided with two hooks on the top. The suitability of the mounting means shall be determined in the end use.
4. The Rain Test per UL 879 was performed only on the face of the LED sign with the back sealed for testing located right below the screws along the perimeter of the back housing of the LED modules. Suitability for outdoor use when installed in the overall sign construction shall be considered in the end product evaluation.
5. The Abnormal Tests (Component Fault and Locked Fan) were performed on the product. Consideration for performing additional fault testing shall be determined in the end product.
6. No supply disconnecting means was provided. The need for a separate disconnect in the end product shall be considered**.**

Class 2 LED Modules, Model MESH.
1. Acceptability for multiple connections (daisy chaining) not exceeding 12 A (based on 14AWG power supply cord) on a single branch circuit shall be determined by the end product requirements.
2. This product was tested for use at a room ambient temperature of 25°C. The need for conducting temperature testing in the end product shall be considered where the units are installed in a higher ambient.
3. The suitability of the mounting means shall be determined in the end use.
4. No supply disconnecting means was provided. The need for a separate disconnect in the end product shall be considered.
5. This product should be mounted 4 feet above the ground, if not, Sprinkler test should be considered.
6. The suitability of SJTW power supply cord needs to be determined in the end use.

Class 2 LED Modules, Model NV.
1. Acceptability for multiple connections (daisy chaining) not exceeding 12 A (based on 14 AWG power supply cord) on a single branch circuit shall be determined by the end product requirements.
2. This product was tested for use at a room ambient temperature of 40°C. The need for conducting temperature testing in the end product shall be considered where the units are installed in a higher ambient.
3. The suitability of the mounting means shall be determined in the end use.
4. No supply disconnecting means was provided. The need for a separate disconnect in the end product shall be considered.
5. This product should be mounted 4 feet above the ground, if not, Sprinkler test should be considered.
6. The suitability of power cord needs to be determined in the end use.

Class 2 LED Modules, Model TV , TVH016*S, TVH019*S, TVH025*S, TVH016*D, TVH019*D, TVH025*D. "*" may be "O" or "R", indicating different metal mounting bracket.
1. Acceptability for multiple connections (daisy chaining) not exceeding 12 A (based on 14 AWG power supply cord) on a single branch circuit shall be determined by the end product requirements.
2. This product was tested for use at a room ambient temperature of 40°C. The need for conducting temperature testing in the end product shall be considered where the units are installed in a higher ambient.
3. The suitability of the mounting means shall be determined in the end use.
4. No supply disconnecting means was provided. The need for a separate disconnect in the end product shall be considered.
5. The suitability of power cord needs to be determined in the end use.
6. For models TVH016*D, TVH019*D, TVH025*D were provided with two power inlets, which requires two dedicated receptacles in the end product.
7. Dry Locations Only.

Class 2 LED Modules, Model MEV*, where * may be A or B.
1. Acceptability for multiple connections (daisy chaining) not exceeding 12 A (based on 14 AWG power supply cord) on a single branch circuit shall be determined by the end product requirements.
2. This product was tested for use at a room ambient temperature of 25°C. The need for conducting temperature testing in the end product shall be considered where the units are installed in a higher ambient.
3. The suitability of the mounting means shall be determined in the end use.
4. No supply disconnecting means was provided. The need for a separate disconnect in the end product shall be considered.
5. The suitability of power cord needs to be determined in the end use.
6. The slots between the sign body and LED Panel shall be enclosed or baffled in end product to comply with accessibility.
7. The product has been evaluated for use in dry location only. Acceptance of use in other locations shall be determined in end product.

LED drivers, isolated, non-class 2 output, Models LDP-LY175W1A*G, LDP-LY175W2A*G and LDP-LY350W1A*G.
1. These LED Drivers have been evaluated to Non-Class 2 output.
2. These LED drivers have been evaluated using resistive load resulting in the electrical input and output noted below, and the maximum case temperature shall not exceed 90ºC when used in end product.

Model	Nominal Input			Nominal Output		
	V	Hz	A	V dc	A	W
LDP-LY175W1A*G	175-240	50/60	1.5	4.2	35	175

LDP-LY350W1A*G	175-240	50/60	2.5	4.5	70	350

These LED drivers have been evaluated using electronic load resulting in the electrical input and output noted below:

Model	Nominal Input			Nominal Output		
	V	Hz	A	V dc	A	W
LDP-LY175W2A2G	100-240	50/60	1.5	4.2	24	100
				4.8	2	9.6

3. These products are intended for use in dry and damp location.
4. These products are not provided with input/output wire but connectors. The suitability of the wiring and connector using shall be considered in the end product.
5. These products should be mounted inside suitable enclosure of end products.
6. These LED drivers are of constant voltage type that requires the proper number of LED modules and controllers that does not exceed the maximum output current.
7. The suitability of grounding connection shall be determined in the end-use product.
8. In the end product, LED driver spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
9. In the end product, LED Drivers shall be located not less than 1 inch (25.4mm) apart when arranged end-to-end, and not less than 4 inches (102mm) apart when arranged otherwise.
10. For model LDP-LY175W2A2G, the temperature test was conducted vertically in an 40ºC oven, and the driver shall be vertically installed in the end product. Or the temperature shall be evaluated in end product.

LIGHT BEAM INDUSTRIES LLC E464618

SUITE B
2877 CHAD DR
EUGENE, OR 97408

Class 2 Component, designated as Model LBP Series.

1. These products are only suitable for connection to a Class 2 power source rated 24 V DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit and which is rated greater than 24 V DC.
3. These products are suitable for use in dry and damp locations with supply sources rated at 24 V DC or less.
4. These products are not required to be enclosed or protected from the weather in the end product.
5. These products may be secured in place in the end product by any means available.
6. When these products are used in applications other than signs or outline lighting, the need to conduct a temperature test shall be considered.
7. When provided with more than one input connector, there shall be no interconnection of circuits allowed, and each Class 2 circuit is separately connected to each Class 2 power supply.
8. A minimum spacing of 6.4 mm (1/4 inch) shall be maintained between circuits in the assembled lamp panel.

LIGHT SOURCE SOLUTIONS LLC E353792

8830 GLASGOW POINTE
DULUTH, GA 30097

Sign accessories, Class 2 LED Modules: LSS-H-4, LSS-H-3, LSS-H-3S, LSS-H-2, LSS-H-2S, LSS-H-1, LSS-E-4, LSS-V-4, LSS-E-3, LSS-V-3, LSS-E-3S, LSS-V-3S, LSS-E-2, LSS-V-2, LSS-E-2S, LSS-V-2S, LSS-E-1, LSS-V-1, LLS-P, LLS-F-4, LLS-F-3, LLS-F-2, LLS-M-3.

1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuit and is rated greater than 12 V DC.
3. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means.

Company name or tradename "LSS LED" and product designation.

LIGHTBOARD TECHNOLOGIES LLC E345255

SUITE 117
8700 W 36TH ST
ST LOUIS PARK, MN 55426

Class 2 LED Modules, designated as DVXS-YYK Series, where D may be any numeral from 1 to 12; X may be 1 or 2; YY may be any numeric characters and TVXPYYKZZ Series where T may be any numeral from 1 to 24; X may be 1 or 2; YY and ZZ may be any numeric characters.

1. The LED modules designated as DVXS-YYK Series are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. The LED modules designated as TVXPYYKZZ Series are only suitable for connection to a Class 2 power source rated 24 Volt DC or less.
3. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp or wet locations.
5. These products may be secured in place in the end product by any means available.

Sign accessories, LED Arrays, designated as LightBoard 120V-10.10 and LightBoard 120V-12.23 Series.

1. These products are provided with the following electrical ratings:

Product Series	Max. Input Voltage (V)	Max. Input Current (A)
LightBoard 120V-10.10	120	60Ma
LightBoard 120V-12.23	120	32.25mA

2. These products are suitable for use in dry and damp locations.
3. These products shall be installed in accordance with the manufacturer's instructions.
4. In the end product, power supply spacing to other heat producing components shall be minimum 2 inches to sidewalls, and minimum 2 inches spacing to top of enclosure.
5. These products are suitable for factory wiring only.
6. These products shall be enclosed in suitable electrical enclosure in the end product.
7. The suitability of input leads and the wring shall be determined in end product use.
8. The proper grounding means of this product shall comply with the end product requirements.
9. In the end product the Dielectric Voltage Withstand test need to be conducted between the live parts and dead-metal parts, including the enclosure.
10. Cover/Diffuser - When provided the cover shall be R/C (UYMR2/8), Sign Accessory Rigid sign face material designated Makrolon Sheet.
11. The mounting means of these products shall be determined in the end product.
12. The connector of this product has not been tested for interrupting the flow of current by connecting or disconnecting the mating connector. The connector should be used only where it will not interrupt the flow of current.

LED system, designated as 24V1PYY5KZZ Series, where YY may be any numerals and ZZ may be 12 or 18.

1. These products are suitable for use in dry, damp or wet locations.
2. In the end product, power supply spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top or sides of enclosure.
3. When applicable, the suitability of the enclosure, mounting means, grounding, supply lead wires and the electrical connection to the products shall be determined in the end product.
4. All circuits of these systems beyond the power supplies are powered by a Class 2 source.
5. These products are provided with the following input electrical ratings:

Supply (V)	Frequency (Hz)	Current (A)
100-277	47-63	3

6. When used in wet locations, each power supply unit shall be provided with Listed (QCRV) 1/2 inch, liquid tight conduit fittings for both the primary and secondary circuits.

Sign accessories, controller, designated as "Class 2 Controller".

1. These components should be installed in accordance with the manufacturer's instructions.
2. These products are suitable for use in dry and damp locations.
3. These products are provided with the following electrical ratings:

Model	Max. Input (Class 2)		Max. Output (Class 2)	
	Voltage (VDC)	Current (A)	Voltage (VDC)	Current (A)
Class 2 Controller	24	4	24	3

4. The need to conduct a ground continuity test shall be considered in the end product.
5. These products are only suitable for connection to a Class 2 power source rated 24 Volt DC or less.
6. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuits.
7. When these units are connected to a Class 2 supply circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
8. These products are not provided with an enclosure. The need for an enclosure shall be determined in the end product application.

Sign accessories, Class 2 LED driver/enclosure system, designated as "LightBoard Technologies".

1. These products are only suitable for indoor use.
2. These components should be installed in accordance with the manufacturer's instructions.
3. The need to conduct ground continuity and current leakage tests shall be determined in the end product.
4. In the end product, power supply spacing to other heat producing components shall be at least 25.4 mm (1 in.) from end to end, and 101.6 mm (4 in.) from side to side.
5. The suitability of input/output leads and the wring shall be determined in end product use.

Component sign accessories, designated as "EL Terminal Block". TBXCyWzzRaaaVbb Series where X and zz may be numerals 1 through 10; y may be alpha character; aaa and bb zz may be any combinations of numerals.

1. These products are only suitable for connection to a Class 2 power source rated 24 Volt DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuits.
3. When these units are connected to a Class 2 supply circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry and damp locations.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.

LINKCOM MFG CO LTD **E360042**
5TH FL

127 LANE 235 POU-CHOU RD
HSIN TIEN, TAIPEI HSIEN 231 TAIWAN

Power supplies, isolated LPS output, Models LCVE-060W125-XXXX, LCVE-060W240-XXXX.

1. These products are provided with the following electrical ratings:

Model No.	Input Voltage (V)	Input Frequency (HZ)	Input Current (A)	Output Voltage (V dc)	Output Current (A)	Output Power (W)
LCVE-060W125-XXXX	100-277	50-60	1	12	5	60
LCVE-060W240-XXXX	100-277	50-60	1	24	2.5	60

2. The power supplies had been considered ambient 45 degree C for Model LCVE-060W125-XXXX and 55 degree C for Model LCVE-060W240-XXXX. If operated at a higher ambient temperature, it should be determined in end product.
3. The suitability of Electrical/Fire/Mechanical enclosure shall be determined in the end product.
4. The load powered by the Isolated LPS output of the power supplies are suitable for use in dry and damp locations.
5. In the end product, power supply spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
6. In the end product, power supplies shall be located not less than 1 inch (25.4 mm) apart when arranged end-to-end, and not less than 4 inches (102 mm) apart when arranged otherwise.
7. The power supplies shall be installed in compliance with the enclosure, mounting, spacing, casualty, and segregation requirements of the end product application.
8. The suitability of input and output leads shall be determined in end product.

LITECORR INTERNATIONAL CO LTD E353861

NO 96 LANE 690 D
TONGLI RD
JIUTING SONGJIANG
201615 SHANGHAI, CHINA

Class 2 LED Module, Cat. No. EZ MAXI LED.

1. This product is only suitable for connection to a Class 2 power source, rated 2.8~3.5 Volt DC or less for model EZ MAXI LED.
2. This product has not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than electrical ratings.
3. This Class 2 LED module is rated as noted in the electrical ratings tables. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. This product is suitable for use in dry, damp and wet locations with supply sources rated at electrical ratings or less.
5. This product is not required to be enclosed or protected from the weather in the end product.
6. This product may be secured in place in the end products by any means available.

LORD CORPORATION E225855

111 LORD DR
CARY, NC 27511

Acrylic adhesives, Lord 201/19, -403/19, -406/19, -406/19 Red, -410/19.

1. The use of these adhesive systems shall be employed in an applications wherein the limitations as set forth in Table A are not exceeded.
2. These systems may be used for securement to any combination of surfaces listed in Table A, provided the use temperature is no higher than the lowest temperature rating of any element of the combination.
3. These systems are also suitable for use outdoors where exposed to high humidity or water. The minimum temperature rating is -35°C (-31°F).
4. These systems are suitable for application to smooth flat surfaces prepared in accordance with adhesive manufactures instructions. The need for adhesive bond strength test when applied to another surface or configuration shall be determined in the particular end use application.
5. The materials have been evaluated for adhesive compatibility and stability only. Adhesive shall be applied in continuous bead when used as water seal.
6. Means need to be provided for grounding metal parts that may become energized.
7. When considering the use of these adhesives, one square inch of surface covered by adhesive can support in shear tension the weight specified below.

TABLE A

Adhesive	Substrates	Max. Temp. °C	lbs/in.^{2}
403/19, 406/19, 406/19 Red, 410/19	Aluminum, Stainless steel, Cold Rolled steel	130	472
201/19	Aluminum	110	615

Urethane adhesive, Lord 7542A/D, -7542A/B, -7542A/C or 7542C, -7542A/E.

1. The use of these adhesive systems shall be employed in applications wherein the limitations, as set forth in Table A, are not exceeded.
2. These systems may be used for securement to any combination of surfaces listed in Table A, provided the use temperature is no higher than the lowest temperature rating of any element of the combination.
3. These systems are suitable for application to smooth flat surfaces prepared in accordance with adhesive manufactures instructions. The need for adhesive bond strength test when applied to another surface or configuration shall be determined in the particular end use application.

4. The materials have been evaluated for adhesive compatibility and stability only. Adhesive shall be applied in continuous bead when used as water seal.
5. Means need to be provided for grounding metal parts that may become energized.
6. When considering the use of any adhesive covered by this Report. One square inch of surface covered by adhesive can support in shear tension the weight specified below.

TABLE A

Adhesive	Substrates	Max. Temp. °C	lbs/in.^{2}
7542A/D, 7542A/B, 7542A/C or 7542C, 7542A/E	Polyphenylene oxide (PPO) thermoplastic	90	191

LOUISVILLE LAMP CO E348495
3316 GILMORE INDUSTRIAL BLVD
LOUISVILLE, KY 40213

Class 2 LED Module, Models NA00 and NEA0.

1. The suitability of the mounting means shall be determined.
2. These products are suitable for use in dry, damp and wet location.
3. The LED Modules are intended for connection to a Class 2 power source, rated 12 Volt DC.
4. These products are rated as the following:

Model	No. of LED per Module	Max. Wattage per LED Module	Voltage (V dc)	Total Constant Current (A)
NA00	54	5 W	12	0.5
NEA0	306	23 W	12	2

5. Model NEA0 was evaluated based on being connected to a source of supply only by solder leads and have not been evaluated for supply connections made by any type of connector.
6. The suitability of the diffuser to serve as a barrier or enclosure shall be determined in the end use product. Consideration for addressing electrical, flammability, and mechanical properties shall be given.

LOUISVILLE LAMP CO E352989
3316 GILMORE INDUSTRIAL BLVD
LOUISVILLE, KY 40213

Class 2 LED light board, Models LB-3624A, LB-3624B, LB-3624C**.**

1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. These products has not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit and which is rated greater than 12 V DC.
3. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. When these products are used in applications other than signs the need to conduct a temperature test shall be considered.
7. These products cannot be wired in series.

LUCKYSTAR ELECTRONIC TECHNOLOGY CO LTD E320022
10 FUSHENG RD HECHENG ST
GAOMING DISTRICT
FOSHAN, GUANGDONG 528500 CHINA

LED Modules, Models LS0723x, LS0766x, LS0769x, LS0776x, LS0782x, LS0783x, and LS-KM02-x where that x may be R, G, B, Y, CW, WW, P or O indicating LED Color.

1. These products are only suitable for connection to the output of a UL Listed or R/C Class 2 Power Supply rated 12VDC.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 requirements.
3. These products are rated per the Table on Page 2. When units are connected to a Class 2 circuit, their number is to be limited to draw a total wattage of no greater than the secondary current rating of each Class 2 power supply.
4. These products are suitable for use in dry, damp and wet locations without additional enclosures.

LED Modules, Models LS0766HD, LS0791R and LS0791H.

1. These products are only suitable for connection to the output of a Class 2 power source.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 requirements.
3. The LED modules are rated as noted in the electrical ratings table. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at electrical ratings or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end products by any means available.

Class 2 LED modules, designated as LSXXXX-YY series, where XXXX and YY may be combinations of any numbers.

1. These products are only suitable for connection to a Class 2 power source rated 24 Volt DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuits.
3. When these units are connected to a Class 2 supply circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations.
5. These products are not required to be enclosed or protected from the weather in the end product.

6. These products may be secured in place in the end product by any means available.

LED Modules, Models LS-0767, LS-MZ0609, LS-MZ0612-2 and LS-MZ0612-3.

1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuits.
3. When these units are connected to a Class 2 supply circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.

LUMIFICIENT CORP E230262

8752 MONTICELLO LN NORTH
MAPLE GROVE, MN 55369

Class 2 LED Modules, HRL-06-PFC-96, HRL-08-PFC-96-BMA, HRL-xx-PFC-96yy, where xx denotes 06 original model or 07 Alternate constructions, where yy denotes BM for the use of the CBI circuit breaker Model No. (BFQ1PA-B07XC-0500X), Class 2 Power Unit. Model HYPERION R-Lite System-LED tape. Model HLR-PC power connector. Model HRL-IDC Power IDC connector.

1. The power units were submitted and tested for a maximum manufacturer's recommended ambient (Tmra) of 40(C.
2. The HRL-06-PFC-96 power unit is provided with a conduit fitting suitable for 1/2 in. Trade Size rigid nonmetallic conduit.
3. The HRL-06-PFC-96 power unit, HRL-xx-PFC-96yy and HRL-08-PFC-96BMA, HYPERION R-Lite System-LED tape, HLR-PC power connector, and HRL-IDC Power IDC connector are suitable for dry or damp locations
4. Temperature test at 40(C, Inputs and Dielectric test was conducted. The need for additional test shall be determined in the end used product.
5. The Model HRL-08-PFC-96BMA power unit is provided with a 1/2 in. Trade Size conduit opening.

Class 2 LED modules Model HYPERION R-Lite System-LED tape, Model HLR-PC power connector, & Model HRL-IDC Power IDC connector.

1. The power units were submitted and tested for a maximum manufacturer's recommended ambient (Tmra) of 40°C.
2. The HRL-06-PFC-96 power unit is provided with a conduit fitting suitable for 1/2 in. Trade Size rigid nonmetallic conduit.
3. The HRL-06-PFC-96 power unit, HRL-xx-PFC-96yy and HRL-08-PFC-96BMA, HYPERION R-Lite System-LED tape, HLR-PC-200 power connector, HRL-JC-200 jumper connector and HRL-IDC-B Power IDC connector are suitable for dry or damp locations
4. Temperature test at 40°C, Inputs and Dielectric test was conducted. The need for additional test shall be determined in the end used product.
5. The Model HRL-08-PFC-96BMA power unit is provided with a 1/2 in. Trade Size conduit opening.

LED Driver; Cat. No. Model HRL-06-PFC-24, HRL-xx-PFC-24yy where xx denotes 06 original model or 07 Alternate constructions, where yy denotes BM for the use of the CBI circuit breaker Model No. (BFQ1PA-B07XC-0500X), Class 2 Power Unit.

1. The HRL-06-PFC-24 power unit was submitted and tested for a maximum manufacturer's recommended ambient (Tmra) of 40(C.
2. The HRL-06-PFC-24 power unit is intended for installation inside an electrical enclosure. Minimum spacing between adjacent power units is 4 in.
3. The HRL-06-PFC-24 power unit is suitable for dry or damp locations.

Class 2 LED module, designated as Hyperion R2, Cat. No. HR2-XXXX, where XXXX may be replaced with any alphanumeric characters.

1. These products are only suitable for connection to a LPS or Class 2 power source rated 24 Volt AC or less.
2. These products are each rated max. 2.4 watts per module. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. These products are suitable for use in dry and damp locations with supply sources rated at 24 Volts AC or less.
4. These products may be secured in place in the end product by any means available.

Class 2 LED Modules, designated as H-Lite-XXXX series, E-Lite-XXXX series, E-Lite-YYY series, where XXXX may be any numeric characters and YYY may be any alpha characters.

1. These products are only suitable for connection to a Class 2 power source rated 8 Volts AC or DC or less.
2. When units are connected to a Class 2 circuit, these products are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp or wet locations.
5. These products may be secured in place in the end product by any means available.

Sign Accessories, Transformer, Class 2 Inherently limited, Model HRL-PSLP-13 and Transformers Class 2 Non-Inherently limited Models HRL-PS277-70, HRL-PS96-70, and HRL-PSSQ-25-T.

1. These LED Transformers have been evaluated to Class 2 output requirements for AC circuits with a maximum of two Class 2 output.
2. These products are provided with the following electrical ratings:

Model	Input Volt	HZ	Amps	Max. Input Watts	V(ac)	Current A	VA/Output	# of Output
HRL-PSLP-13	120	50/60	0.175	21	8.3	2.0	17	(1)
HRL-PS277-70	277	50/60	0.347	94	8.5	5.0	42.5	(2)
HRL-PS96-70	120/240	50/60	0.786/0.401	94	8.5	5.0	42.5	(2)
HRL-PSSQ-25-T	120/240	50/60	.293/.1468	35	8.5	3.5	30	(1)

3. The suitability of any mounting means shall be determined in the end use product.
4. The secondary windings were evaluated independently and were found in compliance with the Class 2 Non-Inherently limited parameters. Therefore, the secondary windings and the associated circuits shall not to be interconnected in the end-use application.

5. The transformer leads have not been subjected to the Strain Relief Test. The need for conducting this test shall be considered in the end-use application.
6. These LED Transformers are suitable for use in dry and damp locations only.
7. These products shall be enclosed in the end product.
8. These products are only suitable for factory wiring.
9. Model HRL-PS277-70 and HRL-PS96-70 shall be wired as follows:

Terminal Blocks Cat. Nos.	Wire Range AWG-CU. Sol/Str.	Screw Torque In-Lbs.	CA
MPT410 by ASSEL EUROCLAMP	Min. 18	4.5	For factory wiring only

10. All tests for model HRL-PSSQ-25-T were conducted in the intended metallic end product enclosure. The Rated Output Heating Test for model HRL-PSSQ-25-T was tested in a 50°C ambient chamber.

LUMINII CORP E362622

6264 OAKTON ST
MORTON GROVE, IL 60053

Class 2 Power Supply, Models PSD-288-24, PSD-288-24-277.

1. These power supplies have been evaluated for use in LED signs.
2. The power supplies have outputs that individually comply with Class 2 circuit requirements.
3. These units are suitable for use in dry and damp locations without a need for an additional enclosure.
4. The output of this power source shall not be connected to any other power source or provide power to components connected to another power source.
5. These products shall have conductors entering, leaving or residing in the wiring compartment or junction box extending at least 150 mm (6 in) inside.

LUMIRON INC E242758

 # A-33
20725 NE 16TH AVE.
MIAMI, FL 33179

Class 2 LEDs, Cat. No. Models Series LM, LMG, LMP, LMR, LMS, LMT. May have additional suffixes.

1. These modules have been evaluated for use on a UL Listed or Recognized Class 2 power source rated 12 V DC or 24Vdc.
2. The suitability of supply sources other than Class 2 has not been evaluated and shall be determined in the end-product. Special consideration shall be given to the enclosure and spacing requirements in UL48.
3. These modules are suitable for use in dry, damp or wet locations. They are not required to be enclosed or protected from weather.
4. The total wattage drawn by all modules connected to a single Class 2 supply shall not exceed the rated capacity of that supply.

LUNERA LIGHTING INC E348779

SUITE 100
2041 MISSION COLLEGE BLVD
SANTA CLARA, CA 95054

Class 2 LED Panel, GLB Series.

1. These products are only suitable for connection to the output of a Class 2 Power Supply rated 24VDC.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 requirements.
3. These products are rated per the below Table. When units are connected to a Class 2 circuit, their number is to be limited to draw a total wattage of no greater than the secondary current rating of each Class 2 power supply.

Part No.	Size	Operating Voltage (V DC)	Current per module (A)	Watts per module (W)	LED quantity (pc)
GLBXXXX-XXXX-XXX	May Vary	24	2.5	60	May Vary

4. These products are suitable for use in dry and damp locations without additional enclosures.

Sign accessory, Class 2 powered LED controllers, Models 830-00430, 830-00445, 830-00444.

1. These products are only suitable for connection to the output of a UL Listed or Recognized Class 2 power supply rated max 12 VDC.
2. These products are rated per the Table below. When the units are connected to the Class 2 supply, their loads are to be limited to draw a total power or current of no greater than the output power or current rating of the Class 2 power supply.

Model	Max. Input - Class 2 Vdc	Each Output - Class 2		Number of Class 2 Output(s)
		Max. Vdc	Max. A	
830-00430	48	24-48	0.12	2
		24-48		
830-00445	48	24-48	0.91	2
830-00444	**48**	**24-48**	**2.00**	**2**
		24-48		

3. These products are provided with a maximum of 2, Class 2 outputs.
4. These products are suitable for factory wiring only.
5. These products shall be enclosed in the end product.

6. The mounting of these products shall be done per manufacturer's instructions.
7. In the end product, power supply spacing to other heat producing components shall be at least 25.4 mm (1 in.) from end to end, and 101.6 mm (4 in.) from side to side.

LVC CONNECTORS INC E339231
6068 METROPOLITAIN E
MONTREAL, QC H1S 1A9 CANADA

PVC Tube, Models LVC-3 and TK-24-XXX.
1. These products are only suitable for protecting listed Class 2 wiring that are supplied by power supplies that are marked as having a Class 2 output or LPS.
2. For outside wall use only.
3. Not suitable for inside walls.
4. These products may be secured in place in the end product by any means available.

Class 2 Low Voltage Connectors, Model LVC2, LVC4, SNAP-KONEK III, and STICK-KONEK.
1. These devices are not suitable for interrupting the flow of current by connecting or disconnecting.
2. These products are only suitable for connection to a Class 2 power source, Class 2 supply rated max. 15 Volts AC or max. 30 Volts DC or less.
3. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits.
4. These products are suitable for use in dry, damp and wet locations.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. Modules can be installed to interconnect leads in the field or pre-installed.
7. These products may be secured in place in the end product by mechanical securement or double sided adhesive tape.
8. For Model LVC2 and LVC4, suitable for connecting stranded wires which are 18, 20 or 22 AWG with compatible wire guide inserts.
9. For Model SNAP-KONEK III, suitable for connecting single conductor per channel either AWM wires 18-24 AWG, or Power-Limited Circuit Cables type CL3P, CL3R, CL3, CL3X, CL2P, CL2R, CL2, CL2X and PLTC.
10. The Model STICK-KONEK base and button are used to join LED strips, LED bars, or LED leads wires.

LED Channel, Series 1200, 1300, 1400, 2000, 2500, 3000, 4000R, 4000S, 5300, 6000, 7000, BLUE DIM, and LUXSTRUT.
1. These products are only suitable for use with LED strips powered by a Class 2 or LPS power supply.
2. For use in wet locations when LEDs are connected to 15Vac maximum or 30VDC maximum. Otherwise shall be restricted to damp or dry location.
3. These products may be secured in place in the end product by any means available.
4. LED Strips may be field installed.

LYNX INNOVATION LTD E474984
UNIT 8A 331 ROSEDALE ROAD
ALBANY 0632
NORTH SHORE CITY AUCKLAND NZ

Class 2 LED SIGN Module, Models 850-017003, 850-017003, 850-017003
1. These products are only suitable for connection to a Class 2 or LPS power source.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2/LPS voltage and energy limited supplies.
3. When these units are connected to a Class 2 or LPS supply circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 or LPS supply.
4. The suitability of the mounting means shall be determined in the end use.
5. The sign components are for dry location use only.

MAGNITUDE LIGHTING TRANSFORMERS INC E473828
UNIT B
14711 BENTLEY CIR
TUSTIN, CA 92780

LED Drivers, Class 2, Models E96R24DC, E75R24DC, E60R24DC, E50R24DC, E40R24DC, E20R24DC, E60R12DC, E40R12DC, and E20R12DC.
1. The LED drivers have been evaluated using an electronic or resistive load resulting in the rated output current.
2. When two or more drivers are used inside an end-product electrical enclosure there shall be 1 inch spacing end to end and 4 inch spacing side to side.
3. The suitability of the input and output wiring shall be determined in the end-use product.
4. The Leakage Current Test was conducted at 120 Vac input with a maximum measurement of 0.1 MIU for Class 2 Models. For portable signs a maximum of 5 drivers may be used.
5. The drivers have been evaluated for use in dry or damp locations only.
6. Drivers are class 2 for UL. For CUL the output was > 42.4 Vdc during the evaluation (abnormal component fault tests) however the output complied with LVLE parameters per CSA C22.2 No. 250.13-12. This output can be marked Class 2 per CSA Informs Ref. No. I13-020 and shall not be accessible. Accessibility shall be determined in the end-use product.
7. These model drivers have an optional enclosure, and may be provided as a bare PCB. Enclosure requirements and electrical spacings shall be determined in the end product.
8. When sign is marked CUL, driver cannot be used in installations where the driver is remote from the sign.

MAGTECH INDUSTRIES CORP E314969
5625-A S ARVILLE ST

LAS VEGAS, NV 89118

Class 2 LED Module, Cat. No. LP12060P-08, LP12060P-09, LP12060P-10, LP12060P-11,LP12060P-12, LP24060P-22, LP24060P-23,LP24060P-24.

1. These power supplies have a maximum of one Class 2 output. The output of these power supplies has been evaluated to Class 2 output requirements for dc circuits.
2. These products with Class 2 outputs are suitable for use in dry, damp and wet locations.
3. In the end product, power supply spacing to other heat producing components shall be minimum 4 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
4. When used in wet locations, each unit shall be provided with Listed (QCRV) 1/2 inch, liquid tight conduit fittings on both primary and secondary circuits.

Component LED Drivers, Isolated Class 2 Output, Models K2-U12-zz and K2-U24-zz. Where zz can be any alphanumeric character or blank for marketing purposes only.

1. These power supplies have been evaluated to Class 2 output requirements for dc circuits with a max. of one Class 2 output.
2. These products are suitable for use in dry, damp and wet locations.
3. These products are suitable for field installation.
4. These products are to be operated on a max. 20 A branch circuit.
5. These drivers were tested - See table for ambient temperature at full load. The maximum case temperature was measured - See table. The need for conducting temperature test shall be considered in the end product applications.

Model	Ambient	Tc point
K2-U12-zz	65°C	85°C
K2-U24-zz	50°C	85°C

Component LED Drivers, Isolated Class 2 Output, Models Q12-Uxx-zz, Q22-Uxx-zz, Q38-Uxx-zz, Q48-Uxx-zz, Q58-Uxx-zz and Q68-Uxx-zz where xx represents the output voltage which may be 12, 24, 36, and 48. zz can be any alphanumeric character or blank.

1. These power supplies have been evaluated to Class 2 output requirements for dc circuits with a max. of one Class 2 output.
2. These products shall be enclosed in the end product.
3. These products are suitable for use in dry and damp locations only.
4. These products are suitable for factory wiring only.
5. These products are to be operated on a max. 20 A branch circuit.
6. The suitability of input/output connections is also to be considered in end product use.
7. These drivers were tested at 50ºC, 60°C, 65°C and 70°C ambient temperature at maximum output power. The maximum case temperature was measured at 85°C. The need for conducting temperature test shall be considered in the end product applications.
8. In Canada, models with output voltage larger than 42V must have their Class 2 output circuit and components completely inaccessible in the end product application; class 2 output operating at over 42.4 V must be marked with their voltage. The output voltage of these products comply with the Class 2 requirements of NEC. However, the measured output of these products exceed the maximum Class 2 limit of 42.4V of the Canadian Electrical Code (CEC). The ultimate acceptance of these products for use in Canada shall be determined in the end product.

MATRIX FRAME **E351057**

FLEVOWEG 27

2318 BZ LEIDEN, THE NETHERLANDS

Class 2 LED Module, "Lightbox CREE XP LEDstrip".

1. These products are suitable for use in Dry and Damp Locations Only and may only be supplied with a Class 2 power source with Current limit rated max. 2.5 Amps or less.
2. These products are only suitable for connection to a Class 2 or LPS power source, rated 24 Volt DC or less.
3. These products shall be mounted in equipment, which provide a suitable overall enclosure.
4. A maximum of 4 Led strips are allowed to be mounted in a row, as detailed in the mounting instructions.
5. These products may only be installed in a metal based enclosure (frame) that is able to transfer the heat that comes from the LEDs over the metal-core Printing Wiring Board into the ambient.

MATRIX FRAME **E358648**

FLEVOWEG 27

2318 BZ LEIDEN, THE NETHERLANDS

Class 2 LED driver box, Model A120606.

1. The power supply has been evaluated to Class 2 output requirements for dc circuits with a maximum of one Class 2 output.
2. The Class 2 output of the power supply is suitable for use in dry and damp locations only.
3. In the end product, power supply spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
4. These products shall be enclosed in the end product.
5. These products are suitable for factory wiring only.
6. The load powered by the Class 2 output of the power supply rated at max 30 VDC or less are suitable for use in dry, damp and wet locations.
7. The suitability of strain relief, current leakage, and grounding tests shall be determined in the end-use product.
8. AC input and output connectors are not polarized. Suitability shall be determined in the end use.

MAXBRITE LED LIGHTING TECHNOLOGY LLC **E313209**

1740-B JUNCTION AVE.

SAN JOSE, CA 95112

Class 2 LED Illumination Module, Cat. No**.** OTH-308X10x18-01 Series, x: indicate the COLOUR: R-Red, Y-Yellow, B-Blue, G-Green, W-White, YO-Yellow Orange.

1. These products are only suitable for connection to a UL Listed or Recognized maximum Class 2, 12 V DC power source.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 circuit limits.
3. Class 2 LED module, OTH-308X10x18-01 Series When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply. Each module is rated 0.2A.
4. These products are suitable for use in dry, damp or wet locations.
5. These products are not required to be enclosed or protected from the weather.

Class 2 LED Module, PL5050 Polar series, x: indicate the COLOUR; CW-Cool White; PW-Pure White; WW-Ware White; GL-Golden Yellow; RGB-RGB; Y-Bright Yellow; R-Bright Red; B-Vivid Blue; G-Mega Green; A-Aquamarine. POLAR X Series; Ribbon Strip Series; Super Tiny Series.1. These products are only suitable for connection to a UL Listed or Recognized maximum Class 2, 12 V DC power source.

2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 circuit limits.
3. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply. Each module is rated 60W, 5A, and Max. 120 of LED modules per string.
4. These products are suitable for use in dry, damp or wet locations.
5. These products are not required to be enclosed or protected from the weather.

Sign accessories, Class 2 LED power supplies, Model MB-12760-12V Multi Drive Series Maxbrite LED power supply.

1. These products are only suitable for use in dry, damp and wet locations and supplied with a Class 2 power source rated 12 Volt DC or less.
2. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. These products are not required to be enclosed or protected from the weather in the end product.
4. These products may be secured in place in the end product by any means available.

Toggle Switch Boot, Model MB-TS20B.

1. This switch boot was evaluated for use on a MaxBrite toggle switch(WOYR2)/E355116 part number MB-TS20, with 19 mm long actuator mounted on a 12 mm tall threaded stem, with a 12 x 1.0 mm thread. Suitability of any other switch size shall be determined in the end product.
2. The suitability of the switch ratings shall be determined in the end product.
3. This product is acceptable for use in dry, damp and wet locations.
4. The water exclusion must be determined in the end product.

Class 2 LED Drivers, Models MDS27760-12, DS12745-12, MDS12760-12, SLS27720-12, SLS27730-12, MDS12060-12, TPS12060-12, TPS27760-12.

1. The output of this component complies with Class 2 requirements in the Standard for Class 2 Power Units, UL 1310.
2. In the end product, power supply spacing to other heat producing components shall be min. 2 inches spacing to sidewalls, and min. 2 inches spacing to top of enclosure.
3. These products shall be enclosed in the end product.
4. These power supplies are suitable for use in dry and damp locations.
5. These devices are intended for factory installation only.
6. This Class 2 power supply is not provided with any grounding. The enclosure must be grounded in the end product.

Sign accessories, Class 2 LED power supplies, Models SLS27730-12V, SLS27730-24V, SLS27760-12V and SLS27760-24V.

1. The units have been evaluated using a resistive load resulting in an output rated current of (1) 2.5 A for SLS27730-12V, (2) 1.25 A for SLS27730-24V, (3) 5 A for SLS27760-12V, (4) 2.5 A for SLS27760-24V respectively. The need for repeating tests related to heating and the isolated output shall be considered in the end product.
2. The units have been tested at 40ºC ambient. The measured maximum surface temperatures are as follows. Acceptable operation at a higher temperature should be determined in end products.

Model	Surface temperature (degree C) / Location
SLS27730-12V	50.9 / enclosure outside top of T1
SLS27730-24V	50.0 / enclosure outside top of T1
SLS27760-12V	59.9 / enclosure outside top of T1
SLS27760-24V	51.9 / enclosure outside top of T1

3. The units are intended for operated in a maximum 20 A branch circuit.
4. The LED driver bodies have been evaluated for certain wet location requirements. The thermoplastic UV rating determination and precondition before impact not completed since it is anticipated the thermoplastic parts of this unit will be protected in the end use. To be considered in end use.
5. Only the U-Shaped inside metal enclosure was considered as protective bonded for SLS27730-12V and SLS27730-24V, the metal chassis of these models need to be reliably bonded to the earthed chassis in the end product. The outside metal enclosure was considered as protective bonded for SLS27760-12V and SLS27760-24V.
6. The LED drivers are for built-in installation, the suitability of enclosure, mounting and input/output connections shall be determined in end-use product.
7. The LED drivers are for factory-wiring only.
8. Certain UL 8750 wet location requirements have been completed on this component, acceptance is to be determined in the end product on the need to account for any items not covered and to address any of the CSA requirements (CSA C22.2 No.250 etc).
9. The RTN output was connected to ground for all SELV Reliability and working voltage measurements as noted on the test data page.

Class 2 LED Modules, Designated as PLMO-BBBBCC and ALT-SSKDD-ZZ Series, where M may be E or X; O may be 2 or 3; T may be N, S or X; BBBB, SS, DD and ZZ may be any numeric characters; and CC may be any alphabetical characters. Aladdin System includes XL, STD and Nano Series.

1. These products are only suitable for connection to a Class 2 power source rated 12 VDC or less.

2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuits.
3. When these units are connected to a Class 2 supply circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations.
5. These products may be secured in place in the end product by any means available.

MAXGREEN LED TECHNOLOGY AND ELECTRICAL SPECIALIST LLC E365649
5349 E THE TOLEDO
LONG BEACH, CA 90803

Sign accessories, Class 2 LED power supplies, Models MG-2012, MG-2024, MG-3012, MG-3024, MG-6012, MG-6024, MG-10012, MG-10024, MG-12012, MG-15012.

1. The output of this component complies with Class 2 requirements in the Standard for Class 2 Power Units, UL 1310.
2. In the end product, power supply spacing to other heat producing components shall be min. 2 inches spacing to sidewalls, and min. 2 inches spacing to top of enclosure.
3. These products shall be enclosed in the end product.
4. These power supplies are suitable for use in dry and damp locations.
5. These devices are intended for factory installation only.
6. This Class 2 power supply is not provided with any grounding. The enclosure must be grounded in the end product.

MEAN WELL ENTERPRISES CO LTD E320521
28 WUQUAN 3RD RD WUGU DIST
NEW TAIPEI, 248 TAIWAN

LED array drivers, Model CLY-100-Z, Y can be G (for with Glue) or N (for without Glue), Z can be 12, 15, 20, 24, 27, 36 for output voltage; Model PLN-100-Z, Z can be 12, 15, 20, 24, 27, 36, 48 for output voltage.

1. These LED Drivers comply with the Class 2 output requirements.
2. These power supplies are suitable for use in dry and damp locations.
3. These devices shall be mounted in the intended manner within a suitable electrical enclosure.
4. These products are provided with the following electrical ratings:

	Input (ac)			Output (dc)	
Model	V	A	Hz	V	A
XLY-100-12 (When X=C, Y=G or N, when X=P, Y=N)	100-240 277	1.0 0.3	50/60	12	5.0
XLY-100-15 (When X=C, Y=G or N, when X=P, Y=N)	100-240 277	1.1 0.35	50/60	15	5.0
XLY-100-20 (When X=C, Y=G or N, when X=P, Y=N)	100-240 277	1.4 0.45	50/60	20	4.8
XLY-100-24 (When X=C, Y=G or N, when X=P, Y=N)	100-240 277	1.4 0.45	50/60	24	4.0
XLY-100-27 (When X=C, Y=G or N, when X=P, Y=N)	100-240 277	1.4 0.45	50/60	27	3.55
XLY-100-36 (When X=C, Y=G or N, when X=P, Y=N)	100-240 277	1.4 0.45	50/60	36	2.65
XLY-100-48 (When X=C, Y=G or N, when X=P, Y=N)	100-240 277	1.4 0.45	50/60	48	2.0

5. In the end product, power supply spacing to other heat producing components shall be min. 2 inches spacing to sidewalls, and min. 2 inches spacing to top of enclosure.
6. In Canada, Model CLY-100-48 and PLN-100-48 must have its Class 2 output circuit completely inaccessible in the end product application.

LED array drivers, Models LPV-20-5, LPV-20-12, LPV-20-15, LPV-20-24, LPC-20-350, LPC-20-700.

1. These power supplies have been evaluated to Class 2 output requirements for dc circuits with a maximum of one Class 2 output.
2. The load powered by the Class 2 output of the power supplies rated at max 30 VDC or less are suitable for use in dry, damp and wet locations.
3. In the end product, power supply spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
4. These products are provided with the following electrical ratings:

	Input			Output	
Model	Vac	A	Hz	Vdc	A
LPV-20-5	100-240	0.55	50/60	5	3
LPV-20-12	100-240	0.55	50/60	12	1.67

LPV-20-15	100-240	0.55	50/60	15	1.33
LPV-20-24	100-240	0.55	50/60	24	0.84
LPC-20-350	100-240	0.55	50/60	48	0.35
LPC-20-700	100-240	0.55	50/60	30	0.70

5. These products shall be enclosed in the end product.
6. These power supplies are suitable for use in dry and damp locations.

LED array drivers, Model CLy-60-z, where y can be G (with potting compound) or N (without potting compound), z can be 12, 15, 20, 24, 27, 36 or 48 for output voltage. Models PLN-60-z, PLN-45-z, where z can be 12,15, 20, 24, 27, 36 or 48 for output voltage, without potting compound.

1. These power supplies have been evaluated to Class 2 output requirements for dc circuits with a max. of one Class 2 output.
2. The load powered by the Class 2 output of the power supplies rated at max 30 VDC or less are suitable for use in dry, damp and wet locations.
3. In the end product, power supply spacing to other heat producing components shall be min. 2 inches spacing to sidewalls, and min. 2 inches spacing to top of enclosure.
4. These products are provided with the following electrical ratings:

	Input (ac)			Output (dc)	
Model	V	A	Hz	V	A
CLy-60-12 (y=G or N), PLN-60-12	100-240 277	0.8 0.3	50/60	12	5.0
CLy-60-15 (y=G or N), PLN-60-15	100-240 277	0.8 0.3	50/60	15	4.0
CLy-60-20 (y=G or N), PLN-60-20	100-240 277	0.8 0.3	50/60	20	3.0
CLy-60-24 (y=G or N), PLN-60-24	100-240 277	0.8 0.3	50/60	24	2.5
CLy-60-27 (y=G or N), PLN-60-27	100-240 277	0.8 0.3	50/60	27	2.3
CLy-60-36 (y=G or N), PLN-60-36	100-240 277	0.8 0.3	50/60	36	1.7
CLy-60-48 (y=G or N), PLN-60-48	100-240 277	0.8 0.3	50/60	48	1.3
PLN-45-12	100-240 277	0.55 0.22	50/60	12	3.8
PLN-45-15	100-240 277	0.55 0.22	50/60	15	3.0
PLN-45-20	100-240 277	0.55 0.22	50/60	20	2.3
PLN-45-24	100-240 277	0.55 0.22	50/60	24	1.9
PLN-45-27	100-240 277	0.55 0.22	50/60	27	1.7
PLN-45-36	100-240 277	0.55 0.22	50/60	36	1.25
PLN-45-48	100-240 277	0.55 0.22	50/60	48	0.95

5. These products shall be enclosed in the end product.
6. These power supplies are suitable for use in dry and damp locations.
7. These products are suitable for factory wiring only.

LED array drivers, Model PLN-30-Y, where Y may be 9, 12, 15, 20, 24, 27 or 36 for output voltage. Model PLN-30-Y, where Y may be 48 for output voltage.

1. These LED Drivers comply with the Class 2 output requirements.
2. The load connected to the Class 2 output of the LED Drivers other than Cat. Nos. PLN-30-36 and PLN-30-48 are suitable for use in dry, damp and wet locations. The load connected to Cat. Nos. PLN-30-36 and PLN-30-48 are suitable for use in dry and damp locations.
3. In the end product, power supply spacing to other heat producing components shall be min. 2 inches spacing to sidewalls, and min. 2 inches spacing to top of enclosure.
4. These products are provided with the following electrical ratings:

	Input			Output	
Model	V ac	Hz	A	V dc	A
PLN-30-9	100-240, 277	50/60	0.45, 0.15	9	3.3
PLN -30-12	100-240, 277	50/60	0.45, 0.15	12	2.5
PLN-30-15	100-240, 277	50/60	0.45, 0.15	15	2.0
PLN-30-20	100-240, 277	50/60	0.45, 0.15	20	1.5
PLN-30-24	100-240, 277	50/60	0.45, 0.15	24	1.25

PLN-30-27	100-240, 277	50/60	0.45, 0.15	27	1.12
PLN-30-36	100-240, 277	50/60	0.45, 0.15	36	0.84
PLN-30-48	100-240, 277	50/60	0.45, 0.15	48	0.63

5. These products shall be enclosed in the end product.
6. These units are intended for factory installation only.
7. Model PLN-30-48 is suitable for use in the United States only.

LED array drivers, Model CEN-60-Y Series, where Y can be 12, 15, 20, 24, 30, 36, 42, 48 or 54 for output voltage; Model CEN-75-Y, where Y can be 15, 20, 24, 30, 36, 42, 48 or 54 for output voltage.

1. These power supplies have been evaluated to Class 2 output requirements for dc circuits with a maximum of one Class 2 output.
2. These products are provided with the following electrical ratings:

	Input (ac)			Output (dc)	
Model	V	A	Hz	V	A
CEN-60-12	100-240 277	0.8 0.3	50/60	12	5
CEN-60-15	100-240 277	0.8 0.3	50/60	15	4
CEN-60-20	100-240 277	0.8 0.3	50/60	20	3
CEN-60-24	100-240 277	0.8 0.3	50/60	24	2.5
CEN-60-30	100-240 277	0.8 0.3	50/60	30	2
CEN-60-36	100-240 277	0.8 0.3	50/60	36	1.7
CEN-60-42	100-240 277	0.8 0.3	50/60	42	1.45
CEN-60-48	100-240 277	0.8 0.3	50/60	48	1.3
CEN-60-54	100-240 277	0.8 0.3	50/60	54	1.15
CEN-75-15	100-240 277	1.1 0.4	50/60	15	5
CEN-75-20	100-240 277	1.1 0.4	50/60	20	3.75
CEN-75-24	100-240 277	1.1 0.4	50/60	24	3.15
CEN-75-30	100-240 277	1.1 0.4	50/60	30	2.5
CEN-75-36	100-240 277	1.1 0.4	50/60	36	2.1
CEN-75-42	100-240 277	1.1 0.4	50/60	42	1.8
CEN-75-48	100-240 277	1.1 0.4	50/60	48	1.57
CEN-75-54	100-240 277	1.1 0.4	50/60	54	1.4

3. The Class 2 output of these power supplies are suitable for use in dry and damp locations.
4. In the end product, power supply spacing to other heat producing components and to sidewalls shall be minimum 4 inch, 1 inch end to end and minimum 2 inches spacing to top of enclosure.
5. These products shall be enclosed in the end product.
6. These products are suitable for factory wiring only.
7. In Canada Models CEN-60-48, CEN-60-54, CEN-75-48 and CEN-75-54 must have their Class 2 output circuit and components completely inaccessible in the end product application.

LED array drivers, Models LPV-60-12, LPV-60-15, LPV-60-24, LPV-60-36 and LPV-60-48.

1. These power supplies have been evaluated to Class 2 output requirements for dc circuits with a maximum of one Class 2 output.
2. These products are provided with the following electrical ratings:

	Input			Output	
Model	Vac	A	Hz	Vdc	A
LPV-60-12	100-240	1.2	50/60	12	5.0
LPV-60-15	100-240	1.2	50/60	15	4.0
LPV-60-24	100-240	1.2	50/60	24	2.5
LPV-60-36	100-240	1.2	50/60	36	1.67

LPV-60-48	100-240	1.2	50/60	48	1.25

3. The Class 2 output of these power supplies are suitable for use in dry and damp locations only.
4. In the end product, power supply spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
5. These products shall be enclosed in the end product.
6. These products are suitable for factory wiring only.
7. Model LPV-60-48 is only acceptable for use with the product in the US.
8. The load powered by the Class 2 output of the power supplies rated at max 30 VDC or less are suitable for use in dry, damp and wet locations.

Component sign accessories power supplies, isolated output, Models CLG-150-12A, CLG-150-15A, CLG-150-20A, CLG-150-24A, CLG-150-30A, CLG-150-36A, CLG-150-12B, CLG-150-15B, CLG-150-20B, CLG-150-24B, CLG-150-30B, CLG-150-36B, CLG-150-12C, CLG-150-15C, CLG-150-20C, CLG-150-24C, CLG-150-30C, CLG-150-36C, CLG-150-12, CLG-150-15, CLG-150-20, CLG-150-24, CLG-150-30, CLG-150-36, CLG- 150-48A, CLG-150-48B, CLG-150-48C and CLG-150-48; Models HLG-240H-yz, where y = 12, 15, 20, 24, 30, 36, 42, 48, 54; z = Blank, A, B, or C), HLG-240-yz, where y = 12, 15, 20, 24, 30, 36, 42, 48, or 54 and z = Blank, A, B, or C.

1. These products are provided with the following electrical ratings:

Model	Input, ac			Output, dc	
	V	A	Hz	Voltage, V	A
CLG-150-12A CLG-150-12B CLG-150-12C CLG-150-12	100-240/277	2/0.68	50/60	12	11
CLG-150-15A CLG-150-15B CLG-150-15C CLG-150-15	100-240/277	2/0.68	50/60	15	9.5
CLG-150-20A CLG-150-20B CLG-150-20C CLG-150-20	100-240/277	2/0.68	50/60	20	7.5
CLG-150-24A CLG-150-24B CLG-150-24C CLG-150-24	100-240/277	2/0.68	50/60	24	6.3
CLG-150-30A CLG-150-30B CLG-150-30C CLG-150-30	100-240/277	2/0.68	50/60	30	5.0
CLG-150-36A CLG-150-36B CLG-150-36C CLG-150-36	100-240/277	2/0.68	50/60	36	4.2
CLG-150-48A CLG-150-48B CLG-150-48C CLG-150-48	100-240/277	2/0.68	50/60	48	3.2
HLG-240H-12A HLG-240H-12B HLG-240H-12C HLG-240H-12 HLG-240-12A HLG-240-12B HLG-240-12C HLG-240-12	100-240/277	4/1.2	50/60	12	16
HLG-240H-15A HLG-240H-15B HLG-240H-15C HLG-240H-15 HLG-240-15A HLG-240-15B HLG-240-15C HLG-240-15	100-240/277	4/1.2	50/60	15	15
HLG-240H-20A HLG-240H-20B HLG-240H-20C HLG-240H-20 HLG-240-20A HLG-240-20B HLG-240-20C HLG-240-20	100-240/277	4/1.2	50/60	20	12

HLG-240H-24A HLG-240H-24B HLG-240H-24C HLG-240H-24 HLG-240-24A HLG-240-24B HLG-240-24C HLG-240-24	100-240/277	4/1.2	50/60	24	10
HLG-240H-30A HLG-240H-30B HLG-240H-30C HLG-240H-30 HLG-240-30A HLG-240-30B HLG-240-30C HLG-240-30	100-240/277	4/1.2	50/60	30	8
HLG-240H-36A HLG-240H-36B HLG-240H-36C HLG-240H-36 HLG-240-36A HLG-240-36B HLG-240-36C HLG-240-36	100-240/277	4/1.2	50/60	36	6.7
HLG-240H-42A HLG-240H-42B HLG-240H-42C HLG-240H-42 HLG-240-42A HLG-240-42B HLG-240-42C HLG-240-42	100-240/277	4/1.2	50/60	42	5.72
HLG-240H-48A HLG-240H-48B HLG-240H-48C HLG-240H-48 HLG-240-48A HLG-240-48B HLG-240-48C HLG-240-48	100-240/277	4/1.2	50/60	48	5
HLG-240H-54A HLG-240H-54B HLG-240H-54C HLG-240H-54 HLG-240-54A HLG-240-54B HLG-240-54C HLG-240-54	100-240/277	4/1.2	50/60	54	4.45

2. In the end product, power supply spacing to other heat producing components shall be at least 25.4 mm (1 in) from end to end and 101.6 mm (4 in) from side to side.
3. These products shall be enclosed in the end product.
4. These products are suitable for factory wiring only.
5. These products are intended for use in a dry or damp locations only.
6. The suitability of input/output leads and the wring shall be determined in end product use.
7. The load powered by these products shall be enclosed in the end product applications.
8. These products are only suitable for use with permanently installed products.

Component sign accessories, LED drivers, isolated output, Model LPV-100-X, where X can be 5, 12, 15, 24, 36 or 48 for output voltage and Models LPV-150-Y Series, where Y can be 12, 15, 24, 36 or 48 for output voltage.

1. These LED power supplies comply with other than class 2 requirements.
2. These products are provided with the following electrical ratings:

	Input (ac)			Output (dc)	
Model	V	A	Hz	V	A
LPV-100-5	100-240	2.2	50/60	5	12
LPV-100-12	100-240	2.2	50/60	12	8.5
LPV-100-15	100-240	2.2	50/60	15	6.7
LPV-100-24	100-240	2.2	50/60	24	4.2
LPV-100-36	100-240	2.2	50/60	36	2.8
LPV-100-48	100-240	2.2	50/60	48	2.1

LPV-150-12	200-240 277	1.7 1.5	50/60	12	10
LPV-150-15	200-240 277	1.7 1.5	50/60	15	8
LPV-150-24	200-240 277	1.7 1.5	50/60	24	6.3
LPV-150-36	200-240 277	1.7 1.5	50/60	36	4.2
LPV-150-48	200-240 277	1.7 1.5	50/60	48	3.2

3. In the end product, power supply spacing to other heat producing components shall be at least 25.4 mm (1 in) from end to end and 101.6 mm (4 in) from side to side.
4. These products shall be enclosed in the end product.
5. These products are suitable for factory wiring only.
6. These products are intended for use in a dry or damp locations only.
7. The suitability of input/output leads and the wring shall be determined in end product use.

MEDIA GRAPH INC E347479

300 MONTEE DE LIESSE
ST LAURENT, QC H4T 1N9 CANADA

Class 2 LED modules, Models LED SS, LED DS.

1. These products are only suitable for connection to a Class 2 power source, rated 30 Volt DC or 15 Volt AC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than 30 Volt DC or 15 Volt AC.
3. These Class 2 LED modules are rated as noted in the model list table. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated class 2.
5. These products are not required to be enclosed or protected from the weather in the end product.

METRO LED E473345

5182-A
Brookhollow Pkwy
Norcross, GA 30071

Class 2 LED Power Supplies, Models ML-PSU-60W-12, ML-PSU-30W-12, ML-PSU-240-RX, ML -PSU-200-RX, ML -PSU-150-RX, ML -PSU-120-RX, ML -PSU-100-RX, ML -PSU-90-RX, ML -PSU-60-RX, ML -PSU-45-RX, ML -PSU-50-RX, ML -PSU-350-RX, ML -PSU-700-RX, ML -PSU-1050-RX, ML -PSU-1400-RX, ML -PSU-520-RX, ML -PSU-20-RX, ML -PSU-15-RX, ML -PSU-12-RX, ML -PSU-10-RX, ML -PSU-8-RX, ML -PSU-6-RX, ML -PSU-45N-12, ML -PSU-60N-12, MLE -PSU-20N-24, MLE -PSU-35N-24, MLE -PSU-45N-24, MLE -PSU-60N-24, MLT -YZ-RX, MLE -100N-R12, MLE -20N-R12, MLE -35N-R12.

1. The output of this component complies with Class 2 requirements in the Standard for Class 2 Power Units, UL 1310.
2. In the end product, power supply spacing to other heat producing components shall be min. 2 inches spacing to sidewalls, and min. 2 inches spacing to top of enclosure.
3. These products shall be enclosed in the end product.
4. These power supplies are suitable for use in dry and damp locations.
5. These devices are intended for factory installation only.
6. This Class 2 power supply is not provided with any grounding. The enclosure must be grounded in the end product.

Class 2 LED Power Supplies, Cat. No. ML-FXXQYZTMMMM.

1. These products are only suitable for use in dry, damp and wet locations and supplied with a Class 2 power source rated 12 Volt DC or less.
2. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. These products are not required to be enclosed or protected from the weather in the end product.
4. These products may be secured in place in the end product by any means available.

MIC ELECTRONICS LTD E351950

A-4, ELECTRONIC COMPLEX
KUSHAIGUDA,
HYDERABAD, AP 500062 INDIA

Dry location, Indoor LED Display Module signs, Models DigiTile-9RC, DigiTile-12RC.

1. Acceptability for multiple connections (daisy chaining) not exceeding 12 A (based on 14AWG power supply cord) on a single branch circuit shall be determined by the end product requirements.
2. These products were tested for use at a room ambient temperature of 25°C. Testing was conducted on the test bench positioned vertically facing horizontally. The need for conducting temperature testing in the end product shall be considered where the units are installed in a higher ambient.
3. The suitability of the mounting means shall be determined in the end use.
4. The Leakage current test shall be conducted in the end use for cord connected signs.
5. No supply disconnecting means was provided. The need for a separate disconnect in the end product shall be considered.
6. The sign components are for dry location use.
7. The suitability of Power Supply Cord needs to be determined in the end use.

8. This product was not tested for conformal coating ageing test. The coating shall be applied on R/C PWB for indoor application only. The need for conducting the test shall be determined in the end use based on spacing and pollution degree as per end product requirements.
9. This product was tested for 5VA flame test on the front sign side.

MICRALUX INC E235719

1162 N REESE DR
PROVO, UT 84601

Class 2 LED Module, Cat. Nos. LED Strips

1. These products are only suitable for connection to a UL Listed or Recognized Class 2, 12 volt DC power source.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited supplies.
3. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations.
5. These products are not required to be enclosed or protected from weather.

LED Power Converter, Class 2, Cat. Nos. PS24.

1. These products are suitable for use in dry and damp location. In wet location Signs, these products are to be installed where protected from rain, snow and water spray by water shield or sign body.
2. These products are intended for use only connected to a Class 2 circuit power.
3. Each output of this product complies with Class 2 requirements.

MIRAE LED CO LTD E472218

RM 434, 296, SANDAN-RO, DANWON-GU
ANSAN-SI, GYEONGGI-DO 425-852 REPUBLIC OF KOREA

Class 2 LED modules, Model MDB-53F66.

1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. These products are suitable for use in dry, damp and wet locations with Class 2 supply sources rated at 12 Volts DC or less.
4. These products are not required to be enclosed or protected from the weather in the end product.
5. These products may be secured in place in the end product by any means available.

MITSUBISHI PLASTICS COMPOSITES AMERICA INC E318242

401 VOLVO PKY
CHESAPEAKE, VA 23320

Structural Panels, Models AP44(#2)(#4), AP33(#1)(#3), LT23(#1)(#5), LT24(#2)(#5), LT33(#1)(#6), LT34(#2)(#6), LT43(#1)(#7), LT44(#2)(#7), 2mm RF.

1. Instructions shall be provided that illustrate the proper cutting, pointing, installation and securement to a building surface of a structural panel.
2. Acceptable for use in dry, damp and wet locations.
3. Structural panels are suitable for supporting enclosures, plastic faces, and moldings that are reliably secured to the panel.
4. Structural panels are not suitable for use as the enclosure of bare live parts or wiring.
5. Components other that neon standoffs or small decorative parts must be secured to the panel by bolts, nuts and washers of minimum 7/16 (11mm) diameter.
6. All exposed edges of a structural panel, including drilled holes, etc. shall be treated with two coats of outdoor paint or wood coating.
7. These structural panels did not comply with the component Support test. Therefore, sheet metal screws shall not be used to fasten components to these panels.
8. A letter made from a structural panel shall have at least two points of support and shall have no point more than 10 (254mm) from a point of support.
9. The metal faces shall be grounded in accordance with the Standard for Electric Signs (UL 48). Separate grounding straps shall be used when necessary.
10. Water exclusion of the end-product shall be determined in the end product.
11. Minimum 5 cm (2 in) spacing from heat producing components required.
12. Suitable for the connection and support of conduit.
13. All metal surfaces exposed to contact during normal use or routine maintenance shall be bonded and/or grounded in accordance with UL 48.

MULTIPANEL UK LTD E322586

UNIT 6 SITE 2
OAK BUSINESS UNITS THORVERTON ROAD
MATFORD
EXETER, DEVON EX2 8FS UNITED KINGDOM

Structural panel, Cat. Nos. designated "ALUPANEL".

1. Illustrate the proper cutting, pointing, installation, component securement and securement to a building surface of a structural panel.
2. Structural panels have been evaluated for wet location with 50°C ambient.
3. Structural panels may be employed as external decorative faces and are acceptable for support of complete electrical enclosures, plastic faces, and moldings that are reliably secured to the panel.

4. Structural panels are not suitable to be used as the enclosure of bare live parts or wiring.
5. Nuts and bolts must be used when fastening a ballast or transformer weighing more than 7-1/2 lbs (3.4 kg); and
6. A letter made from a structural panel shall have at least two points of support and shall have no point more than 10 in. from a point of support.

N GLANTZ & SON E352418

2501 CONSTANT COMMENT PL
LOUISVILLE, KY 40299

Structural panels, Models EMPBXXXX Series, where XXXX can be any alpha numeric characters or blank.

1. The structural panel is suitable for use in dry, damp and wet locations.
2. The structural panel may be used in decorative and sign body applications, and shall not be used as part of the sign enclosure.
3. The panel is not suitable for use in component mounting and support applications.
4. Rain tightness shall be determined in the end product.
5. Electrical spacing and bonding for grounding shall comply with the end product standard.
6. Not suitable for use in terminating conduit.
7. Any parts other than neon standoffs or small decorative parts secured to the panel must be secured by means of through bolts, nuts and washers. The minimum washer diameter is 7/16 in.
8. A letter made from a structural panel shall have at least two points of support and shall have no point more than 10 in. from a point of support.
9. The structural panels are rated 75°C, where consideration will need to be given to end product thermal spacing from heat producing components.
10. These materials are available as unpainted aluminum or pre-painted aluminum.
11. This material has not been investigated for the securement of conduit, electrode housings or the like, suitability shall be determined in the end product.

NANJING CEDAR GREEN TECHNOLOGIES CO LTD E358556

739 SHENGAN AVENUEY
BINJIANG DEVELOPMENT AREA
JIANGNING DISTRICT
NANJING, JIANGSU CHINA

Class 2 LED modules, Cat. No. CD-MXX-XXX-XX-XX-XXX series. The first X can be any one of the Arabic numerals of 1 through 9, these indicate LED quantity; The second X can be any letter in alphabet, represent for beam angel; The third X is for the supplier of the lamp; The fourth X is for the model of the lamp; The fifth X can be any one of alphanumeric characters; The sixth and seventh X is for the color; The eighth and ninth X is for the product versions; The last three X are for the input voltage, 12V represent the input voltage is 12VDC, 15V represent the input voltage is 15VDC.

1. These products are only suitable for connection to a Class 2 power source, rated 15 Volt DC or less. (For model CD- MXX-XXX-XX-XX-15V)
2. These products are only suitable for connection to a Class 2 power source, rated 12 Volt DC or less. (For model CD- MXX-XXX-XX-XX-12V)
3. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than electrical ratings.
4. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
5. These products are suitable for use in dry, damp and wet locations with supply sources rated at 15 Vdc or less. (For model CD-MXX-XXX-XX-XX-15V)
6. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Vdc or less. (For model CD-MXX-XXX-XX-XX-12V)
7. These products are not required to be enclosed or protected from the weather in the end product.
8. The suitability of supply leads shall be determined in end use.

NANOLUMENS INC E348993

4900 AVALON RIDGE PKY
NORCROSS, GA 30071

Component Signs, Models NS-400, NS-500, NS-521, NS-600, NS-625, NS-1000.

1. These components should be installed in accordance with the manufacturer's installation instructions.
2. These products are suitable for use in dry locations.
3. Each power supply can only drive max number of 15 modules.
4. These units are rated as follows;

	Input			Output Per Power Supply	
Model Designation	Input Voltage (Vac)	Max. Input Current (A)	Input Frequency (Hz)	Output Voltage (Vdc)	Max. Output Current (A)
NS-400, NS-500, NS-521, NS-600, NS-625, NS-1000	120-240	5-2.5	50/60	5	60

5. These products shall be enclosed in a suitable electric enclosure in the end product.
6. When provided with attachment plug, this product shall be connected to a dedicated receptacle in a permanently connected sign.
7. These products are suitable for factory installation only.

NC LED CO LTD E347462

16-17 GAGOK-RI
HWADO-EUP
NAMYANGJU-SI, GYEONGGI-DO 472-841 REPUBLIC OF KOREA

Sign Accessories, Class 2 LED Modules: HLC1, HLC2S, HLC2, HLC3S, HLC3, HLC4, OMX-L4, OMX-L3, OMX-M3, OMX-M2, OMX-S2, OMX-N1, CC-IP-04, CC-IP-03L, CC-IP-03, CC-IP-02L, CC-IP-02, CC-IP-01, ELW4, ELW3L, ELW3, ELW2L, ELW2, ELW1, CCL4S, CCL3L, CCL3, CCL2L, CCL2, CCL1, ECO1, ECO2S, ECO2, ECO3S, ECO3, ECO 4, EC-IP-04, EC-IP-03L,EC-IP-03, EC-IP-02L, EC-IP-02, EC-IP-01, eco max OMX-L4, eco max OMX-L3, eco max OMX-M3, eco max OMX-M2, eco max OMX-S2, eco max OMXN1, NCP1, NCP2S, NCP2, NCP3S, NCP3, NCP4, CCL4, NCC3, NCC3S, NCC2, NCC2S, NCC1, LX-HLC4, LX-HLC3S, LX-HLC2S, LX-ECO4, LX-ECO3S, LX-ECO2S, MINI3, RGB3, RGB4, LX-RGB3, LX-RGB4, HLN1,HLN2, HLN2S, HLN3, HLN3S, HLN4, MINI1, Magic-RGB, OLL-24V, BXL-24V, ECN-IP-04, ECN-IP-03, ECN-IP-02, NW3.

1. These products are only suitable for connection to a Class 2 power source rated 24 Volt DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuit and is rated greater than 24 V DC.
3. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 24 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means.

NCTECH CO LTD E364127

22 BIRYONG-RO 524BEON-GIL
HWADO-EUP
NAMYANGJU-SI, GYEONGGI-DO 472-841 REPUBLIC OF KOREA

Component sign accessories, Class 2 LED power supply, Model NCP60AL-PF-12VC.

1. This Power Supply complies with the Class 2 output requirements and has one Class 2 outputs.
2. This unit is suitable for use in dry and damp locations.
3. In the end product, power supply spacing to other heat producing components shall be min. 2 inches spacing to sidewalls, and min. 2 inches spacing to top of enclosure.
4. These products are provided with the following electrical ratings:

Model No.	Input Voltage (Vac)	Input Frequency (Hz)	Power Consumption(W)	Input Current (A)	Output Voltage (Vdc)	Output Current (A)	Output Wattage (W)
NCP60AL-PF-12VC	100-277	50/60	76	0.83	12	5.0	60

5. This product shall be enclosed in the end product.
6. In the end product, power supply shall be located not less than 1 inch (25.4mm) apart when arranged end-to-end, and not less than 4 inches (102mm) apart when arranged otherwise.
7. The unit is intended for being used in fixed signs.
8. The input and output connections have been investigated for factory wiring only. The need for other consideration should be considered in end-use product.
9. This product is intended to be used in the condition Variable Resister (VR1) set to 343 Ohm.
10. The LED driver has been temperature tested in a 50 °C ambient, where the maximum temperatures on the outer surface of the enclosure above Transformer (T2) reached 77.8 °C. The need for further evaluation of the internal components shall be considered if enclosure temperatures exceed this value when subjected to temperature testing in the end product.

NEON TECH E307713

1965 PLAZA REAL
OCEANSIDE, CA 92056

Class 2 LED Power Supply, Model LT380.

1. This power supply has a Class 2 output that has been evaluated to Class 2 output requirements for dc circuits.
2. This product with Class 2 outputs are suitable for use only in dry locations.
3. In the end product, power supply spacing to other heat producing components shall be minimum 4 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.

NIVEN MARKETING GROUP E344900

955 KIMBERLY DR
CAROL STREAM, IL 60188-1806

Light Kit Assembly, designated as "Surf Board Display Kit" System.

1. These products shall be installed in accordance with the manufacturer's instructions.
2. These products are suitable for use in dry locations only.
3. These products are for factory wiring only in sign or outline lighting related application.
4. Wiring and means of connection between modules shall be investigated in the end product requirements.
5. The unit is not provided with mounting means. The mounting means requirements shall be considered in the end product.
6. The suitability of installation shall be determined in the end product applications.

NORA LIGHTING E352531

6505 GAYHART ST
CITY OF COMMERCE, CA 90040

Class 2 Power Supply, Models NMT-244/12C2D1, NMT-303/24C2D1.
1. These power supplies have been evaluated for use in portable LED signs.
2. The power supplies have outputs that individually comply with Class 2 circuit requirements.
3. These units are suitable for use in dry and damp locations without a need for an additional enclosure.
4. The output of this power source shall not be connected to any other power source or provide power to components connected to another power source.
5. The attachment plug on the end of the power supply cord is not to be removed.

Class 2 LED modules, Models NUFLED-110/30, NUFLED-110/65.
1. These products are only suitable for connection to the output of a UL Listed or R/C Class 2 Power Supply rated 12VDC.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 requirements.
3. These products are rated per the Table on Page 2. When units are connected to a Class 2 circuit, their number is to be limited to draw a total wattage of no greater than the secondary current rating of each Class 2 power supply.
4. These products are suitable for use in dry, damp and wet locations without additional enclosures.

Class 2 LED modules, Models NUFLED-115/30, NUFLED-115/65.
1. These products are only suitable for connection to the output of a Class 2 power source.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 requirements.
3. The LED modules are rated as noted in the electrical ratings table. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at electrical ratings or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end products by any means available.

Class 2 LED modules, Models NUTP4 SERIES, NUTP1 SERIES, NUTP7 SERIES, NUTP6 SERIES, NUTP3 SERIES, NUTP5 SERIES, NUTP8 SERIES, NUTP2 SERIES.
1. These products are only suitable for connection to a Class 2 power source rated 24 Volt DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuits.
3. When these units are connected to a Class 2 supply circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.

LED Modules, Models LS0723x, LS0766x, LS0769x, LS0776x, LS0782x, LS0783x, and LS-KM02-x where that x may be R, G, B, Y, CW, WW, P or O indicating LED Color.
1. These products are only suitable for connection to a Class 2 power source rated 24 Volt DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuits.
3. When these units are connected to a Class 2 supply circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.

NORLOK TECHNOLOGY INC **E242292**
26 ADAMS BLVD
BRANTFORD, ON N3S 7V2 CANADA

Metal Joiner System, LETTER LOK Series of clinchlok machines such as LETTER LOK 2000 in combination with one of the following dies inserts Part No. MP70001 or Part No. MP70002 with punch Part No. MP70010 is for use in joining painted or unpainted sheet aluminum.
1. Die insert Chief Enterprises Part No. MP70001 is suitable for joining painted or unpainted aluminum nominal 0.040 in. thick (0.034 in. thick minimum) into painted or unpainted aluminum nominal 0.040 in. thick (0.034 in. thick minimum). Minor diameter of button not including the tabs made by the material flowing past the die blades 0.285 in. maximum.
2. Die insert Chief Enterprises Part No. MP70001 is suitable for joining painted or unpainted aluminum nominal 0.040 in. thick (0.034 in. thick minimum) into painted or unpainted aluminum nominal 0.063 in. thick (0.056 in. thick minimum). Minor diameter of button not including the tabs made by the material flowing past the die blades 0.295 in. maximum.
3 Die insert Chief Enterprises Part No. MP70002 is suitable for joining painted or unpainted aluminum nominal 0.063 in. thick (0.056 in. thick minimum) into painted or unpainted aluminum nominal 0.090 in. thick (0.080 in. thick minimum) or painted or unpainted aluminum nominal 0.063 in. thick (0.056 in. thick minimum) to painted or unpainted aluminum nominal 0.063 in. thick (0.056 in. thick minimum). Minor diameter of button not including the tabs made by the material flowing past the die blades 0.285 in. maximum.
4. Punch Chief Enterprises Part No. MP70010 for use with any of the above die inserts
5. Minimum spacing between clinches is 0.5 in. Maximum spacing between clinches is 4 in.
6. The tooling has been evaluated for joining only two pieces of aluminum, painted or unpainted.
7. Best results are when joining two pieces of aluminum having the same nominal thickness. Aluminum in the same thickness ranges described above may be joined provided the thicker piece forms the mushroom cap.
8. Total combined thickness of aluminum shall not exceed 0.15 in.
9. The thicker material shall not be more than twice the thickness of the thinner material.
10. The depth of the die cup has a nominal thickness equal to both layers of aluminum.

11. Clinches shall be inspected before the next production step to verify that the minor diameter is greater than 0.24 in. and less than the values specified above.
12. Clinches shall be inspected before the next production step to verify that they are round, free of cracks on mushroom cap, and free of cracks inside joint cup. Double struck clinches are not acceptable.
13. The die, punches and LetterLok machines shall be serviced and maintained in accordance with the manufacturers instructions.
14. A service log by date shall be kept for each machine. Each punch and die change shall be noted. Each change in set up for material thickness shall be noted. Punch and die usage shall be monitored and the tools replaced at least in accordance with the manufacturers replacement instructions.
15. Assemblies with defective clinches shall be reworked by adding a like number of defect free clinches adjacent to each bad clinch. Instead of reworking, the assembly shall be scrapped.

NP LIGHTING VERTRIEBS-GMBH E469709

SPECKGRABEN 19, 34414
WARBURG, GERMANY

Class 2 LED modules, Cat. Nos. ED-HP-03XXXX, ED-HP-05XXXX, ED-IP-HP-03XXXX, ED-IP-HP-05XXXX, ED-IP-HP1-01XXXXYYY, ED-IP-HP2-01XXXXYYY, ED-IP-HP2X3-01XXXXYYY, ED-IP-HP3-01XXXXYYY, LB-IP-03RGBYYY, LB-IP-02XXXXYYY, LB-IP-03XXXXYYY, LB-IP-04XXXXYYY, MINI-02XXXX, WA-IP-01XXXXYYY, WA-IP-02XXXXYYY, WA-IP-03XXXXYYY, WA-IP-04XXXXYYY, WE-IP-02XXXXYYY, WE-IP-03XXXXYYY, TK-IP-02XXXXYYY, TK-IP-03XXXXYYY, FS-CL-12T30XXXX, FS-CL-12T60XXXX, FS-CL-12T90XXXX, FS-CL-12T120XXXX, FS-HI-12T30RGB, FS-HI-12T30XXXX, FS-HI-12T30XXXXC, FS-HI-12T60RGB, FS-HI-12T60XXXX, FS-HI-12T60XXXXC, FS-IPK-CL-12T30XXXX, FS-IPK-CL-12T60XXXX, FS-IPK-CL-12T90XXXX, FS-IPK-CL-12T120XXXX, FS-IPK-HI-12T30RGB, FS-IPK-HI-12T30XXXX, FS-IPK-HI-12T30XXXXC, FS-IPK-HI-12T60RGB, FS-IPK-HI-12T60XXXX, FS-IPK-HI-12T60XXXXC, FS-IPS-CL-12T30XXXX, FS-IPS-CL-12T60XXXX, FS-IPS-CL-12T90XXXX, FS-IPS-CL-12T120XXXX, FS-IPS-HI-12T30RGB, FS-IPS-HI-12T30XXXX, FS-IPS-HI-12T30XXXXC, FS-IPS-HI-12T60XXXX, FS-IPS-HI-12T60XXXXC, FS-IPS-HI-12T60RGB, FS-CL-24T30XXXX, FS-CL-24T60XXXX, FS-CL-24T90XXXX, FS-CL-24T120XXXX, FS-HI-24T30RGB, FS-HI-24T30XXXX, FS-HI-24T30XXXXC, FS-HI-24T60RGB, FS-HI-24T60XXXX, FS-HI-24T60XXXXC, FS-IPK-CL-24T30XXXX, FS-IPK-CL-24T60XXXX, FS-IPK-CL-24T90XXXX, FS-IPK-CL-24T120XXXX, FS-IPK-HI-24T30RGB, FS-IPK-HI-24T30XXXX, FS-IPK-HI-24T30XXXXC, FS-IPK-HI-24T60RGB, FS-IPK-HI-24T60XXXX, FS-IPK-HI-24T60XXXXC, FS-IPS-CL-24T30XXXX, FS-IPS-CL-24T60XXXX, FS-IPS-CL-24T90XXXX, FS-IPS-CL-24T120XXXX, FS-IPS-HI-24T30RGB, FS-IPS-HI-24T30XXXX, FS-IPS-HI-24T30XXXXC, FS-IPS-HI-24T60XXXX, FS-IPS-HI-24T60XXXXC, FS-IPS-HI-24T60RGB.

1. These products are only suitable for connection to a Class 2 power source, rated 24 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than electrical ratings.
3. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 24 Vdc or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. The suitability of supply leads shall be determined in end use.

NUDO PRODUCTS INC E180252

1500 TAYLOR AVE
SPRINGFIELD, IL 62703

Structural panels, consisting of a plywood core faced on both sides with sheet aluminum, Type Nu-Alum.

1. The panels may be used as part of a sign body but shall not be relied upon as an electrical enclosure.
2. Any parts other than neon standoffs or small decorative parts secured to the panel must be secured by means of through screws or bolts, nuts and washers.
3. The backing is not to be considered as providing a weatherproof enclosure, therefore, all internal sign components shall be suitable for outdoor use.
4. All heat producing components such as ballasts, fluorescent lamps and starters, transformers, electrodes and the like shall be spaced at least 1 inch from the structural backing.

Structural panels, consisting of a polypropylene core faced on both sides with sheet aluminum, Type Aluma Core.

1. The structural panel may be employed as external decorative faces and for the support of complete electrical enclosures.
2. The structural panel is not to be used to enclose bare live parts or wiring.
3. Enclosures, plastic faces, and moldings may rely upon the structural panel for support. These components are to be reliably secured to the panel.
4. Any parts other than neon standoffs or small decorative parts must be secured to the panel by bolts, nuts and washers. The minimum washer diameter is 7/16 inch.

Structural panels, Models PolyMetal and Elements.

1. Suitable for use in dry, damp and wet locations.
2. Suitable for use in decorative and sign body applications only.
3. Suitable for use in component support applications. When threaded directly into the panels, suitability of screws shall be determined in the end product.
4. Rain tightness shall be determined in the end product.
5. Electrical spacings and bonding for grounding shall comply with the end product standard.
6. A letter made from a structural panel shall have at least two points of support and shall have no point more than 10 in. from a point of support.
7. These materials are rated Polyethylene. Consideration will need to be given to end product thermal spacings from heat producing components or temperature test.
8. These materials are available as unpainted aluminum or pre-painted aluminum.
9. This material has not been investigated for the securement of conduit, electrode housings or the like, suitability shall be determined in the end product.

OK INDUSTRY INC **E340391**
102-905 BUCHEON TECHNOPARK
364 SAMJUNG-DONG OJEONG-GU
BUCHEON, GYEONGGI-DO 421-740 REPUBLIC OF KOREA

Class 2 LED Modules, Models B301W20*, W30*, W40*, W50*, RGB20*, RGB30*, RGB40*, R20*/B20*/G20*, R30*/B30*/G30*.

1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit and which is rated greater than 12 V DC.
3. These products are each rated max. 1.44 watts per module. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp, and wet locations with supply sources rated at 12 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.
7. When these products are used in applications other than signs or outline lighting, the need to conduct a temperature test shall be considered.

OPTEK TECHNOLOGY INC **E339817**
SUITE 130
M S 411
1645 WALLACE DR
CARROLLTON, TX 75006

Class 2 LED Strips, Cat. Nos. OVM12F3x7 Series, OVM18F4x7 Series, OPA775, OPA776 and OVQ12S30x7 Series.

1. These products are only suitable for connection to a Class 2 power source, rated 12 - 24 Volts DC.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits.
3. These Class 2 LED modules are each rated as noted in the model list tables. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at rated 12 - 21.2 Volts DC. Model OPA776 is suitable for use in dry and damp locations only.
5. These products are not required to be enclosed or protected from the weather in the end product.

ORDER-MATIC ELECTRONICS CORP **E328326**
2700 E Reno Ave
Oklahoma, OK 73129

Class 2 LED Panel, Cat. No. Model MDMON.

1. These products are required to be enclosed in the end use sign.
2. These products are intended only for factory installation in new signs.
3. Grounding of frame to supply ground is required. Suitability of bonding for grounding connection is to be determined in final application.
4. Suitability of LCD panel mounting shall be determined in final application.
5. In the end product, the LCD panel spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
6. These products are only suitable for connection to a circuit from a Class 2 power source.

OSRAM SYLVANIA INC **E220096**
54 CHERRY HILL DR
DANVERS, MA 01923

LED Array Drivers, Models OT3W/350C/120-240V, OT240/120-240/24/CH3, OT96/120-277/24, OT96/120-277/24X, OT240/120-240/24/CH, OT240/120-240/12/CH, OT25W/700C/UNV, OT20W/10V/120-240V, OT17W/700C/UNV, OT17W/24V/UNV, OT40W/1400C/UNV, OT40/120-277/1050E, OT40/120-277/850E, OT25W/1040C/UNV, OT40W/1110C/UNV.

1. These power supplies have multiple outputs. Power supply Model OT240/120-240/12/CH has a maximum of four Class 2 outputs. Power supply Models 0T3/120-240/350 and OT240/120-240/24/CH have maximum three Class 2 outputs. Each output of these power supplies have been evaluated to Class 2 output requirements for dc circuits.
2. These products with Class 2 outputs are suitable for use in dry, damp and wet locations.
3. Power supply spacing to other heat producing components shall be minimum 4 inches when minimum spacing to sidewalls and top of enclosure is kept at minimum 2 inches.
4. When not marked for dry and damp locations only, all units shall be provided with liquid tight fittings on the primary and secondary circuits.
5. Cord connected (not cord and plug) models are suitable only for use in cord connected signs:
   A) The suitability of the cord length, type, and temperature rating shall be determined in the end use.
   B) Strain relief testing has been conducted at 20 lbs. The need for additional strain relief shall be determined in the end use.
   C) Leakage current testing has not been conducted on the cord connected models and shall be conducted in the end use.

LED Array Drivers, Models OT25/120/10, OT50/120/10, OT75/120/24.

1. These power supplies have a maximum of one Class 2 output. The output of these power supplies has been evaluated to Class 2 output requirements for dc circuits.
2. These products with Class 2 outputs are suitable for use in dry and damp locations only.
3. In the end product, power supply spacing to other heat producing components shall be minimum 4 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
4. When used in a cord connected product, the need for conducting a leakage current test shall be considered in the end product.
5. These lead connected products are suitable for use in commercial application only when marked with 277 V input voltage.

LED Array Drivers, Models OT40W/1400C/UNV, OT40/120-277/1050E, OT40/120-277/850E.
1. The product shall be installed in compliance with the mounting, spacing, casualty, and segregation requirements of the ultimate application.
2. These units are provided with a Class 105(A) or Class 130 (B) insulation system.
3. Input leads are Style 1015, No. 18 AWG, rated VW-1, 600 V, 105°C. Output leads are Style 1430, No. 18 AWG, rated VW-1, 300 V, 105°C. The suitability of the input and output connections shall be determined in each end use application.
4. These power units are intended for dry or damp location use only.
5. Strain Relief and Impact Tests have not been investigated. The suitability of the enclosure as ultimate enclosure shall be determined in the end-use application.
6. The polymeric enclosure of each unit has not been evaluated as ultimate enclosure. The flame class of polymeric enclosure of each unit is V-0 and the necessity of additional fire barriers shall be determined in end product.
7. In the end product, power supply spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.

OSRAM SYLVANIA INC E258264
54 CHERRY HILL DR
DANVERS, MA 01923

Class 2 LED Illumination Module, Cat. Nos. OS-LM01A-X, OS-LM03A-X, where X may be replaced with any letters of the alphabet A to Z, or any number from 0 to 9, or any combination of letter and numbers representing different LED colors ; LINEAR/LM01A/W3F/XXX and L4LRE/10V/XXX/LNRLT, where X can be any number from 0-9 indicating color temperature.
1. These products are only suitable for connection to a UL Listed or R/C (UYMR2), Component - Sign Accessory.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 requirements.
3. Class 2 LED Illumination Module: Cat Nos. OS-LM01A-X, OS/LM01A/X, OS-LM03A-X, and OS/LM03A/X are each rated max. 7.5 Watts per unit. When units are connected to a Class 2 circuit, their number is to be limited to draw a total wattage of no greater than the maximum secondary or output current rating of each Class 2 circuit.
4. These products are suitable for use in dry, damp, or wet locations.
5. These products are not required to be enclosed or protected from weather.

Class 2 LED Illumination Module, Cat Nos. OS-LM10A-X OS-LM10A-X, where X may be replaced with any letters of the alphabet A to Z, or any number from 0 to 9, or any combination of letter and numbers representing different LED colors.
1. These products are only suitable for connection to a UL Listed or R/C (UYMR2), Component - Sign Accessory.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 requirements.
3. Each Class 2 LED Illumination module is rated for a maximum 86.4 W. When units are connected to a Class 2 circuit, their total length is to be limited to draw a total wattage of no greater than the maximum secondary or output current rating of each Class 2 circuit.
4. These products are suitable for use in dry, damp, or wet locations.

Class 2 LED Illumination Module, Cat No. "HF2Chain/36/W3/865-12ft".
1. These products are only suitable for connection to a Class 2 power source, rated 24 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit.
3. Class 2 LED Lighting Assemblies, Model "HF2Chain/36/W3/865-12ft" is each rated max. 53 Watts per unit. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations.
5. These products are not required to be enclosed or protected from the weather in the end product.

Class 2 Lighting Assemblies, Cat. No. “LINEARlight POWER FLEX”, Model LM10P/W3-xxx where xxx may be replaced with any letters of alphabet A through Z and any numbers 0 through 9 or combination of letter and numbers.
1. These products are only suitable for connection to a Class 2 power source, rated 24 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit.
3. Class 2 Lighting Assemblies, “LINEARlight POWER FLEX”, model no. LM10P/W3-xxx is each rated max. 75 Watts per unit. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations.
5. These products are not required to be enclosed or protected from the weather in the end product.

Class 2 LEDs, Cat. No. HF2-STICK-XB.
1. These products are only suitable for connection to a Class 2 power source, rated 24 Volt DC or less. Suitability for use with a power supply that does not comply with Class 2 requirements has not been determined.
2. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. These products are suitable for use in dry, damp and wet locations.
4. These products are not required to be enclosed or protected from the weather in the end product.

Lighting Illumination, Model "HF2Chain/xx/xxxxx". Where xx refers to the number of LED's and xxxxx refers to the color and temperature of LED's; x can be any letter or number.
1. These products are only suitable for connection to a Class 2 power source, rated 24 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit and which is rated greater than 24 V DC.
3. Class 2 LED Lighting Assemblies, Model "HF2Chain/36/W3-835-12ft" is each rated max. 52 Watts per unit. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 24 Volts DC or less.

5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.
7. When these products are used in applications other than signs or outline lighting, the need to conduct a temperature test shall be considered.

Lighting Assemblies, Model HF2CHAIN HIGH EFFICIENCY/HF2CHAIN DC02B.

1. These products are only suitable for connection to a Class 2 power source, rated 24 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit and which is rated greater than 24 V DC.
3. These modules are each rated max. 72 Watts per unit. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 24 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.
7. When these products are used in applications other than signs or outline lighting, the need to conduct a temperature test shall be considered.

Class 2 LED Illumination Module, Cat Nos. BL02LT-A1, BL02ST-A1, BL02STB1, BL02ST-O1, BL02ST-S1, BL02ST-T2, BL02ST-W2-865 and BL02ST-Y2.

1. These products are only suitable for connection to a Class 2 power source, rated 12 Volt or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit and which is rated greater than 12 V.
3. Class 2 LEDs Cat. Nos. BL02LT-A1, BL02ST-A1, BL02STB1, BL02ST-O1, BL02ST-S1, BL02ST-T2, BL02ST-W2-865 and BL02ST-Y2X are each rated max. 23 Watts per unit. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 V or less.
5. These products are not required to be enclosed or protected from the weather in the end product.

Class 2 LEDs, Cat. No. OS/DS6/W2-847 and OS/DS12/W2-847.

1. These products are only suitable for connection to a Class 2 power source, rated 24 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit.
3. Class 2 LEDs Cat. Nos. OS/DS6/W2-847 and OS/DS12/W2-847 are each rated max. 17 Watts per unit. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 24 Volt DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.

LED Modules, Cat. No. OS/DC36/W2-865.

1. These products are only suitable for connection to a Class 2 power source, rated 24 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit.
3. Class 2 LED Module Cat. Nos. OS/DC36/W2-865 is each rated max. 60 Watts per unit. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 24 Volt DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.

Class 2 LEDs, Cat. No. OS-DT6-W2-XXX, where XXX is any alphanumeric combination.

1. These products are only suitable for connection to a Class 2 power source, rated 24 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit.
3. Class 2 LED Modules Cat. Nos. OS/DS6/W2-847 and OS/DS12/W2-847 are each rated max. 17 Watts per unit. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 24 Volt DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.

Class 2 LEDs, Cat. No. OS-LM10L-XXX, where XXX is any alphanumeric combination denoting color.

1. These products are only suitable for connection to a Class 2 24 VDC power source.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit.
3. Class 2 LED Module Cat. Nos. OS-LM10L-XXX are each rated max. 24 VDC, 2.25 A, 54 Watts per string. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at max 30 Volt DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.

Class 2 LEDs, Cat. No. BACKlight2G/YYY/BL04ST/XXX, where YYY may be either any alphanumeric combination or optional and XXX is any alphanumeric combination denoting color or characteristic of the LED.

1. These products are only suitable for connection to a Class 2 power source, rated 24 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit.
3. Class 2 LED Module Cat. Nos. BACKlight2G/YYY/BL04ST/XXX is each rated max. 38 Watts per unit. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 24 Volt DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.

Class 2 LEDs, Models HF2X, DX1 and L1DE/350C/xxx/yyy/x Series.

1. These Class 2 LED Modules are only suitable for connection to a Class 2 constant current power source only.

2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits.
3. These Class 2 LED modules are rated max. 2 Watts per LED module. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in wet locations.
5. These products are not required to be enclosed in the end product.

LED Lighting Assemblies, Cat. No. PROMINENCE Contour Lighting Assemblies", "PROMINENCE ™ Stall Star", "PROMINENCE ™ Blue 2\' Radius Tube.

1. These products are only suitable for connection to a Class 2 power source, rated 24 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit.
3. Class 2 Lighting Assemblies, Model “PROMINENCE Contour Lighting Assemblies”, “PROMINENCE ™ Stall Star“ and “PROMINENCE ™ Blue 2' Radius Tube“ series is each rated max. 75 Watts per unit. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Volt DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.

LED Power Supplies, Model 0T3/120-240/350.

1. These power supplies have multiple outputs. Power supply has a maximum of four Class 2 outputs. Each output of these power supplies have been evaluated to Class 2 output requirements for dc circuits.
2. These products with Class 2 outputs are suitable for use in dry, damp and wet locations.
3. Power supply spacing to other heat producing components shall be minimum 4 inches when minimum spacing to sidewalls and top of enclosure is kept at minimum 2 inches.
4. When not marked for dry and damp locations only, all units shall be provided with liquid tight fittings on the primary and secondary circuits.
5. Cord connected (not cord and plug) models are suitable only for use in cord connected signs:
   A) The suitability of the cord length, type, and temperature rating shall be determined in the end use.
   B) Strain relief testing has been conducted at 20 lbs. The need for additional strain relief shall be determined in the end use.
   C) Leakage current testing has not been conducted on the cord connected models and shall be conducted in the end use.

LED Array Drivers Models OT10/120-240/350 E, OT10/120-240/12 E, OT25/120-240/12 E, OT60/120-277/12 E.

1. The electrical ratings are as follows:

Model	Input, 50/60 HZ, V	Input, A	Output, Vac	Output, A ac	VA or Pmax
OT10/120-240/12 E	120-240	0.175-0.120	12	0.833	10 VA
OT10/120-240/350 E	120-240	0.175-0.120	2.3-28	0.350	10 VA
OT60/120-277/12 E	85-277	0.11-0.3	8	3.0	25 Pmax
OT25/120-240/12 E	85-277	0.11-0.3	12	2.0	25 Pmax

2. These power supplies have been evaluated to Class 2 output requirements for dc circuits with a maximum of one Class 2 output.
3. A suitable Fire and Electrical Enclosure shall be provided in the end product.
4. In the end product, power supply spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
5. These power supplies are only suitable for use in dry and damp locations.
6. Models LVD 25 8, LVD 25 12 and LVD 25 24 were tested inside an enclosed box with 2 inch spacing on each side.

LED Power Supplies, Cat. No. OT60/120-277/12 E

1. These power supplies have been evaluated to Class 2 output requirements for dc circuits with a maximum of one Class 2 output.
2. The electrical ratings are as follows:

	Input, 60 Hz		Output, DC	
Model	V	A	V	VA
OT60/120-277/12E	100 - 277	0.8 - 0.3	12	60

3. These power supplies are only suitable for use in dry and damp locations.
4. In the end product, power supply spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.

LED Power Supplies, Cat. No. Optotronic OT20/120-240/24S.

1. This component has been judged on the basis of the required spacings in the Standard for Class 2 Power Units, UL 1310, Fourth Edition, which would cover the component itself if submitted for Listing.
2. The equipment was submitted and tested for a maximum manufacturer's recommended ambient (Tmra) of 50°C.
3. The drivers are intended for installation inside an electrical enclosure.
4. The drivers may be mounted inside an electrical enclosure with 1 inch spacing end to end and 4 inch spacing side to side.
5. The ground connection is suitable as the equipment ground for a sign connected to a maximum 15A branch circuit. Separate provision for sign grounding must be provided when connected to a 20 A branch circuit.
6. The drivers are suitable for dry or damp location use.

LED Array Drivers, Cat. No. OT 6/100-120/10 CE, and OT 6/100-120/24 CE.

1. The suitability of the mounting means shall be determined in the end-use product.
2. OT 6/100-120/10 CE and OT 6/100-120/24 CE employ a R/C (OBJY2) Class B(130)ins. system and have been evaluated at an elevated ambient of 50° C. Temperature testing is required in the end product and the ambient cannot exceed 50°C.
3. Leakage testing shall be performed in the end product if installed in a cord connected sign.
4. A suitable Enclosure with a conduit connection means shall be provided in the end-product.
5. These components are intended for dry and damp locations only.

LED Power Supplies, Cat. No. OT 75/120-277/24E and OT 50/120-277/10E.

1. The suitability of the mounting means shall be determined in the end-use product.

2. Input supply means is provided by minimum 6” length of leads intended for field wiring. Acceptability of this construction is to be determined as part of the end product evaluation.
3. The acceptability of the output leads shall be determined in the end product.
4. Model OT 50/120-277/10E has been evaluated at an ambient of 60° C.
5. Model OT 75/120-277/24E has been evaluated at an ambient of 50° C.
6. Model OT 75/120-277/24E has been additionally evaluated at an ambient of 60°C, when R/C (OBJY2) Class F, type KIS-ME02 by Kaschke is utilized.
7 Grounding lead shall be crimped between top and bottom of enclosure case. This ground is for functional grounding purposes only and shall not be relied upon for safety grounding.

LED Power Supplies, Cat. No. OT 9/100-120/350E and OT 8/100-120-24E.
1. The suitability of the mounting means shall be determined in the end-use product.
2. Model OT 9/100-120/350E has been evaluated at an ambient of 50 C.
3. The input/output connectors have not been evaluated for field connections and are only intended for connection to mating connectors of internal wiring inside the end-use product.
4. Leakage test shall be performed in the end product.
5. A suitable Fire and Electrical Enclosure shall be provided in the end-product.

LED Dimmer Controller, Model No. OPTOTRONIC OT DMX RGB DIM.
1. These components should be installed in accordance with the manufacturer’s instructions.
2. These products are only suitable for connection to the output of a UL Listed or R/C Class 2 Power Supply rated max 24VDC.
3. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 requirements.
4. These products are rated per the Table below. When units are connected to a Class 2 circuit, their ratings are to be limited to draw a total wattage of no greater than the secondary current rating of each Class 2 power supply.

LED Dimmer Controller, Model OPTOTRONIC OT DIM.
1. These devices shall be mounted in equipment, which provide a suitable overall enclosure.
2. These products are only suitable for connection to a Class 2 or LPS power source, rated 24 Volt DC or less.
3. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy requirements.
4. These products are suitable for use in dry and damp locations.
5. These products comply with Class 2 limits when the dimmer circuit is not connected. If the dimmer circuit is connected, a suitable enclosure or accessibility barrier is to be provided for the output wiring and components.

Class 2, 12, 15, 24 VDC, LED rope assemblies, Models LMultiFLX/Thn/W3-865-3.2ft, LLMultiFLX/Thn/W3-827-3.2ft, LLMultiFLX/Thn/W3-888-3.2ft.
1. For a portable indoor sign, these products are suitable for connection to a 12, 15, 24 VDC, 0.5A, UL Listed Class 2 power supply.
2. For all types of signs, these products are suitable for use with a 12 VDC, R/C (UYMR2) Class 2 power supply.
3. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 requirements.
4. These products are suitable for use in dry, damp, and wet locations.
5. Lead wires do not have a voltage rating and are not R/C AVLV2 wiring. Lead wires must be separated from circuits of other voltages in the end application.
6. Each 96 LED rope is rated Class 2, 12, 15, 24 VDC, 0.5A.

LED Lighting Modules, Cat. No. OS-LM10A-X, where X may be replaced with any letters of the alphabet A through Z, or any number from 0 through 9, or any combination of letter and numbers representing different LED colors.
1. These products are only suitable for connection to a UL Listed or R/C (UYMR2), Component – Sign Accessory.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 requirements.
3. Each Class 2 LED Illumination module is rated for a maximum 86.4 W. When units are connected to a Class 2 circuit, their total length is to be limited to draw a total wattage of no greater than the maximum secondary or output current rating of each Class 2 circuit.
4. These products are suitable for use in dry, damp, or wet locations.

LED Lighting Modules, Cat. No. OS-LM10A-X, where X may be replaced with any letters of the alphabet A through Z, or any number from 0 through 9, or any combination of letter and numbers representing different LED colors.
1. These products are only suitable for connection to a UL Listed or R/C (UYMR2), Component – Sign Accessory.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 requirements.
3. Each Class 2 LED Illumination module is rated for a maximum 86.4 W. When units are connected to a Class 2 circuit, their total length is to be limited to draw a total wattage of no greater than the maximum secondary or output current rating of each Class 2 circuit.
4. These products are suitable for use in dry, damp, or wet locations.

LED Lighting Modules, Cat. No. OS-LM11A-X where X may be replaced with any letters of the alphabet A through Z, or any number from 0 through 9, or any combination of letter and numbers representing different LED colors.
1. These products are only suitable for connection to a UL Listed or R/C (UYMR2), Component – Sign Accessory.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 requirements.
3. Each Class 2 LED Illumination module is rated for a maximum 86.4 W. When units are connected to a Class 2 circuit, their total length is to be limited to draw a total wattage of no greater than the maximum secondary or output current rating of each Class 2 circuit.
4. These products are suitable for use in dry, damp, or wet locations.

Class 2 lighting assembly, , "LINEARlight POWER FLEX" , Model LM10P/W3-xxx, where xxx may be replaced with any letters of alphabet A through Z and any numbers 0 through 9 or combination of letter and numbers.
1. These products are only suitable for connection to a Class 2 power source, rated 24 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit.

3. Class 2 Lighting Assemblies, “LINEARlight POWER FLEX”, model no. LM10P/W3-xxx is each rated max. 75 Watts per unit. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations.
5. These products are not required to be enclosed or protected from the weather in the end product.

Class 2 lighting assembly, , Model "HF2Chain/36/W3/865-12ft".

1. These products are only suitable for connection to a Class 2 power source, rated 24 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit.
3. Class 2 LED Lighting Assemblies, Model "HF2Chain/36/W3/865-12ft" is each rated max. 53 Watts per unit. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations.
5. These products are not required to be enclosed or protected from the weather in the end product.

Electric discharge ballast and lamp system, Model ballast QT1x100ICE/UNV-T with Model ICE70 or ICE100 lamp, or Model ballast QT1x150ICE/UNV-T with Model ICE100 or ICE150 lamp.

1. The Osram Sylvania Inc. lamps designated ICE70, ICE100, or ICE150 may be used in an electric sign lamp compartment that is not an electrical enclosure.
2. Lamp leads nearest the lamp (as measured from core of first inductor) may have a maximum exposed length of 4in (102mm) inside a lamp compartment or sign body. The remaining length of lamp lead wire shall be enclosed in conduit, raceway or electrical enclosure. Note that the lamp inductor coils and wires between inductor coils that are taped to the lamp do not require any additional enclosure.
3. The lamp and wiring within the lamp compartment shall not get wet during the Water Exclusion Test.
4. Thermal spacings of 9 inches (229mm) from any surface of the lamp to the sign face or sign body made of plastic, wood, or laminated metal structural materials with a wood or plastic core. A clearance of 7 inches (178mm) may be used if a light diffuser/heat barrier is located between the lamp and the plastic or wood product material. A light diffuser/heat barrier shall not have openings exceeding 3/4 inch (19.1 mm) in any direction and has an opening-to-metal ratio not exceeding 1:1. The minimum spacing between lamps when more than one is provided is 14 inch (356mm).
5. In lieu of the above thermal spacings, reduced lamp spacings may be used provided a Temperature Test is be conducted at the reduced lamp spacings.
6. Grounding of the lamp metal mounting feet and ballast is required. The lamp shall be supported by the mounting feet provided.
7. The Osram Sylvania Inc. electric discharge ballasts QT1x100ICE/UNV-T or QT1x150ICE/UNV-T shall be mounted inside an electrical enclosure or raceway.
8. The lamp and ballast are for use in dry or damp locations inside an indoor or outdoor sign.

LED Lighting Modules, Cat. No Models BLP/BL02/W-XY-QQQ, BLP/QQQ/BL02-ZX (Backlight 2GBL02), where X - any no. for model color version (0-9), Y - binning category (A-Z), Z - LED color (A-Z), QQQ- color temperature 000-999.

1. These products are only suitable for connection to a UL Listed or Recognized Class 2, 15 V DC or less power source.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits.
3. These LED modules can be interconnected together with rated max. 22 Watts. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations.
5. These products are not required to be enclosed or protected from the weather in the end product.

Class 2 LED Module, designated as LYCM/12V/XXX/IP66 series where Y may be 120, 160 or 180 and XXX may be any alphanumeric characters.

1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuit and is rated greater than 12 V DC.
3. These products are each rated max. 1.2 watts per module. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.
7. When these products are used in applications other than signs or outline lighting, the need to conduct a temperature test shall be considered.

Class 2 LED Module, Models LFO5A, followed by suffixes and LXXLFE/24V/YYY/TP/G2/A, LFO5E, followed by suffixes and LXXLFE/24V/YYY/TP/G2/E; LF06P, followed by suffixes and LXXLFE/24/YYY/PF/G2, where YYY represents color temperature (white) or wavelength (monochromatic color)and XX represents wattage. The YYY and XX can be any number or letter. Suffixes represent color temperature or wavelength.

1. The sign accessory LED strips are suitable only for connection to a 24VDC Class 2 voltage source.
2. The products may be used in a dry, damp, or wet location without additional enclosure.
3. The mounting means is not specified and may include mechanical fasteners or double sided adhesive tape.

Class 2 LED Module, designated as BA01LA-XXX-YYY, BA01MA-XXX-YYY, BA01MA-ZZ, BA01SA-XXX-YYY, BA01SA-ZZ, and BX03BA-XXX-YYY Series and Class 2 LED Modules, designated as L150/X2/12V/XXX, L125/X2/12V/XXX and L200/X2/12V/XXX.

1. These products are only suitable for connection to a Class 2 power source and rated as follows: 12 Volt DC or less. The LED modules with the prefix BA or BX have only been evaluated for a max 12 Volts DC or less. The LED Modules with the prefix L have only been evaluated for a max 12.5 Volts DC or less.
2. These products are each rated max 3.8 watts per module. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. These products are suitable for use in dry, damp and wet locations with supply sources rated as follows:
   The LED modules with the prefix BA or BX have only been evaluated for a max 12 Volts DC or less.
   The LED Modules with the prefix L have only been evaluated for a max 12.5 Volts DC or less.
4. These products are not required to be enclosed or protected from the weather in the end product.
5. These products may be secured in place in the end product by any means available.

6. When these products are used in applications other than signs or outline lighting, the need to conduct a temperature test shall be considered.

Dimmable Class 2 LED Drivers, Models OT96W/24V/UNV/DIM and OT96W/24V/UNV.

1. The output of these power supplies has been evaluated to Class 2 output requirements for dc circuits.
2. These products with Class 2 outputs are suitable for use in dry and damp locations.
3. The product was tested for use at the maximum ambient temperature (Tma) of 40 C permitted by the manufacturer's specification.
4. In the end product, power supplies shall be located not less than 1 inch (25.4 mm) apart when arranged end-to-end, and not less than 4 inches (102 mm) apart when arranged otherwise.
5. Model OT96W/24V/UNV/DIM is provided with a Dimming circuit. Dimming of the outputs is by using a potentiometer. The dimming circuit leads to the potentiometer are considered Class 2.
6. The suitability of grounding connection shall be determined in the end-use product.

Class 2 LED Module, Models L144/12V/865, L096/12V/RED, L096/12V/GRE, L096/12V/BLU.

1. These products have been evaluated for connection to a Class 2 power source only, rated 12 Vdc, 60 W max.
2. These products are suitable for use in dry, damp or wet locations.
3. The LED module is provided with leads for interconnection. The suitability of the leads shall be determined in the end product.

Class 2 LED Module, Cat. Nos. MOD3528-3-1, MOD5630-6-1, MOD5630-6-2, MOD5630-8-1.

1. These LED modules are each rated as noted in the electrical ratings tables. Input test for each LED module should be considered in end products.
2. The suitability of the electrical construction shall be determined in the end use.
3. The suitability of the mounting means shall be determined in the end use.
4. PWB is metal based, rated V-0, 130 C. Temperature testing shall be conducted in the end product.
5. Suitability for use in environmental locations shall be considered in the end product.

Class 2 LED Module, Model Series HF2 Chain X4.

1. These products are only suitable for use in dry, damp and wet locations and supplied with a Class 2 power source rated 12 Volt DC or less.
2. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. These products are not required to be enclosed or protected from the weather in the end product.
4. These products may be secured in place in the end product by adhesive. Suitability of the mounting means shall be determined in the end product

LED Strip Class 2 LINEARlight Flex Protect, LF05A-W3F-xxx-P and LF05A-W3F-xx-P.

1. Manufacturer’s name, trade name, or trademark in min. 2.4mm high letters and visible during installation.
2. The date or other dating period of manufacture in min. 2.4mm high letters and visible during installation.
3. Distinctive catalog, part, or model number/series in min. 2.4mm high letters and visible during installation.
4. Class 2 input only.
5. Input voltage and current.
6. Suitable for Dry or Damp locations.

LED Strip Class 2 LINEARlight POWER Flex, LF06P2-W5F-xxx.

1. Manufacturer’s name, trade name, or trademark in min. 2.4mm high letters and visible during installation.
2. The date or other dating period of manufacture in min. 2.4mm high letters and visible during installation.
3. Distinctive catalog, part, or model number/series in min. 2.4mm high letters and visible during installation.
4. Class 2 input only.
5. Input voltage and current.
6. Suitable for Dry or Damp locations.

LED Strip Class 2, LINEARlight POWER Flex Protect, LF06P-W4F-xxx-P.

1. Manufacturer’s name, trade name, or trademark in min. 2.4mm high letters and visible during installation.
2. The date or other dating period of manufacture in min. 2.4mm high letters and visible during installation.
3. Distinctive catalog, part, or model number/series in min. 2.4mm high letters and visible during installation.
4. Class 2 input only.
5. Input voltage and current.
6. Suitable for Dry or Damp locations.

LED Strip Class 2, LINEARlight Flex Short Pitch, LF06S-W3F-xxx.

1. Manufacturer’s name, trade name, or trademark in min. 2.4mm high letters and visible during installation.
2. The date or other dating period of manufacture in min. 2.4mm high letters and visible during installation.
3. Distinctive catalog, part, or model number/series in min. 2.4mm high letters and visible during installation.
4. Class 2 input only.
5. Input voltage and current.
6. Suitable for Dry or Damp locations.

LINEARlight Flex Advanced, LF06A-XXX-YYY, where X and Y maybe any letter, number or blank.

1. Manufacturer's name, trade name, or trademark in min. 2.4mm high letters and visible during installation.
2. The date or other dating period of manufacture in min. 2.4mm high letters and visible during installation.
3. Distinctive catalog, part, model number or series name in min. 2.4mm high letters and visible during installation.
4. Electrical ratings:

Model	Input Voltage (Vdc)	Max. Wattage (W)	Max. Current (A)	Max. # LEDs	Max. Total Length (m)
LF06A-XXX-YYY	24	48	2	600	10

5. Suitable for Dry or Damp locations.
6. Class 2 Input Only.

LINEARlight Colormix Flex Protect, LF05CX-XXXX-P, where X may be any letter, number, or blank.

1. Manufacturer's name, trade name, or trademark in min. 2.4mm high letters and visible during installation.
2. The date or other dating period of manufacture in min. 2.4mm high letters and visible during installation.

3. Distinctive catalog, part, model number or series name in min. 2.4mm high letters and visible during installation.
4. Electrical ratings:

Model	Input Voltage (Vdc)	Max. Wattage (W)	Max. Current (A)	Max. # LEDs	Max. Total Length (m)
LF05CX-XXXX-P	24	72	3	200	6

5. Suitable for Dry or Damp locations.
6. Class 2 Input Only.

LINEARlight Flex Value IP, VI05A-W3-XXX, where X maybe any letter, number or blank.

1. Manufacturer's name, trade name, or trademark in min. 2.4mm high letters and visible during installation.
2. The date or other dating period of manufacture in min. 2.4mm high letters and visible during installation.
3. Distinctive catalog, part, model number or series name in min. 2.4mm high letters and visible during installation.
4. Electrical ratings:

Model	Input Voltage (Vdc)	Max. Wattage (W)	Max. Current (A)	Max. # LEDs	Max. Total Length (m)
VI05A-W3-XXX	24	25	1	300	6

5. Suitable for Dry or Damp locations.
6. Class 2 Input Only.

LED Strip Class 2, LINEARlight Flex Series – LF05E-P.

1. These products have been evaluated for use with a suitable Class 2, 24 VDC; power source only.
2. These products have been evaluated for use in dry and damp locations.
3. Thermal spacings shall be provided in accordance with Standard UL 48 or the following tests should be considered in the end use application: Normal Temperature, and Dielectric Voltage Withstand Test.
4. The LED strips may be mounted by integral tape or other mechanical means.
5. Installation Instructions indicate that the LED Strips may be cut to size in areas marked by straight edge symbol.

Class 2 Power Supply, Models OT10W/350C/120-240V, OT10W/12V/120-240V and OT25W/12V/UNV.

1. The electrical ratings are as follows:

	Input, 60 Hz		Output, ac		
Model	V	A	V	A	VA or Pmax
OT25W/12V/UNV	85-277	0.11-0.3	12	2.0	25 Pmax
OT10W/12V/120-240V	120-240	0.175-0.120	12	0.833	10 VA
OT10W/350C/120-240V	120-240	0.175-0.120	2.3-28	0.350	10 VA

2. These power supplies have been evaluated to Class 2 output requirements for dc circuits with a maximum of one Class 2 output.
3. A suitable Fire and Electrical Enclosure shall be provided in the end product.
4. In the end product, power supply spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
5. These power supplies are only suitable for use in dry and damp locations.

Class 2 Power Supply, Model OT60W/12V/UNV.

1. These power supplies have been evaluated to Class 2 output requirements for dc circuits with a maximum of one Class 2 output.
2. The electrical ratings are as follows:

	Input, 60 Hz		Output, DC	
Model	V	A	V	VA
OT60W/12V/UNV	100 - 277	0.8 - 0.3	12	60

3. These power supplies are only suitable for use in dry and damp locations.
4. In the end product, power supply spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.

Class 2 LED Module, designated as BA03MA-XXX-YYY and BB03-LA-XXXYYY series, where XXX may be blank or W4F, and YYY may be a combination of any alphanumeric characters.1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuits.
3. When these units are connected to a Class 2 supply circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.

Class 2 LED Module, designated as BX12BA-W4F Series.

1. These products are only suitable for connection to a Class 2, 24Vdc power source only.
2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuits.
3. When these units are connected to a Class 2 supply circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.

Class 2 LED Module, designated as BX06BA-W4F Series.

1. These products are only suitable for connection to a Class 2, 24Vdc power source only.
2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuits.
3. When these units are connected to a Class 2 supply circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.

Class 2 LED Strip, LINEARlight Colormix Flex, LF05CA2-RGB3.

1. These products were evaluated for connection to a UL Listed or Recognized Component Sign Accessory - UYMR2, Class 2 source.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limiting requirements.
3. These products are not to draw a total wattage greater than the secondary or output rating of the Class 2 supply per Class 2 circuit.
4. These products have been evaluated for use in dry and damp locations.

Class 2 LED Strip, LINEARlight POWER Flex® Protect G2, LF06P2-XXX-YYY-P.

1. These products were evaluated for connection to a UL Listed or Recognized Component Sign Accessory - UYMR2, Class 2 source.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limiting requirements.
3. These products are not to draw a total wattage greater than the secondary or output rating of the Class 2 supply per Class 2 circuit.
4. These products have been evaluated for use in dry and damp locations.

Class 2 LED Strip, LINEARlight Flex® Protect ADVANCED G2, LF06A-XXX-YYY-P.

1. These products were evaluated for connection to a UL Listed or Recognized Component Sign Accessory - UYMR2, Class 2 source.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limiting requirements.
3. These products are not to draw a total wattage greater than the secondary or output rating of the Class 2 supply per Class 2 circuit.
4. These products have been evaluated for use in dry and damp locations.

Class 2 LED Modules, Models BA03WA-XXX-YYZ and BB03WA-XXX-YYZ series, where W may be L or M, XXX may be blank or W4F, and YY or Z may be blank or a combination of any alphanumeric characters; Models BA-XS-BC-XXX, BX-PL-XXX, BX-DS-PL-XXX, BA-L-_PL-XXX, BA-L-BC-XXX and BA-M-BC-XXX Series, where XXX is the color temperature.

1. These products are only suitable for connection to a Class 2 power source rated 24 Volt DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuits.
3. When these units are connected to a Class 2 supply circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means

OUTWATER PLASTICS INDUSTRIES INC E343812

24 RIVER RD
PO BOX 500
BOGOTA, NJ 07603

Class 2 LED Module, designated 5050Ux3-B-02-21-12VW, 5050Ux3-B-04-07-12VW, with or without the suffix "-Cree", where x can be R, Y, G, B, WC, or WY.

1. These products are only suitable for connection to a Class 2 power source, rated 12 Volts DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit and which is rated greater than 12 VDC.
3. Class 2 LED Modules Cat. ZLS-PCB-X Series, ZLS-PCBC-X Series, PL1-PMBC-X Series and ZLS-PMBC-T Series are each rated max. 3 watts per unit. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 VDC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products are for factory wiring only in sign or outline lighting related application.

Class 2 LED Module, designated TMX-300/300-A, TMX-300/100-B, TMX-300/050-C, TMX-300/060-D, TMX-100/060-E, TMX-050/060-F, TMX-300/300-A2.

1. These products are only suitable for connection to a Class 2 power source, rated 24 Volts.
2. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. These products are suitable for use in dry and damp locations.
4. These products are for factory wiring only.
5. The suitability of mounting means shall be determined in end product use.

PAIGE ELECTRIC CO L P E339010

1160 SPRINGFIELD RD
PO BOX 368

UNION, NJ 07083

Polymeric neon electrode end cap with GTO cables, "Paige 98/1298/1514/3840 GTO System".

1. These devices are rated max. 7500 V ac to ground. May be used with 15 kV mid-point grounded transformers.
2. These products are suitable for use in dry or damp locations.
3. These products are required to be enclosed or protected from the weather.
4. All integrally sleeved GTO cables indicated as suitable for use with the neon electrode enclosures covered by this report shall have a temperature rating of min. 135°C for dry and damp locations.
5. These products are only for use in Listed signs and Sections of signs and are not suitable for field installed skeletal neon or outline lighting.
6. The units shall be subjected to a high voltage Dielectric Strength Test in the end product.
7. These components were evaluated for use with the Listed GTO cables made by Paige Electric Co L P, Type GTO-15, rated 15 kV. Use with any other GTO type or manufacture will need to be evaluated in the end product.

Sign accessories, Ventex 600VDC max LED cable designated as VA-W09CNR.

1. These devices are rated max. 600VDC.
2. These products are suitable for use in dry or damp locations.
3. These products are required to be enclosed or protected from the weather.
4. These products are only for use in LED Listed signs and Sections of signs and are not suitable for field installed skeletal neon or outline lighting.
6. The units shall be subjected to a high voltage Dielectric Strength Test in the end product.
7. These components were evaluated for use with for use only with VENTEX LED products. Use with any other LED type products or manufacturer will need to be evaluated in the end product.

PALRAM AMERICAS INC E336663

ARCADIA WEST INDUSTRIAL PARK
9735 COMMERCE CIR
KUTZTOWN, PA 19530

Rigid Sign Face Materials, designated Palsun, Palsun SG and Palsun CS.

1. These materials are acceptable for applications of sign enclosures, sign bodies, and decorative parts. For enclosure applications, these materials may be located no closer than 0.8 mm to any uninsulated live part.
2. The materials have a use temperature of 80°C. If a heat producing component such as electrode, transformer or ballast is located within 1 inch of the material, a temperature test should be conducted in the end product.
3. Marking - The following markings or equivalent shall be provided. Markings A and B below shall be marked anywhere where readily visible during servicing.
   A. "Do not attempt to repair or service a damaged sign face. For servicing of this sign, contact ____." (Blank to be replaced by Applicant's Company name, City and State.)
   B. "Replace only with ___ , Type ___ ." (Blanks to be replaced by Applicant's Company name and material Type or designation.)
4. The materials are suitable for use as an enclosure of an indoor or outdoor sign and have been evaluated for ozone resistance and UV exposure.
5. All materials must be a minimum of 0.12 in. (3.0 mm) thick to comply as a sign enclosure. All testing should be repeated if the thickness of the sheet is reduced to less than 0.12 in. (3.0mm).
6. All materials have been investigated for and comply with the termination of conduit, electrode housings or the like.
7. The suitability of the securement system for the materials to prevent the entrance of water, which may contact live parts within a sign in outdoor sign applications, shall be determined.
8. When the material is relied upon for the mounting of the sign and/or sign components, the material shall be subjected to the mounting means test in the end product.
9. Only one side of the plastic sheets are UV coated. Therefore, the UV coated side shall be placed such that it is the exterior surface of the sign.
10. Testing for exposure to live parts was conducted on the non-UV coated side of plastics. Thus, the non-UV coated side shall be the only side exposed to live parts.
11. The mounting system must secure the sign face to the enclosure in such a way that the edges of the sign face are not exposed to the interior of the sign. This may be accomplished with channels, flanges or other suitable mechanical means.

PARMIDA LLC E362583

801 E WASHINGTON BLVD
LOS ANGELES, CA 90021

Class 2 LED Modules, designated as XXXX YYYYD/M series, where XXXX and YYYY may be combinations of any numbers.

1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuits.
3. When these units are connected to a Class 2 supply circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.

PERMLIGHT PRODUCTS INC E213411

422 W 6TH ST
TUSTIN, CA 92780

Class 2 LED Illumination, Cat. Nos. 700 Series, Cat. Nos. 752 ("Twiste'r") or PCSA01, 760-2, 760-3, 762, 765-4, 750-5, 750-9, 711-2, TINY2.

1. These products are only suitable for connection to a UL Listed or Recognized Class 2, 12 volt DC power source.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited supplies.
3. Class 2 LED Illumination, 700 Series is rated 0.6 Watts per unit, Cat. No. 750-9 is rated 1.44 watts per unit, Cat. No. 750-5 is rated 0.6 watts per unit, Cat. No. 760-3 is rated 0.48 Watts per unit, Cat. No. 752 or PCSA01 is rated 0.6 per unit, and Cat. No 765-4 is rated 0.6 per unit and Cat. No. 711-2 is rated 0.6 Watts per unit, Cat. No. TINY2 is rated 0.4 Watts per unit. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply and 60 watts per Class 2 circuit.
4. Class 2 LED Illumination, 700 Series and Tiny2 are provided with a R/C wire soldered on the printed wiring board for connection in series.
5. Cat. No. 750-9, 750-5, 760-3, 752 or PCSA01, 765-4 and 711-2 Series are provided with R/C wire soldered on the printed wiring board for connection in series.
6. These products are suitable for use in dry, damp and wet locations.
7. These products are not required to be enclosed or protected from weather.

Class 2 LED Illumination, Model No. 711-18DL.

1. These products are only suitable for connection to a UL Listed or Recognized Class 2, 12 volt DC power source.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited supplies.
3. Class 2 LED Illumination, 711-18 DL module is rated 60 Watts per unit. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply and 60 watts per Class 2 circuit.
4. Cat. No. 711-18 DL modules are provided with R/C wire soldered on the printed wiring board for connection.
5. These products are suitable for use in dry, damp and wet locations.
6. These products are not required to be enclosed or protected from weather.

Photocell, Model PL746-TPC "Photocell".

1. These products are only suitable for connection to a UL Listed or Recognized Class 2, 12 volt DC power source.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited supplies.
3. Class 2 LED Illumination, “Photocell” PL746-TPC is rated max. 60 Watts per unit. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply and 60 watts per Class 2 circuit.
4. These products are suitable for use in dry, damp and wet locations.
5. These products are not required to be enclosed or protected from weather.

Class 2 LED Illumination, Cat. No. 780 or PCSK01.

1. These products are only suitable for connection to a UL Listed or Recognized Class 2, 15 Volt or less DC power source.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited supplies.
3. Class 2 LED Illumination, 780 or PCSK01 Series, Palette Light and Palette Light Mini are each rated max. 0.78 Watts per unit. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply and 60 watts per Class 2 circuit.
4. These products are suitable for use in dry, damp and wet locations.
5. These products are not required to be enclosed or protected from weather.

Class 2 LED Illumination, Model No. Elblanco/Delta Light PML900 Series , PCSE01 or PCSF01 Series.

1. These products are only suitable for connection to a UL Listed or Recognized Class 2, 15 Volt or less DC power source.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited supplies.
3. Class 2 LED Illumination, “Elblanco/Delta Light” PML900 Series are each rated max. 10 Watts per unit. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply and 60 watts per Class 2 circuit.
4. These products are suitable for use in dry, damp and wet locations.
5. These products are not required to be enclosed or protected from weather.

Class 2 LED Illumination Module, Cat Nos. "PZ" or PCSC01, "AB", PCSC02 or PCSC03 or 727-XXX Series, where XXX may be any alphanumeric characters.

1. These products are only suitable for connection to a Class 2 power source, rated 12 Volt or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit and which is rated greater than 12 V.
3. Class 2 LED Modules are rated max. 1.5 Watts per unit. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 V or less.
5. These products are not required to be enclosed or protected from the weather in the end product.

Class 2 LED Illumination, Model No. 737 ("Twister Nano"), 747 ("el Plato"), 753 ("Twister STAR"), 777 ("Twister Nitro"), 787 ("Twister Halo") Series. All catalogue numbers may be followed by WWXYZ; where WW may be replaced with any letters of alphabet AA through ZZ; X may be replaced with any letter of alphabet A through Z or may be left blank, Y may be replaced with any letters of alphabet A through Z or may be left blank and and Z may be replaced with any letters of alphabet A through Z or may be left blank.

1. These products are only suitable for connection to a Class 2 power source, rated 12 Volt or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than 12 V.
3. Class 2 LED Modules, Cat. No. 737 (“Twister Nano”), 747 (“el Plato”), 753 (“Twister STAR”), 777 (“Twister Nitro”) and 787 (“Twister Halo”) series are each rated max. 7.5 Watts per unit. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 V or less.
5. These products are not required to be enclosed or protected from the weather in the end product.

Class 2 LED Module, Designated As "Omnistar" or "PFSC2520".
1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit and which is rated greater than 12 V DC.
3. These products are each rated max. 0.9 watts per module. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.
7. When these products are used in applications other than signs or outline lighting, the need to conduct a temperature test shall be considered.

Class 2 LED Module Designated As “Cayenne for Signs” or “PFS4820”.
1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit and which is rated greater than 12 V DC.
3. These products are each rated max. 1.2 watts per module. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.
7. When these products are used in applications other than signs or outline lighting, the need to conduct a temperature test shall be considered.

Class 2 LED Module, Designated as "PCSM01: ELPLATO GRANDE".
1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit and which is rated greater than 12 V DC.
3. These products are each rated max. 6.72 watts per module. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.
7. When these products are used in applications other than signs or outline lighting, the need to conduct a temperature test shall be considered.

Class 2 LED Module, designated as "PCSN01".
1. These products are only suitable for use in dry, damp and wet locations and supplied with a Class 2 power source rated 24 Volt DC or less.
2. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. These products are not required to be enclosed or protected from the weather in the end product.
4. These products may be secured in place in the end product by any means available.

Class 2 LED Module, designated as "PCSF02".
1. These products are only suitable for use in dry, damp and wet locations and supplied with a Class 2 power source rated 12.5 Volt DC or less.
2. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. These products are not required to be enclosed or protected from the weather in the end product.
4. These products may be secured in place in the end product by any means available.

Class 2 LED Module, designated as "PCSD02".
1. These products are only suitable for use in dry, damp and wet locations and supplied with a Class 2 power source rated 30 Volt DC or less.
2. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. These products are not required to be enclosed or protected from the weather in the end product.
4. These products may be secured in place in the end product by any means available.

Class 2 LED Module, Models “PCSG01” and “PCSQ01”.
1. These products are suitable for use in dry, damp and wet locations when supplied with a Class 2 power source rated 25 Volt DC or less.
2. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. These products are not required to be enclosed or protected from the weather in the end product.
4. These products may be secured in place in the end product by any means available.
5. These products are provided with the following maximum Class 2 input electrical ratings:

Model No.	Max. Input Voltage	Max. Input Current	Max. Power
PCSG01	25 Vdc	0.4 A	10 W
PCSQ01	17 Vdc	5 A	85 W

LED Tube Lamps, designated “PFXXXHO2S Series”, where XXX is the length in inches 24-120.
1. The Temperature Test was conducted with the LED Tube Lamp, Model PFXXHO2S installed in Listed fluorescent signs having a maximum of 2, ten-foot lamps, where the lamps were spaced 1-1/2 inches apart. If the device is used in a different product or configuration, consideration shall be given to re-conducting the Temperature Test.
2. The LED Tube Lamps have been evaluated for use in dry and dump locations. The use in other environments shall be considered in the end product.
3. The Risk of Shock (Pins) was not performed since these lamps are provided with integral leads for connection to a separate external LED driver. The end caps are provided with grooves for mechanical support only.
4. Consideration for suitable installation is to be determined in the end-use application.

5. The need for additional end product markings, such as lamp replacement, shall be considered in the end product evaluation.
6. The Normal and Abnormal Operation on Dimmers test has not been conducted. The need for these tests should be considered when the device is connected to a dimmer in the end use.
7. The mounting means of these products shall be determined in the end product applications.

LED Power Supply with Class 2 outputs, Models 250-12DC-DIM, 250-12DC-DIM-240, 250-12DC-DIM-277, 250-12DC, 250-XXXDC(a), 250-12DC-277, 250-12DC-240, PCDK01, PCDK02, PCDK03, PCDK04 and P8675.

1. These products are suitable for dry and damp locations.
2. These Led Drivers do not need to be enclosed in the end product.
3. The output(s) of these LED drivers comply with the criteria for Class 2 output.

Power supplies with a Class 2 output, Models 60-XXDC, where XX can be any number from 00 to maximum 12 indicating output DC voltages.

1. These products are intended for use only in applications that comply with the requirements of the end product.
2. When marked as suitable for use in damp locations, these products are to be installed where protected from rain, snow and water spray by water shield or sign body.
3. These products shall have conductors entering, leaving or residing in the wiring compartment or junction box extending at least 150 mm (6 in) inside.
4. Power supply spacing to other heat producing components shall be minimum 4 inches when minimum spacing to sidewalls and top of enclosure is kept at minimum 2 inches.
5. Leakage current test shall be conducted if used in a portable end product.

LED Drivers, Model No. PCDH03, PCDH05.

1. The output of these LED drivers comply with the criteria for Class 2 output.
2. The product is suitable for use in dry or damp locations.
3. The product shall be enclosed in the end product in a suitable electrical, mechanical and fire enclosure.
4. The mounting means on metal housing is considered as grounding means.
5. The product is intended to be connected to max. 20 A branch circuit.
6. In the end product, power supply spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
7. The input/output leads on these products are for factory connection only, not for Field Wiring. The suitability of the wiring is to be determined in end product.
8. The input leads were not provided with strain relief means, the suitability is to be determined in end product.
9. The LED driver has electrical rating below:

	Input (AC)			Output (DC), Loaded	
Cat. No.	Voltage	Current	Frequency	Voltage	Current
PCDH03	90-240	1.4 A max.	50/60 Hz	12 V	5.0 A
PCDH05	120-277	1.1 A max	50/60	12V	5.0

10. The Tc shall not exceed 75°C for Model PCDH05.

Class 2 Letter Signs Cat. Nos. Model 800 Series.

1. These products are only suitable for connection to a UL Listed or Recognized Class 2, 12 volt DC power source.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited supplies.
3. Class 2 LED Illumination, “Photocell” PL746-TPC is rated max. 60 Watts per unit. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply and 60 watts per Class 2 circuit.
4. These products are suitable for use in dry, damp and wet locations.
5. These products are not required to be enclosed or protected from weather.

Class 2 LED Modules, designated as "PCSD05".

1. These products are suitable for use in dry, damp and wet locations when supplied by a Class 2 power source rated 12.5 Volt DC or less.
2. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. These products are not required to be enclosed or protected from the weather in the end product.
4. These products may be secured in place in the end product by any means available.

Class 2 LED Controller, Model PCDH04.

1. These products are only suitable for connection to the output of a UL Listed or Recognized Class 2 power supply rated max 12 VDC.
2. These products are rated per the Table below. When the units are connected to the Class 2 supply, their loads are to be limited to draw a total power or current of no greater than the output power or current rating of the Class 2 power supply.

Model	Input - Class 2		Output -Class 2			Number of Output
	Max. Vdc	Max. Idc	Max. Vdc	Max. Idc	Max. W	
PCDH04	12	5	12	5	60	1

3. These products are suitable for use in dry and damp locations.
4. These controllers are provided with a maximum of one Class 2 output.
5. These products are suitable for factory wiring only.

Class 2 LED modules, designated as "PCSK03" and "PCSD02".

1. These products are suitable for use in dry, damp and wet locations.
2. The products are suitable for use when supplied by a Class 2 power source rated 12.5 VDC or less.
3. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are not required to be enclosed or protected from the weather in the end product.

5. These products may be secured in place in the end product by any means available.

LED module assembly system, designated as PCEF01 or "RAZORRAY System".

1. These products are only suitable for use in dry and damp.
2. These components should be installed in accordance with the manufacturer's instructions.
3. These products shall be connected to a dedicated receptacle in a permanently connected sign.
4. These products have the following electrical ratings:

Model	Frequency (Hz)	Input Voltage (V)	Input Current (A)	Input Power (W)
PCEF01 or "RAZORRAY System"	60	120/277	0.7/0.3	87

5. These products are suitable for use in maximum ambient of 40°C.
6. Consideration for a Leakage current measurement shall be considered in the end product when multiple LED drivers are incorporated in one single unit
7. The Strain Relief test shall be considered in the end use.

Power supplies, isolated LPS output, Model PS60-12V-UNV.

1. These products are provided with the following electrical ratings:

Model No.	Input Voltage (V)	Input Frequency (HZ)	Input Current (A)	Output Voltage (V dc)	Output Current (A)	Output Power (W)
PS60-12V-UNV	100-277	50-60	1	12	5	60

2. The power supply had been considered for use in an ambient of 45 degree C for Model PS60-12V-UNV. If operated at a higher ambient temperature, it should be determined in end product.
3. The suitability of Electrical/Fire/Mechanical enclosure shall be determined in the end product.
4. The load powered by the Isolated LPS output of the power supplies are suitable for use in dry and damp locations.
5. In the end product, power supply spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
6. In the end product, power supplies shall be located not less than 1 inch (25.4 mm) apart when arranged end-to-end, and not less than 4 inches (102 mm) apart when arranged otherwise.
7. The power supplies shall be installed in compliance with the enclosure, mounting, spacing, casualty, and segregation requirements of the end product application.
8. The suitability of input and output leads shall be determined in end product.

PERSONA INC E327541

700 21ST ST SW
PO BOX 210
WATERTOWN, SD 57201

Sign Face Tensioning Systems, designated Flex Retro Retainer S-9061, Bleed Flex Retro S-9130, Double Hinge Filler S-9170, Hinge Filler S-9144, Aluminum Spacer 5052-H32, Flex Retro Cover S-9131, Flex Retro Cover S-9072, Flex Retro H-9064, Flex Tensioning Bar S-9062, Wedge Clamp.

1. The suitability of these tensioning systems in combination with any R/C (UYMR2) Flexible Sign Face Material to prevent entrance of water in outdoor sign applications shall be determined in the end product.
2. This product may be used in dry, damp, or wet locations.
3. Tensioning bar fasteners shall be spaced in the end product as described in the Installation Instructions.
4. When employed in a sign with any frame dimension greater than 6 feet the sign shall be provided with a means to prevent billowing.
5. The mounted assembly of sign face material in these tensioning systems shall comply with the external decorative face requirements of UL 48,particularly clearance to lamps and lampholders.
6. These clips have been determined to be suitable with any R/C Flexible Sign Face Material al least 0.020" (0.51mm) thick. Suitability for use with a material of lesser thickness shall be determined in the end product.

PHILIPS LIGHTING BV E211810

KANTSINGEL 24
5349 AJ OSS, THE NETHERLANDS

LED power supply with Class 2 outputs, Model 9137 006 208.

1. Model 9137 006 208 is rated for a 100-240 Volts, 50/60 Hz, 25 Watt input and a 24 V DC, 0.83 amp, 20 Watt output.
2. These components are intended for use in dry locations only when not potted. When potted, they are suitable for use in damp locations.
3. These power supplies need to be installed in an enclosure with a means for connection to conduit.
4. A Temperature Test is not required of the power supply when installed in an enclosure having dimensions greater than 13.5 by 6 by 4 inches. When installed in a smaller enclosure and a Temperature is required, the maximum temperature on the output transformer by thermocouple is 90°C.
5. The Class 2 output of these LED power supplies are acceptable for use in a damp and wet location.

LED power supply with Class 2 outputs, Model 913710052466.

1. These components are intended for use in dry locations only when not potted. When potted, they are suitable for damp locations.
2. These power supply needs to be installed in an enclosure with a means for the connection to conduit.

3. When a Temperature Test is required of the power supply installed in an enclosure because the enclosure measures less than 13.5 by 6 by 4 inches, the maximum temperature on the output transformer by thermocouple is 110° C.
4. The output of these LED power supplies with Class 2 are acceptable for use in a damp and wet location

Power supply with Class 2 outputs, Model 9137006209.

1. These components are intended for use in dry locations only when not potted. When potted, they are suitable for damp locations.
2. These power supply needs to be installed in an enclosure with a means for the connection to conduit.
3. When a Temperature Test is required of the power supply installed in an enclosure because the enclosure measures less than 13.5 by 6 by 4 inches, the maximum temperature on the output transformer by thermocouple is 110°C.
4. The output of these LED power supplies with Class 2 are acceptable for use in a damp and wet location.

PHILIPS LIGHTING ELECTRONICS N A E220165

OHARE INTERNATIONAL CENTER
10275 W HIGGINS RD
ROSEMONT, IL 60018

LED Array Drivers, Models 9137 005 34302, LED120A0700C24F, LED120A0350C33F, LED120A0024V07F, LED120A0012V10F, LED120A0350C28FO, LED120A0700C24FO, GEXNPS31-120, LED120A0350C33F and LED120A0350C33F.

1. This component has been judged on the basis of the required spacings in the Standard for Class 2 Power Units, UL 1310, Fourth Edition, which would cover the component itself if submitted for Listing.
2. The supply terminals and connectors are suitable for factory wiring only of solid or tinned stranded No. 18 AWG conductors.
3. The LED Drivers listed below are suitable for use in Dry and Damp locations: LED120A0012V10F, LED120A0350C28FO, LED120A0700C24FO, LED120A0350C33F and GEXNPS31-120.
4. The equipment was submitted and tested for a maximum manufacturer's recommended ambient (Tmra) of 25°C. except the Models LED120A0350C28FO, LED120A0700C24FO, LED120A0012V10F, 913700534302, LED120A0350C33F and GEXNPS31-120 were tested for a 69.1 deg. C ambient for a max. Tcase temperature of 90 deg. C.
5. This unit is provided with a Class 130 (B) insulation system. A temperature test is required when the unit is installed within an electrical enclosure or raceway.
6. Leakage current measurements shall be performed when more than four LED drivers are used in the equipment or when the LED driver is used in combination with other equipment in the end-use product.
7. The unit is intended for installation inside an electrical enclosure.
8. The Models LED120A0350C28FO, LED120A0700C24FO, LED120A0012V10F and GEXNPS31-120 may be used within an electrical enclosure or raceway without temperature test provided they are mounted not closer than 1 in. end to end or 4 in. side to side from adjacent LED power supplies.

LED Drivers, Models, GEXNPS30-120, LED120A0024V10D, LED120A0024V10F, LED120A0024V18F, LED120A0024V18FO, LED-120A-0024V-14-F-O, LED277A0024V18F, LED120A0012V21F, LED120A0024V33F, LED120A0012V50F, and GEXLPS21, LED120A1400C24F and LED-120A-0024V-14-F-O.

1. This component has been judged on the basis of the required spacings in the Standard for Class 2 Power Units, UL 1310, Fourth Edition, which would cover the component itself if submitted for Listing.
2. The supply terminals and connectors are suitable for factory wiring only of solid or tinned stranded No. 18 AWG conductors.
3. The equipment was submitted and tested for a maximum manufacturer's recommended ambient (Tmra) of 40(C. Model LED120A0024V18FO was found suitable for 55 C ambient.

3A. Cat. No. LED277A0024V18F was submitted and tested for a maximum manufacturer's recommended ambient (Tmra) of 60°C.

4. When used in portable equipment leakage current must be considered. The table below shows the maximum leakage current measured and maximum number of drivers that can be used without conducting leakage current test:

	Input, 60 Hz		Max. No of drivers
Model	Volt (V)	Leakage MIU	per portable unit
LED120A0024V10F	120	0.001	10
LED120A0024V10D	120	0.001	10
LED120A0024V18F	120	0.001	10
LED120A0024V18FO	120	0.001	10
LED-120A-0024V-14-F-O	120	0.001	10
LED120A1400C24F	120	0.001	10
LED120A0012V21F	120	0.001	10
LED120A0012V50F, GEXLPS21	120	0.220	2
LED120A0024V33F, GEXNPS30-120	120	0.235	2

5. The drivers are intended for installation inside an electrical enclosure.
6. The ground connection is not suitable as the equipment ground for a sign. Separate provision for sign grounding must be provided.
7. ONLY the following drivers were found suitable for use in DAMP location:
   Models GEXNPS30-120, LED120A0024V33F, GEXLPS21-230V, LED120A0024V33F, LED120A0012V50F, LED120A0024V18FO, LED-120A-0024V-14-F-O, and GEXLPS21.
8. The Model LED120A0024V10D has a Class 2, 0-10 V dc output for dimming purposes. Two output terminals are provided for connection to an optional dimmer control.
9. Model LED120A0024V18F0 was submitted and tested for a max manufactures recommended T case of 85ºC.
10. Model LED120A0024V33F was submitted and tested for a max manufactures recommended T case of 85ºC.

LED Drivers, Models LED120A0880C19FO, LED120A0880C19DO, LED120A0700C24DO.

1. This component has been judged on the basis of the required spacings in the Standard for Class 2 Power Units, UL 1310, Fourth Edition, which would cover the component itself if submitted for Listing.
2. The supply terminals and connectors are suitable for factory wiring only of solid or tinned stranded No. 18 AWG conductors.
3. The equipment was submitted and tested for a maximum manufacturer's recommended ambient (Tmra) of 40(C.
4. This unit is provided with a Class 105(A) insulation system. A temperature test is required when the unit is installed within an electrical enclosure or raceway.

5. Leakage current measurements shall be performed when more than four LED drivers are used in the equipment or when the LED driver is used in combination with other equipment in the end-use product.
6. The unit is intended for installation inside an electrical enclosure.
7. The Model may be used within an electrical enclosure or raceway without temperature test provided they are mounted not closer than 1 in. end to end or 4 in. side to side from adjacent LED power supplies.
8. Models LED120A0880C19DO and LED120A0700C24DO has a Class 2, 0-10 V dc output for dimming purposes. The two dimming output leads are gray and violet, provided for connection to a dimming controller.
9. The Dimmer Controller must be either a 100K Ohms Potentiometer or a standard 0-10V DC dimmer switch, which is not provided by the manufacturer.
10. The ground connection is not suitable as the equipment ground for a sign. Separate provision for sign grounding must be provided.

LED Drivers, Models LED120A0700C28FO, LED120A0700C28DO, LED277A0700C28FO and LED277A0700C30DO.

1. This component has been judged on the basis of the required spacings in the Standard for Electric Sign Component, UL 879, Eighth Edition, which would cover the component itself if submitted for Listing.
2. This unit is provided with a Class 105(A) insulation system.
3. The unit is intended for installation inside an electrical enclosure.
4. The unit was submitted and tested for a maximum manufacturers recommended ambient of 40(C. If adjacent LED power supplies are spaced closer than 1 in. end to end or 4 in. side to side a temperature test shall be conducted in the end use product.
5. The ground connection is not suitable as the equipment ground for a sign. Separate provision for sign grounding must be provided.
6. The Violet (Positive) and the Gray (Negative) leads provided on model LED-120A-0700C-28-DO are intended for use with a 0-10 V DC type Dimmers.
7. The secondary output of all models and the 10V DC dimmer circuit of the Model LED-120A-0700C-28-DO are considered to be Class 2 circuits.

LED Drivers, Model Nos. GEXLPS21-U, LEDINTA0012V50FO.

1. This component has been judged on the basis of the required spacing in the Standard for Class 2 Power Units, UL 1310, Fourth Edition, which would cover the component itself if submitted for Listing.
2. The supply terminals and connectors are suitable for factory wiring only of solid or tinned stranded No. 18 AWG conductors.
3. The equipment was submitted and tested for a maximum manufacturer's recommended ambient (Tmra) of 40(C.
4. This unit is provided with a Class 105(A) insulation system. A temperature test is required when the unit is installed within an electrical enclosure or raceway.
5. Leakage current measurements shall be performed when more than four LED drivers are used in the equipment or when the LED driver is used in combination with other equipment in the end-use product.
6. The unit is intended for installation inside an electrical enclosure.
7. The unit may be used within an electrical enclosure or raceway without temperature test provided they are mounted not closer than 1 in. end to end or 4 in. side to side from adjacent LED power supplies.
8. The ground connection is not suitable as the equipment ground for a sign. Separate provision for sign grounding must be provided.

LED Drivers, Models LEDINTA0024V28FO, GEPS24-100 and GEPS24-100U

1. These LED Drivers have been evaluated to comply with Class 2 output criteria.
2. The supply terminals and connectors are suitable for factory wiring only of solid or tinned stranded No. 18 AWG conductors.
3. These LED Drivers are only suitable for use in Dry and Damp Locations.
4. These products are rated as follows:

	Input, 60 Hz			OUTPUT V and Amperes DC
Model	Volt/V	Amp/A	Power/W	
LEDINTA0024V28FO	120/277	0.66/0.30	67	24V and 2.8 (*)
GEPS24-100, GEPS24-100U	120/277	1.00/0.40	100	24V and 4.1 (**)

(*) - For connection to LED array consisting of 67 Watt maximum.
(**) - For connection to LED array consisting of 100 Watt maximum.

5. In the end product, power supply spacing to other heat producing components shall be minimum 4 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure and mounted not closer than 1 in. end to end or 4 in. side to side from adjacent LED power supplies.
6 The units were submitted and tested for a maximum manufacturers recommended ambient of 52.7°C with corresponding maximum case temperature Tc of 90C for Cat. Nos. LED-INTA-0024V-28FO, GEPS24-100, GEPS24-100U. If adjacent LED power supplies are spaced closer than 1 in. end to end or 4 in. side to side a temperature test shall be conducted in the end use product.

LED Drivers, Model LED-120A-0024V-41-RD.

1. These LED Drivers have been evaluated to comply with Class 2 output criteria.
2. Suitability for the unit to be installation inside an additional electrical enclosure shall be determined in the end used product.
3. These LED Drivers are only suitable for use in Dry and Damp Locations.
4. The unit were submitted and tested for a maximum manufacturers recommended ambient of 40° C. If adjacent LED power supplies are spaced closer than 1 in. end to end or 4 in. side to side a temperature test shall be conducted in the end use product.
5. The ground connection is not suitable as the equipment ground for a sign. Separate provision for sign grounding must be provided.
6. These drivers have been temperature tested at a 50ºC ambient and dielectric test within a Listed NEMA type 1 enclosure with the minimum overall dimensions of 12 in. by 6.125 in. by 4.125 in. and metal thickness of 0.0675 in. Final acceptability must be determined in the end use application.

LED Drivers, Models LEDINTA0024V41FO, DCINTA0025V41FP, LEDINTA0024V41DLO, LED-INTA-0024V-41-F-LO, LED-INTA-0024V-30-F-LO, LED-INTA-0024V-30-D-LO, LED-INTA-0024V-20-F-LO, LED-INTA-0024V-20-D-LO, LEDINTA0024V32FO, LEDINTA0024V22FO, GE100/MV/V24T1-A, LEDINTA1600C36FO and LEDINTA0012V50FO, LEDINTA24V28FO, GE060/MV/V12T1-A, GEPS12-60U, GEPS24-100U.

1. These LED Drivers have been evaluated to comply with Class 2 output criteria.
2. These LED Drivers are only suitable for use in Dry and Damp Locations.
3. These products are rated as follows:

Model	Input, 60 Hz.			OUTPUT V and Amperes DC
	Volt/V	Amp/A	Power/W	
LEDINTA0024V41DLO	120-277	0.95-0.40	100	24V and 4.1 A(*)
LED-INTA-0024V-41-F-LO	120-277	0.95-0.40	100	24V and 4.1 A(*)
LEDINTA0024V41FO	120-277	0.95-0.40	100	24V and 4.1 A(*)
GE100/MV/V24T1-A	120-277	0.95-0.40	100	24V and 4.1 A(*)
GEPS24-100U	120-277	0.95-0.40	100	24V and 4.1 A(*)
DCINTA0025V41FP	120-277	0.95-0.40	100	24V and 4.1 A(*)
LED-INTA-0024V-30-F-LO	120-277	0.72-0.32	72	24 and 3.0 A(**)
LED-INTA-0024V-30-D-LO	120-277	0.72-0.32	72	24 and 3.0 A(**)
LED-INTA-0024V-20-F-LO	120-277	0.48-0.22	48	24 and 2.0 A(***)
LED-INTA-0024V-20-D-LO	120-277	0.48-0.22	48	24 and 2.0 A(***)
LEDINTA0024V32FO	120-277	0.75-0.35	77	24 and 3.2 A(+)
LEDINTA0024V22FO	120-277	0.50-0.25	53	24 and 2.2 A(++)
LEDINTA1600C36FO	120-277	0.55-0.25	58	36V and 1.6A #
LEDINTA0012V50FO, GEPS12-60U, GE060/MV/V12T1-A	120-277	0.60-0.29	60	12V and 5.0A ##
LEDINTA0024V28FO	120-277	0.66-0.30	67	24V and 2.9A(###)

4. In the end product, power supply spacing to metal electrical enclosure sides may be **0 in**. When more than one LED power supply is in an enclosure, the minimum spacing between power supplies is 1 in. end to end or 4 in. side to side. Thermal spacings to combustible materials such as wood or plastic shall be in accordance with UL 48 or lesser spacings should be evaluated by temperature test.
5. The units were submitted and tested for a maximum manufacturer's recommended Tc point described in the table below. If adjacent LED power supplies are spaced closer than 1 in. end to end or 4 in. side to side a temperature test shall be conducted in the end use product.

Model No.	Input Voltage, Hz	Max. Case @ Tc, °C	Ambient, °C (Reference only)(*)
LEDINTA0024V41DLO	120-277,60	85	61.5/63.2
LEDINTA0024V41FO	120-277,60	90	56.6/59
GE100/MV/V24T1-A	120-277,60	90	56.6/59
GEPS24-100U	120-277,60	90	56.6/59
LED-INTA-0024V-41-F-LO	120-277,60	85	61.5/63.2
LED-INTA-0024V-30-D-LO	120-277,60	85	61.5/63.2
LED-INTA-0024V-30-F-LO	120-277,60	85	61.5/63.2
LED-INTA-0024V-20-D-LO	120-277,60	85	61.5/63.2
LED-INTA-0024V-20-F-LO	120-277,60	85	61.5/63.2
LEDINTA0024V32FO	120-277,60	90	56.6/59
LEDINTA0024V22FO	120-277,60	90	56.6/59
LEDINTA1600C36FO	120-277,60	90	72.7/74.8
LEDINTA0012V50FO, GEPS12-60U, GE060/MV/V12T1-A	120-277,60	90	60.2/60.5
LEDINTA0024V28FO	120-277,60	90	56.6/59

LED Dimmer, Models 9137 108 30902

1. This component has been judged on the basis of the required spacing in the Standard for Class 2 Power Units, UL 1310, Fourth Edition, which would cover the component itself if submitted for Listing.
2. The equipment was submitted and tested for a maximum manufacturer's recommended ambient (Tmra) of 40°C.
3. The unit is intended for installation inside an electrical enclosure.
4. This unit is provided with a Class 105(A) insulation system. The unit may be used within an electrical enclosure or raceway without temperature test provided they are mounted not closer than 1 in. end to end or 4 in. side to side from adjacent LED power supplies.
5. The Xitanium Dimmer is only suitable for use in Class 2 circuits powered by Advance LED drivers with maximum input rating of 24Vdc, 4.1A, or 12VDC, 5A. Dimmer circuit is 0-10VDC.
6. This LED Dimmer Controller must be used with either a 100K Ohms Potentiometer or a standard 0-10 V DC dimmer switch.
7. For dry or damp location.

LED modules, Models LMS 1W, LMS 3W, LMS 4W, LMS 12 W.

1. These components are only suitable for connection to a UL Listed or R/C (UYMR2), Component – Sign Accessory Class 2 power supply.
2. These components have not been evaluated for use when connected to a power source that does not comply with Class 2 requirements.
3. Lead wires are not Listed Class 2 cable. Therefore leads must be enclosed in a sign housing, wireway, raceway, or electrical enclosure.
4. Components are suitable for use in dry, damp and wet locations.

LED Drivers, Models LEDHCNA0024V41FLO, DCHCNA0025V41FP, and LEDHCNA0024V41DLO.

1. The LED Driver has been evaluated to comply with Class 2 output criteria.
2. The LED Driver is only suitable for use in Dry and Damp Locations.
3. The LED driver should be used within the recognized electrical ratings.
4. The LED driver case must be grounded in the end-use application.
5. In the end product, power supply spacing to other heat producing components shall be minimum 4 inches spacing to sidewalls, and minimum 3 inches spacing to top of enclosure and mounted not closure than 1 in. end to end or 4 in. side to side from adjacent LED power supplies.
6. The units were submitted and tested for a maximum manufacturer's recommended Tc point described in the table below. If adjacent LED power supplies are spaced closer than 1 in. end to end or 4 in. side to side, a temperature test shall be conducted in the end use product. The isolation transformer (T2) employs a Class B insulation system.

Model No.	Input Voltage, Hz	Max. Case @ Tc, °C	Ambient, °C (Reference only)*
LEDHCNA0024V41FLO	347-480,60	85	52/53
DCHCNA000025V41FP	347-480,60	85	52/53
LEDHCNA0024V41DIO	347-480,60	85	57.8/58.2

7. The 0-10V dimming output for Model LEDHCNA0024V41DLO is part of the Class 2 secondary circuit.

LED drivers, Models XH075C105V070CNF1, XH150C105V140CNF1.

1. These products been evaluated for the following characteristics.

Model No.	Input type-	Output type	Product is rated	Ta, Rated
XH075C105V070CNF1, XH150C105V140CNF1	Mains Input	Constant Current, Output is Non-isolated	Dry & Damp	40°C

2. Rated output loading for these products was achieved using LED loads.
3. As part of temperature testing, the case temperature at the temperature reference point- identified as tc on the case- was monitored. During the normal temperature test of the end product, the temperature at the temperature reference point is to be monitored. The absolute value at the temperature reference point cannot exceed 80 °C.
4. These products are intended for building in. Acceptability of the LED driver- with respect to mounting, spacing, casualty, temperature and segregation- is to be determined as part of the end device evaluation.
5. These products are dimmable using a low voltage 0-10 V proprietary interface. The interface circuit has been evaluated for isolation from both primary (input) and secondary (output) circuits. The maximum output parameters of the 0-10 V interface met the limitations for the Class 2 inherently limited per the UL 1310 standard.
6. The product shall be grounded in end product through its mounting ears.
7. In the end product, LED driver spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure. Otherwise, temperature test shall be conducted.
8. In the end product, LED Drivers shall be located not less than 1 inch (25.4mm) apart when arranged end-to-end, and not less than 4 inches (102mm) apart when arranged otherwise. Otherwise, temperature test shall be conducted.

Sign Accessory Class 2, LED Array Driver, Model XI050C105V050CNY1, may be followed by M.

1. These products been evaluated for the following characteristics.

Model No.			Product is rated
XI050C105V050CNY1	Input type- Mains Input	Output type - CC Output is Class 2	Dry & Damp

2. Rated output loading for these products was achieved using LED loads.
3. The product is suitable for use in maximum 55ºC ambient.
4. These products are intended for building in. Acceptability of the LED driver- with respect to mounting, spacing, casualty, temperature and segregation- is to be determined as part of the end device evaluation.
5. These products are dimmable using a low voltage 0-10 V proprietary interface. The interface circuit has been evaluated for isolation from primary (input) circuits. The maximum output parameters of the 0-10 V interface met the limitations for the Class 2 inherently limited per the UL 1310 standard.
6. The product shall be grounded in end product through its mounting ears.
7. In the end product, LED driver spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure. Otherwise, temperature test shall be conducted.
8. In the end product, LED Drivers shall be located not less than 1 inch (25.4mm) apart when arranged end-to-end, and not less than 4 inches (102mm) apart when arranged otherwise. Otherwise, temperature test shall be conducted.

LED drivers, Models LEDINTA0700C210DO and LEDINTA0700C210FO.

1. These products been evaluated for the following characteristics.

Model No.			Product is rated
LEDINTA0700C210DO LEDINTA0700C210FO	Input type- Mains Input	Output type - CC Output is None Class 2	Dry & Damp

2. Rated output loading for these products was achieved using resistance.
3. The product is suitable for use in maximum 52ºC ambient.

4. These products are intended for building in. Acceptability of the LED driver- with respect to mounting, spacing, casualty, temperature and segregation- is to be determined as part of the end device evaluation.
5. These products are provided with 18 AWG, solid leads, rated 90 °C minimum, 300 V minimum for input, output and dimming connections. Acceptability of the leads relative to strain relief and secureness, is to be determined as part of the end device evaluation.
6. LEDINTA0700C210DO and is dimmable using a low voltage 0-10 V proprietary interface. The dimming interface circuit has been evaluated for isolation from primary (input) circuits and secondary circuit. The maximum output parameters of the 0-10 V interface met the limitations for the Class 2 inherently limited per the UL 1310 standard.
7. The enclosure case of the driver must be connected to earth ground when installed in the end-use application.
8. For 250 Vdc application driver must be additionally provided with an external DC fuse in the end-use application. Fuse must be Listed, CSA certified, manufactured Littelfuse, designated CCMR, rated 250 Vdc, 10A maximum. Fuse to be wired into to the Hot lead of the driver. The method of adding the external fuse and fuse holder to be evaluated in the end-use application.
9. In the end product, LED driver spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure. Otherwise, temperature test shall be conducted.
10. In the end product, LED Drivers shall be located not less than 1 inch (25.4mm) apart when arranged end-to-end, and not less than 4 inches (102mm) apart when arranged otherwise. Otherwise, temperature test shall be conducted.

PHILIPS SOLID-STATE LIGHTING SOLUTIONS INC E312392

3 BURLINGTON WOODS DR
BURLINGTON, MA 01803

LED Data Enabler, Cat. Nos. Cat. No. 106-000003-06.

1. These components should be installed in accordance with the manufacturer's instructions.
2. These devices are to be used in accordance with the ratings and load types as specified below.

Catalog Number	(Input-Output) Operating Voltage	Input Current (A)	Type Load
106-000003-06	100 V-240 Vac	20 A	LED

3. These products may be provided with pigtail leads extending at least 150 mm (6 in) inside a wiring compartment or junction box. The final installation should be evaluated in the end use application.
4. Spacing to other heat producing components shall be minimum 4 inches when minimum spacing to sidewalls and top of enclosure is kept at minimum 2 inches.
5. Spacing to other heat producing components shall be minimum 2 inches when minimum spacing to sidewalls and top of enclosure is kept at minimum 6 inches.

PLANAR SYSTEMS INC E312680

1195 NW COMPTON DR
BEAVERTON, OR 97006

LCD Menu Boards, Models LC3250, LC4650.

1. These components should be installed in accordance with the manufacturer’s instructions.
2. These products are suitable for use in dry and damp locations.
3. These products shall be enclosed in the end product.
4. These products have the following electrical ratings:

Model	Max Input Voltage (V)	Max Input Current (A)	Frequency (Hz)
LCD Menue Board Model LC3250	120	8.5	60
LCD Menue Board Model LC4650	120	13.5	60

5. These units were tested in open air room ambient temperature with the fans operating continuously. Therefore, these units shall be subjected to a temperature test in the end product.
6. The need to conduct ground continuity tests shall be determined in the end product.
7. These products are intended for use in fixed signs for connection to a dedicated receptacle.
8. These EMI filter of these products were not subjected to Stored Energy Test.

LCD Menu Boards, Models LC3251, LC4651.

1. These components should be installed in accordance with the manufacturer’s instructions.
2. These products are suitable for use in dry and damp locations.
3. These products shall be enclosed in the end product.
4. These products have the following electrical ratings:

Model	Max Input Voltage (V)	Max Input Current (A)	Frequency (Hz)	Power (W)
LCD MENUE BOARD MODEL LC3251	120	5.0	60	580
LCD MENUE BOARD MODEL LC4751	120	9.5	60	1080

5. These units were tested in open air room ambient temperature with the fans operating continuously. Therefore, these units shall be subjected to a temperature test in the end product.
6. The need to conduct ground continuity tests shall be determined in the end product.
7. These products are intended for use in fixed signs. The ultimate, supply connections shall be considered in the end product.

POLYONE DESIGNED STRUCTURES & SOLUTIONS LLC E202184

11650 LAKE SIDE CROSSING CT
ST. LOUIS, MO 63146

Rigid sign enclosure systems, designated SunGard, Sungard Plus, PC-2000, DuraGard and PC-2000 Plus.

1. These materials are acceptable for applications of sign enclosures, sign bodies, and decorative parts. For enclosure applications, these materials may be located no closer than 0.8 mm to any uninsulated live part.
2. The materials, SunGard, PC-2000,or DuraGard and PC-2000 Plus, have a use temperature of 80C. If a heat producing Component such as electrode, transformer or ballast is located within 1 inch of the material, a temperature test should be conducted in the end product.
3. The material, SunGard Plus, has a rated temperature index (RTI) of 105°C, and therefore, is suitable for direct contact with and mounting to heat producing component such as transformers, power supplies, and ballasts in the end product.
4. Marking - The following markings or equivalent shall be provided. Markings A and B below shall be marked anywhere where readily visible during servicing.
   A. "Do not attempt to repair or service a damaged sign face. For servicing of this sign, contact _____." (Blank to be replaced by Applicant's Company name, City and State.)
   B. "Replace only with _____, Type _____." (Blanks to be replaced by Applicant's Company name and material Type or designation.)
5. The SunGard and SunGard Plus are suitable for use as an enclosure of an indoor or outdoor sign and has been evaluated for UV exposure. The PC-2000,or DuraGard or PC-2000 Plus are suitable only for use as an enclosure for indoor signs.
6. All materials must be a minimum of 0.10 in. (2.54 mm) thick to comply as a sign enclosure. All testing should be repeated if the thickness of the sheet is reduced to less than 0.10 in.
7. All materials have been investigated for and comply with the termination of conduit, electrode housings or the like.
8. All materials have been approved for component support.
9. The suitability of the securement system for the SunGard and Sungard Plus materials to prevent the entrance of water, which may contact live parts within a sign in outdoor sign applications, shall be determined.
10. When the material is relied upon for the mounting of the sign and/or sign components, the material shall be subjected to the mounting means test in the end product.
11. A marking shall be provided inside the sign indicating that servicing or replacement of the sign face material must be done by the company which sold the sign.
12. Only one side of the Sungard or SunGard Plus plastic sheets are UV coated. Therefore, the UV coated side shall be placed such that it is the exterior surface of the sign.
13. Testing for exposure to live parts was conducted on the non-UV *coated side of the Sungard and Sungard Plus plastics. Thus, the non-UV coated side shall be the only side exposed to live parts.
14. The mounting system must secure the sign face to the enclosure in such a way that the edges of the sign face are not exposed to the interior of the sign. This may be accomplished with channels, flanges or other suitable mechanical means.

Rigid non-enclosure sign face, systems for use in electric signs, designated: R59(1). May be followed by up to five numbers and/or letters to indicate color.

1. These materials are acceptable for applications of rigid sign materials used to form a sign face, sign body and decorative parts.
2. These materials are not to be used as an electrical enclosure.
3. These materials have a maximum RTI of 50°C. The need for a temperature test should be considered in the end product if a heat producing component is located near enough to impact the integrity of the material.
4. These materials have not been evaluated for connection of conduit or support of conduit.
5. These materials have not been evaluated for component support.
6. These materials are to be used in a dry location, and have not been evaluated for UV and ozone protection.
7. These materials may be used with stationary/permanent and portable signs.
8. These materials may be used with the following light sources - incandescent, fluorescent, HID, Neon/Cold Cathode, and LEDs

Rigid sign enclosure systems, designated SunGard Extra.

1. When heat producing parts are provided with the minimum thermal spacing required by Standard UL 48, a temperature test is not required. Components such as neon supplies and LED drivers may be directly mounted to the sign face without any thermal spacing. This material has a maximum RTI 125°C. The need for a temperature test should be considered in the end product if a heat producing component is located closer than the minimum required thermal spacing.
2. This material may be used in a wet location, as it has been evaluated for UV and ozone protection.
3. This material may be used with stationary/permanent and portable signs.
4. This material may be used with the following light sources - incandescent, fluorescent, HID, Neon/Cold Cathode, and LEDs.
5. The following marking is to be provided by sign company visible during servicing. "Do not attempt to repair or service a damaged sign face. For servicing of this sign, contact Spartech Plastics, Warsaw, Ind. Replace only with Spartech Plastics, SunGard Extra".
6. This material must be at least 0.12 in. (3 mm thick) to be acceptable as an electrical enclosure.
7. This material has been investigated for the securement of conduit, electrode housings, and similar such components.
8. The mounting system of a sign face, such as channels, flanges or trim, must secure the sign face to the enclosure in a such a way that the edges of the sign face are not exposed to the interior of the sign.

Rigid non-enclosure sign face, systems for use in electric signs, designated Weather Pro SG.

1. These materials are acceptable for applications of rigid sign materials used to form a sign face, sign body and decorative parts for an indoor or outdoor sign and have been evaluated for UV exposure.
2. These materials are not to be used as an electrical enclosure.
3. These materials have a maximum RTI of 60°C for gray and black colors. All other colors have a maximum RTI of 50°C. The need for a temperature test should be considered in the end product if a heat producing component is located near enough to impact the integrity of the material.
4. These materials have been evaluated for connection of conduit or support of conduit.
5. Suitable for use in component support applications. When threaded directly into the panels, suitability of screws shall be determined in the end product.
6. All components other than neon standoffs or small decorative parts must be secured to the panel by bolts, nuts and washers if washer minimum 7/16 in. diameter.
7. Nuts and bolts must be used when fastening a ballast or transformer weighting more than 7-1/2 lbs (3.4 kg).
8. These materials may be used with stationary/permanent and portable signs.
9. These materials may be used with the following light sources - incandescent, fluorescent, HID, Neon/Cold Cathode, and LEDs.
10. Only one side of the plastic sheets are UV coated. Therefore, the UV coated side shall be placed such that it is the exterior surface of the sign. A label is provided to indicate the side that is UV coated.

11.Marking - The following markings or equivalent shall be provided. Markings A and B below shall be marked anywhere where readily visible during servicing.

A. "Do not attempt to repair or service a damaged sign face. For servicing of this sign, contact _____." (Blank to be replaced by Applicant's Company name, City and State.)

B. "Replace only with _____, Type _____." (Blanks to be replaced by Applicant's Company name and material Type or designation.)

POP DISPLAYS USA LLC E335345

555 TUCKAHOE RD
YONKERS, NY 10710

Power Box with Class 2 Supply designated as "LED Power Box", Model 23369-420.

1. These products are suitable only for use in combination with portable type signs.
2. These products are suitable for use in dry location only.
3. The total maximum current for all three dedicated receptacle shall be marked max. 8 Amps.
5. These products are provided with the following electrical ratings:

	Input		
Model Designation	Vac	A	Hz
LED Power Box	120	8	60

6. These products are provided with maximum 3 dedicated receptacles.
7. These products are suitable for use in US only when provided with the Class 2 Power Supply Mean Well Enterprises Co Ltd (E320521), model no. LPC-20-350.

POWERMEC AB E469864

BERGKALLAVAGEN 27B
SE-192 79 SOLLENTUNA, SWEDEN

Sign accessories, Class 2 LED Modules: TL4-XXX, TL3-XXX, TL2-XXX, TLX4-XXX, TLX3-XXX, TLX2-XXX, TLE4-XXX, TLE3-XXX, TLE2-XXX.

1. These products are only suitable for connection to a Class 2 power source rated 24 Volt DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuit and is rated greater than 24 V DC.
3. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 24 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means

PRICE VISION INC E316529

SUITE 140
1505 WALLACE DR.
CARROLLTON, TX 75006

Sign Fan Cooling System, Series FMCPX-N Fan Cooling System, where X may be blank, 1, 2, 3 or 4 and N may be 1, 2, 3 or 4.

1. These components should be installed in accordance with the manufacturer's instructions.
2. These devices are to be used in accordance with the ratings and load types as specified below.

	(Input-Output) Operating Voltage (V)			
Catalog Number	Input (AC)	Output (DC)	Max Output Current (rms)	Type Load
FMCPX-N Fan Cooling System	100-240	12	5	Fans

3. These components are not provided with a suitable enclosure or sign body. The need for a suitable electrical enclosure and mechanical mounting means shall be considered in the end product.
4. No testing has been conducted on these units. The need to conduct Input, Temperature, Dielectric Voltage Withstand, and Grounding Continuity tests shall be considered in the end product. The need for additional testing shall also be considered in the end product.
5. The need for suitable strain relief of the internal wiring due to potential user servicing shall be considered in the end product.

PRINCIPAL LED E341517

3503 ARDEN RD
SAN ANGELO, TX 76901

Class 2 LED Module, designated as PL-XX#-YYO-Z Series, where XX may be FS (Fusion), OP (Optima) or SP (The Spec); # may be any number 0 to 9; YY may be any combination of letters AA to ZZ; O may be any number 0 to 9; and Z may be letter N or P.

1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limits and is rated 12 V DC.
3. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with Class 2 supply sources rated at 12 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.

6. These products may be secured in place in the end product by any means available.

LED Driver with Class 2 Output, Model PL-PS-60-12.

1. The power supply has been evaluated to Class 2 output requirements for dc circuits with a maximum of one Class 2 output.
2. This product is provided with the following electrical ratings:

	Input			Output	
Model	Vac	A	Hz	Vdc	A
PL-PS-60-12	100-240	1.2	50/60	12	5.0

3. The Class 2 output of this power supply is suitable for use in dry, damp and wet locations.
4. In the end product, power supply spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
5. This product shall be enclosed in the end product.
6. This product is suitable for factory wiring only.

Class 2 LED Modules, designated as PL-XX#-YYO-Z-WWAA Series where XX may be replaced with LT (Light Tape), QS (Qwik Strik) or LE (Light Edge); # may be replaced with any numeric character 0 to 9; YY may be replaced with any combination of alpha character AA to ZZ; O may be replaced with any numeric character 0 to 9 or blank; Z may be replaced with letter N, P or blank; and WWAA may be replaced with any combination of alphanumeric characters or blank.

1.These products are only intended for use and connection to a Class 2 power source rated 12 Volt DC or less.
2.When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3.These products are suitable for use in dry, damp and wet locations.
4.These products are not required to be enclosed or protected from the weather in the end product.
5.These products may be secured in place in the end product by any means available.

Class 2 output LED drivers, Model PL-MV-60-12.

1. LED driver has been evaluated using resistive load resulting in the electrical input and output noted below.

Model No.	Input				Output	
	Voltage (V)	HZ	Current (A)	Power (W)	Voltage (Vdc)	Current (A)
PL-MV-60-12	120-277	50/60	0.65	77.5	12/14	5/4.3

2. LED driver is provided with Class 2 output.
3. LED driver is intended to be operated in a maximum ambient (Ta) noted as below:

Model	Ta (°C)
PL-MV-60-12	40

4. LED driver suitable for dry location only.
5. LED driver is provided with 18 AWG AWM input and output leads. The suitability of the wiring and the need for a suitable enclosure shall be considered in the end product.
6. LED driver is intended to be operated on a maximum 20 A branch circuit.
7. The need of the grounding means shall be determined in the end product.
8. LED driver shall be enclosed within a suitable end product enclosure.
9. In the end product, LED driver spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
10. In the end product, LED Driver shall be located not less than 1 inch (25.4mm) apart when arranged end-to-end, and not less than 4 inches (102mm) apart when arranged otherwise.

Component Sign Accessories, LED Lighting Systems, designated as "Powerline AC LED" series, PL-PR#-YY-ZZZ-W Series; # may be replaced with any numeric character 0 to 9; YY may be replaced with any combination of alpha character AA to ZZ; ZZZ may be replaced with any numeric character 000 to 999; W may be replaced with alpha character A-Z or omitted.

1. These products are provided with the following electrical ratings:

Product Series	Vac	HZ	A
PL-PR#-YY-ZZZ-W Series	120	50/60	0.05

2. These products are suitable for use in dry and damp locations.
3. These products shall be installed in accordance with the manufacturer's instructions.
4. In the end product, the spacing to other heat producing components shall be minimum 2 inches to sidewalls, and minimum 2 inches spacing to top of enclosure.
5. These products are suitable for factory wiring only.
6. The suitability of input leads and the wiring shall be determined in end product use.
7. When applicable, the proper grounding means of this product shall comply with the end product requirements.
8. When applicable, the need to conduct a dielectric Voltage withstand test shall be considered in the end product application.
9. The mounting means of these products shall be determined in the end product.
10. These products may be installed in a sign body that is not enclosure rated. Wiring outside the sign body shall be in conduit or equivalent wireway.
11. These products are not to be subjected to direct sunlight.

PRO-LITE INC E323060

BLDG D
3505 CADILLAC AVE
COSTA MESA, CA 92626

LED Modules, Model "LED NUMURAL & TEXT DISPLAY MODULES", Model PL-DBPC-XXXXXX Series, where XXXXXX may be any alphanumeric characters.

1. These products are only suitable for connection to a Class 2 power source rated 24 Volt DC or less.

2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit and which is rated greater than 24 V DC.
3. These products are each rated max. 28 watts per module. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry and damp locations with supply sources rated at 24 Volts DC or less.
5. These products may be secured in place in the end product by any means available.
6. When these products are used in applications other than signs or outline lighting, the need to conduct a temperature test shall be considered.

LED Arrays, Model PLxxxM-Lcy-Pzzzz-8D, where xxx and y may be any alphanumeric characters and zzzz may be 1, 2, 3 or 4.

1. These products are rated at 5 Vdc and 3.5 Amp per module.
2. These products are suitable for use in dry and damp locations.
3. The side opposite the LED lens portion of the LEDs shall be enclosed in the end product.
4. In the end product, power supply spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
5. The Mean Well Power Supplies, model SP-150-5 shall be provided with a Listed fuse rated max. 20 Amp, min 240 V on the output circuit. The Mean Well Power Supplies, model SP-480-5 shall be provided with a Listed fuse rated max. 50 Amp, min 240 V on the output circuit.
6. Both the LED modules and the power supply shall be installed in a suitable electrical enclosure with an enclosure rated sign face.

LED Arrays system, Model PL-DBPC-XXXXXXXX, where XXXXXXXX may be any alphanumeric characters.

1. The load side (LED modules) of these products are rated at 12 Vdc per module.
2. In the end product these products shall be subjected to Exclusion of Water test when used in outdoor applications.
3. The products shall be enclosed in the end product.
4. In the end product, power supply spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
5. These products should be installed in accordance with the manufacturer's instructions.

Class 2 LED Modules, designated as "LED NUMERAL & TEXT DISPLAY MODULES", Model PL-YYYY-XXXXXX Series, where YYYY and XXXXXX may be any alphanumeric characters

1. These products are only suitable for connection to a Class 2 power source rated 24 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than 24 V DC.
3. These products are each rated max. 28 watts per module. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry and damp locations with supply sources rated at 24 Volts DC or less.
5. These products may be secured in place in the end product by any means available.
6. When these products are used in applications other than signs or outline lighting, the need to conduct a temperature test shall be considered.

PROCESS RETAIL GROUP INC — E354869

5800 S MOORLAND RD
NEW BERLIN, WI 53151

LED Strip, designated Model LS, followed by PRG, followed by 01 through 99, followed by x, followed by 01 through 99, followed by 1 or 2, followed by 01 through 99, followed by 1 or 2, followed by 1, 2 or 3.

1. These products are only suitable for connection to a Class 2 power source rated 12 Volt or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuit and is rated greater than 12 V DC.
3. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Volts or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.

PWM GMBH & CO KG — E188273

KOLNER STR 120
51691 BERGNEUSTADT, GERMANY

Sign controller, Model "E-Box-XX" Series, where XX may be any number from 0 to 9 or any letter of alphabet from A to Z or combination of numbers and letters.

1. These components should be installed in accordance with the manufacturer's instructions.
2. These devices are to be used in accordance with the ratings and load types as specified below.

	(Input-Output) Operating Voltage (V)			
Catalog Number	Input (AC)	Output (DC)	Max Output Current (rms)	Type Load
E-Box-45	100	15	4.75	LED
E-Box-45	120	15	1.95	LED
E-Box-45	240	15	3.83	LED

3. These components are not provided with suitable enclosure or sign body. The need for a electrical enclosure should be considered in the end product.
4. Spacing to other heat producing components shall be minimum 4 inches when minimum spacing to sidewalls and top of enclosure is kept at minimum 2 inches.
5. Spacing to other heat producing components shall be minimum 2 inches when minimum spacing to sidewalls and top of enclosure is kept at minimum 6 inches.

6. The suitability of output wiring shall be suitable for use with Class 1 wiring system.
7. The output of these components exceeds Class 2 limits such that it is not acceptable for use with products designated on for use when connected to a Class 2 circuit.

LED Modules, "LED Digits", Model PSDU-XX-YYY, where XX may be replaced with any letters of alphabet from A to Z or with numbers from 00 to 99 or combination of letters and numbers; YYY may also be replaced with any letters of alphabet from A to Z or with numbers from 000 to 999 or combination of letters and numbers.

1. Wiring and means of connection between modules shall be investigated in the end product requirements.
2. No tests have been conducted on these components and as such, end product testing should be considered
3. These modules units are not provided with suitable enclosure or sign body. The need for a electrical enclosure should be considered in the end product.
4. These components are to be installed in accordance with the manufacturer's instructions.
5. These Modules are acceptable for use on a Class 2 circuit and when powered by other than a Class 2 circuit, end product requirements, such as enclosure and accessibility, should be applied.

Control Unit, Model CU-115V-XX, means that between 00 and 99 and will be increased by one, with every new software release.

1. Wiring and means of connection between modules shall be investigated in the end product requirements.
2. These devices are to be used in accordance with the ratings and Load types as specified by the ELECTRICAL RATINGS.
3. These components are to be installed in accordance with the manufacturer's instructions.
4. Spacings within the low voltage circuits of the control board are not specified.

Electro Magnetic Power Unit Controller, Model E-BOX-EM-XX Series, where XX may be replaced with any letters of alphabet from A to Z or with numbers from 00 to 99 or combination of letters and numbers; YYY may also be replaced with any letters of alphabet from A to Z or with numbers from 000 to 999 or combination of letters and numbers.

1. Wiring and means of connection between modules shall be investigated in the end product requirements.
2. These devices are to be used in accordance with the ratings and Load types as specified at the ELECTRICAL RATINGS.
3. This product is for use in combination with Electro Magnetic Display Module 9-Segment fuel price displays, Model "EMDM-XX-YYY" Series. When used in other combinations, considerations for testing of these components shall be considered in the end product.
4. These modules are not provided with suitable enclosure or sign body. The need for an electrical enclosure should be considered in the end product.
5. These components are to be installed in accordance with the manufacturer's instructions.
6. Spacing to other heat producing components shall be minimum 4 inches when minimum spacing to sidewalls and top of enclosure is kept at minimum 2 inches.
7. Spacing to other heat producing components shall be minimum 2 inches when minimum spacing to sidewalls and top of enclosure is kept at minimum 6 inches.
8. Spacings within the low voltage circuits of the control board and segment control are not specified.

Electro Mechanic Display Module, Model EMDM-XX-YYY and Electro Magnetic Separate Module 9-Segment fuel price display Model "EMSM-XX-YYY", where XX may be replaced with any letters of alphabet from A to Z or with numbers from 00 to 99 or combination of letters and numbers; YYY may also be replaced with any letters of alphabet from A to Z or with numbers from 000 to 999 or combination of letters and numbers for use in Electric Signs.

1. Wiring and means of connection between modules shall be investigated in the end product requirements.
2. These products are for use in combination with Sign controller, Model "E-BOX-EM-XX" Series of PWM GMBH & CO KG. When used in other combinations, considerations for testing of these components shall be considered in the end product.
3. These modules are not provided with suitable enclosure or sign body. The need for an electrical enclosure shall be considered in the end product.
4. These components are to be installed in accordance with the manufacturer's instructions.
5. These products are only suitable for connection to a low voltage power source, rated 15 Volt DC or less and max. 2A, other than a low voltage power source, end product requirements, such as enclosure, spacing and accessibility, should be applied.
6. Spacing to other heat producing components shall be minimum 4 inches when minimum spacing to sidewalls and top of enclosure is kept at minimum 2 inches.
7. Spacing to other heat producing components shall be minimum 2 inches when minimum spacing to sidewalls and top of enclosure is kept at minimum 6 inches.

LED digits, Model ILD-XXX-YY, LED Decimal Point model ILP-XXX-YY Suitable for Wet Location Use, Line Controller model LLS-XX and Light Sensor model ISS-XX Suitable for Damp Location Use, where XXX may be replaced with any letters of alphabet from A to Z or with numbers from 000 to 999 or combination of letters and numbers; YY may also be replaced with any letters of alphabet from A to Z or with numbers from 00 to 99 or combination of letters and numbers for use in Electric Signs..

1. Only Input Test and Mold Stress Relief Distortion Tests at 70°C on the LED Digits and LED Decimal Point has been performed, the need for additional tests shall be considered in the end product.
2. Wiring and means of connection between LED Digits or LED Decimal Point shall be investigated in the end product requirements.
3. These devices are to be used in accordance with the ratings and load types as specified at the ELECTRICAL RATINGS.
4. These products were used as load with testing of PWM GMBH & CO KG, Sign controller, Model E-Box-XX Series. When used in other combinations, considerations for testing of these components shall be considered in the end product.
5. The components are not provided with suitable enclosure or sign body. The need for an electrical enclosure shall be considered in the end product.
6. These components are to be installed in accordance with the manufacturer's instructions.
7. These products (LED Digits and LED Decimal Point) are suitable for use in Wet Locations Only and are acceptable for use on a Class 2 circuit only, when powered by other than a Class 2 circuit, end product requirements, such as enclosure, spacing and accessibility, should be applied.
8. The Line Controller and light Sensor are suitable for use in Dry and Damp Locations Only and are is acceptable for use on a Class 2 circuit only.
9. Spacing to other heat producing components shall be minimum 2 inches when minimum spacing to sidewalls and top of enclosure is kept at minimum 6 inches

FAN Module, Model Fan Set-XX, where XX may also be replaced with any numbers from 00 to 99.

1. Input Test, Rain and Mold Stress Relief Distortion Tests at 70°C on the

FAN-SET-XX has been performed, the need for additional tests shall be considered in the end product.

2. These components should be installed in accordance with the manufacturer's instructions.
3. The device is to be used in accordance with the ratings and load types as specified at the ELECTRICAL RATINGS.
4. The Sign controller, Model E-Box-XX Series and Line Controller model "LLS-XX", manufactured by PWM GMBH & CO KG, were used for testing the Fan assembly's models "FAN-SET-01, FAN-SET-02, and FAN-SET-03", when used in other combinations, considerations for testing of these components shall be considered in the end product.
5. The Fan Cover (louver) openings shall always face down, if otherwise it needs to be provided with an "Up" marking and arrow for mounting position that keeps water out.
6. The Rain Test per UL 879 was performed with the Fan assembly's models "FAN-SET-01, FAN-SET-02, and FAN-SET-03" in the positions described in the manual instruction. Suitability for outdoor use when installed shall be considered by the end product requirements.
7. The Fan assembly model "FAN-SET-01" can exhaust air and pull air, and shall be mounted as described in the manual instruction.
8. The Fan assembly's models "FAN-SET-02 and FAN-SET-03" can only pull air, and shall be mounted as described in the manual instruction.
9. The component is not provided with suitable enclosure or sign body. The need for an electrical enclosure shall be considered in the end product.
10. Wiring and means of connection between modules shall be investigated in the end product requirements.
11. Spacing to other heat producing components shall be minimum 2 inches when minimum spacing to sidewalls and top of enclosure is kept at minimum 6 inches
12. This product is suitable for use in Damp Locations and is acceptable for use on a Class 2 circuit only, when powered by other than a Class 2 circuit, end product requirements, such as enclosure, spacing and accessibility, should be applied.

LED Module, Backlight-XX-YYY, where XX stands for 04 LEDS or 08 LEDS or 12 LEDS or 16 LEDS YYY may also be replaced with any letters of alphabet from A to Z or with numbers from 000 to 999 or combination of letters and numbers.

1. Only Input Test and Mold Stress Relief Distortion Tests at 70°C on the Backlight-XX-YYY has been performed, the need for additional tests shall be considered in the end product.
2. Means of connection between modules shall be investigated in the end product requirements.
3. The device is to be used in accordance with the ratings and load types as specified at the ELECTRICAL RATINGS.
4. This product was used as load with testing of PWM GMBH & CO KG, Sign controller, Model E-Box-XX Series. When used in other combinations, considerations for testing of these components shall be considered in the end product.
5. The component is not provided with suitable enclosure or sign body. The need for an electrical enclosure shall be considered in the end product.
6. This component is to be installed in accordance with the manufacturer's instructions.
7. This product is suitable for use in Dry and Damp Locations and is acceptable for use on a Class 2 circuit only, when powered by other than a Class 2 circuit, end product requirements, such as enclosure, spacing and accessibility, should be applied.
8. Spacing to other heat producing components shall be minimum 2 inches when minimum spacing to sidewalls and top of enclosure is kept at minimum 6 inches

QUASAR LIGHT CO LTD — E464626

UNIT 1001 FOURSEAS BLDG
208-212 NATHAN RD
KOWLOON, HONG KONG

Class 2/LPS LED modules, Models QXXYY-ZZ series, where X, Y and Z can be combinations of any numbers and letters.

1. These products are only suitable for connection to a Class 2 or LPS power source rated 24 Volt DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 or LPS voltage and energy limited circuits.
3. When these units are connected to a Class 2 or LPS supply circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 or LPS supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 24 Volts DC or less..
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.
7. The suitability of heatsinking for these LED modules shall be determined in the end product.
8. When these products are used in applications other than signs the need to conduct a temperature test shall be considered.

RAB LIGHTING INC — E359881

170 LUDLOW AVE
PO BOX 970
NORTHVALE, NJ 07647

Class 2 LED Power Supply, Cat. No. RD14-09-Annnn,RD14-10-Annnn and RD14-12-Annnn,RD14-13-Annnn, RD14-15-Annnn, RD14-18-Annnn, RD14-22-Annnn, RD14-24-Annnn, RD14-36-Annnn, RD14-48-Annnn, where "A" represents constant current and "nnnn" may be any alphanumeric characters that represent output current.

1. The product shall be installed in compliance with the mounting, spacing, casualty, and segregation requirements of the ultimate application.
2. These units are provided with a Class 105(A) or Class 130 (B) insulation system.
3. Input leads are Style 1015, No. 18 AWG, rated VW-1, 600 V, 105°C. Output leads are Style 1430, No. 18 AWG, rated VW-1, 300 V, 105°C. The suitability of the input and output connections shall be determined in each end use application.
4. These power units are intended for dry or damp location use only.
5. Strain Relief and Impact Tests have not been investigated. The suitability of the enclosure as ultimate enclosure shall be determined in the end-use application.

6. The polymeric enclosure of each unit has not been evaluated as ultimate enclosure. The flame class of polymeric enclosure of each unit is V-0 and the necessity of additional fire barriers shall be determined in end product.
7. In the end product, power supply spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
8. The output of the power supply, Model RD14-48-Annnn, exceeds the Class 2 output limits. This shall be considered in the end product.

Class 2 LED Power Supply, Cat. No. RD12-10-Annnn, RD12-12-Annnn,RD12-13-Annnn, RD12-15-Annnn, RD12-17-Annnn, RD12-18-Annnn, RD12-22-Annnn, RD12-24-Annnn, RD12-36-Annnn and, RD12-52-Annnn, where "A" represents constant current and "nnnn" may be any alphanumeric characters that represent output current.

1. The product shall be installed in compliance with the mounting, spacing, casualty, and segregation requirements of the ultimate application.
2. These units are provided with a Class 105(A) insulation system.
3. The suitability of the input and output connections shall be determined in each end use application.
4. These power units are intended for dry or damp location use only.
5. Strain Relief and Impact Tests have not been investigated.
6. The polymeric enclosure of each unit has not been evaluated as ultimate enclosure. The flame class of polymeric enclosure of each unit is V-2, and the necessity of additional fire barriers shall be determined in end product.
7. When conducting temperature test in the end product, the maximum temperature on the enclosure (case) shall not exceed 80°C. When provided with alternate enclosure material R/C (QMFZ2), Teijin Chemicals Ltd. (E50075), Material designation LN-1250G, the maximum temperature on the enclosure (case) shall not exceed 90°C.
8. Class 2 Power Supply, Model RD12-52-Annnn are suitable for use in US only.

Class 2 LED Power Supply, Models RD117-12-Annnn, RD117-24-Annnn and RD117-36-Annnn, where "A" represents constant current and "nnnn" may be any alphanumeric characters that represent output current.

1. These power supplies have a maximum of one Class 2 output. The output of these power supplies has been evaluated to Class 2 output requirements for dc circuits.
2. These products with Class 2 outputs are suitable for use in dry and damp locations only.
3. In the end product, power supply spacing to other heat producing components shall be minimum 4 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
4 When used in a cord connected product, the need for conducting a leakage current test shall be considered in the end product.
5. These products with leads are suitable for use in commercial application only when marked with 277 V input voltage.

Class 2 LED Power Supply, Models RD125-12-Annnn, RD125-24-Annnn, RD125-36-Annnn, RD125-42-Annnn, RD125-50-Annnn, Where "A" represents constant current and "nnnn" may be any alphanumeric characters that represent output current.

1. These power supplies have a maximum of one Class 2 output. The output of these power supplies has been evaluated to Class 2 output requirements for dc circuits.
2. These products with Class 2 outputs are suitable for use in dry and damp locations only.
3. In the end product, power supply spacing to other heat producing components shall be minimum 4 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
4. When used in a cord connected product, the need for conducting a leakage current test shall be considered in the end product.
5. These lead connected products are suitable for use in commercial application only when marked with 277 V input voltage.
6. These units employ a Class 105 (A) insulation system on Transformer (T1).

Class 2 LED Power Supply, Model RD19-XX-YZ-E, where XX can be 19, 24 or 36; Y can be G or T; Z can be G or T; and E can be any number from 170 to 999. ; which may be followed by suffix “DV”.

1. These power supplies have a maximum of one Class 2 output. The output of these power supplies has been evaluated to Class 2 output requirements for dc circuits.
2. Models RD19-TT-E are suitable for use in dry and damp locations. Models RD19-GG-E are suitable for use in dry, damp and wet locations.
3. In the end product, power supply spacing to other heat producing components shall be minimum 4 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
4. When used in a cord connected product, the need for conducting a leakage current test shall be considered in the end product.
5. When not marked for “Dry and Damp Locations Only” the power supply primary bracket shall be provided with min. 3.5 threads and maximum 5 threads tapered for connection to liquid tight conduit fitting. If less than 3.5 threads, the liquid tight shall be provided with Listed (QCRV) 1/2 inch, liquid tight conduit fittings.
6. These products are suitable for use in commercial application only when marked with 277 V input voltage.
7. When provided with the alternate conduit caps on page 2A, the power supply shall be provided with an additional fire enclosure.
8. Cord connected (not cord and plug) models are suitable only for use in cord connected signs:
   A) The suitability of the cord length, type, and temperature rating shall be determined in the end use.
   B) Strain relief testing has been conducted at 20 lbs. The need for additional strain relief shall be determined in the end use.
   C) Leakage current testing has not been conducted on the cord connected models and shall be conducted in the end use.
9. Model RD19-XX-YZ-E-DV series are provided with a dimming option for use with a 0-10VDC dimming system.

RC GLOBAL INDUSTRIES INC E334806
31208 CTY 71
EAGLE BEND, MN 56446

LED Single Tube, Models GF-028DC1-18, GF-030DC1-21, GF-030DC1-24; **LED Double Tube,** Models GF-015DC3-06, GF-024DC3-09, GF-030DC3-12, GF-050DC3-15, GF-055DC3-18, GF-060DC3-21, GF-060DC3-24.

1. Lamps are for connection in parallel only and maintain polarity.
2. Only for use with the Rose City driver and lamp combinations specified below.

Lamp Model	Lamp Voltage DC	Lamp Wattage	Lamp Driver
GF-028DC1-18	37	28	SPS-A202806051
GF-030DC1-21	37	30	SPS-A203006051

GF-030DC1-24	37	30	SPS-A203006051
GF-015DC3-06	37	15	SPS-A203006051
GF-024DC3-09	37	24	SPS-A203006051
GF-030DC3-12	37	30	SPS-A203006051
GF-050DC3-15	37	50	SPS-A205006051
GF-055DC3-18	37	55	SPS-A205506051
GF-060DC3-21	37	60	SPS-A206006051
GF-060DC3-24	37	60	SPS-A206006051

3. For dry or damp location use only.
4. For use with R17d recessed double-contact lampholders only.
5. Lamps may be mounted vertically or horizontally.
6. Thermal clearance from lampholder to plastic or wood not required.
7. Minimum clearance from lamp to adjacent construction is 1/2in (12.7mm).

Constant current driver, Models SPS-A201506051, SPS-A202406051, SPS-A202806051, SPS-A203006051, SPS-A205006051, SPS-A205506051, and SPS-A206006051.

1. LED driver is required to be installed in an electrical enclosure.
2. For dry or damp location use only.
3. The driver has been temperature tested in an ambient of 40C.
4. A temperature test is not required when the LED drivers are mounted not closer than 1 in. end to end or 4 inch side to side to adjacent LED drivers or power supplies.
5. Driver shall be used with lamp that matches output ratings.

Model	Input Voltage DC	Wattage	Output Voltage VDC	Output Current A
SPS-A201506051	48	15	36-38	0.368
SPS-A202406051	48	24	36-38	0.576
SPS-A202806051	48	28	36-38	0.672
SPS-A203006051	48	30	36-38	0.73
SPS-A205006051	48	50	36-38	1.16
SPS-A205506051	48	55	36-38	1.35
SPS-A206006051	48	60	36-38	1.46

RELUME TECHNOLOGIES TM **E252627**

33844 STERLING PONDS BLVD
STERLING HEIGHTS, MI 48312

Class 2 LED Module, Cat. No. Silver Circuit.

1. Portable LED signs may be used with Listed or R/C Class 2 power supplies, used in accordance with the conditions of acceptability. Permanently wired LED signs are used with R/C (UYMR2) LED drivers used in accordance with their conditions of acceptability. These products are only suitable for connection to a 24 volt maximum DC power source.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited supplies.
3. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp locations. When the maximum output of the power supply is 24V continuous dc or 12.4V peak for dc interrupted at a rate of 10 to 200Hz, the products may be installed in wet locations.
5. These products are not required to be enclosed or protected from weather.
6. These products are suitable to serve as part of the enclosure, with optional conduit knockout, in the end product sign.

Thickness of aluminum PWB	Max. length of enclosure (Straight line)
0.04”	48” or less
0.045” or greater	60” or less

RETOP LED DISPLAY CO LTD **E362949**

D BLK, CHUANGJIAN 2ND PHASE
INDUSTRIAL PARK, YINGRENSHI COMMUNITY
SHIYAN ST, BAOAN DISTRICT
SHENZHEN, GUANGDONG 518108 CHINA

LED modules, designated as "RT-XXYYY" Series, where XX and YYY may alphanumeric characters to represent different sizes.

1. These components should be installed in accordance with the manufacturer's instructions.
2. These products are suitable for use in dry locations.
3. These products shall be enclosed in a suitable electrical enclosure in the end product.
4. These products have the following electrical ratings:

Model	Max Input Voltage (V)	Max Input Current (A)	Max Input Power (W)	Frequency (Hz)
“RT-XXYYY”	120	5	580	60

5. These units were tested in open air room ambient temperature with the fans operating continuously. Therefore, the need to conduct temperature testing shall be determined in the end product.
6. The need to conduct ground continuity tests shall be determined in the end product.

RISHANG OPTOELECTRONICS CO LTD **E340368**
2,3,4,5F BLK 2 HONGFA JIATELI
HI-TECH PARK SHIXIN COMMUNITY
SHIYAN TOWN BAO'AN DISTRICT SHENZHEN, GUANGDONG 518108 CHINA

Class 2 LED Modules, Cat. Nos. M133AA, M103AA, M113BA, M102B.
1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit and which is rated greater than 12 V DC.
3. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp, and wet locations with supply sources rated at 12 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.
7. When these products are used in applications other than signs or outline lighting, the need to conduct a temperature test shall be considered.

Class 2 LED Modules, Models M6XXXA and M6XXXB series; where The first X may be replace with 0~9, indicates product size or shape; The second X may be replaced with 1~9, indicates product LED quantity; The third X may be replaced with A~Z or XB, indicates product LED encapsulation types.
1. These products are only suitable for connection to a Class 2 power source, rated 12 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than electrical ratings.
3. These Class 2 LED modules are each rated as noted in the model list tables. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Vdc or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. For M601C series, three units are consisted one module.
7. The suitability of supply leads shall be determined in end use.

Class 2 LED Modules, models Z6XXXXD and Z7XXXXD series; where the first X may be replaced with 0~9 or A~Z, indicates product size or shape; the second and the third may be replace with 01~99 or when the second X may be replaced with A~Z, the third X may be replaced with 1~9,these digits or letters indicate LED quantity; the fourth X may be replaced with A~Z or XB, indicates LED encapsulation types.
1. These products are only suitable for connection to a Class 2 power source, rated 24 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than electrical ratings.
3. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 24 Vdc or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. The suitability of supply leads shall be determined in end use.

Class 2 LED Modules, models MXXXXXX, RXXXXXXX, ZXXXXXXX and BSMXXXXXX series. For MXXXXXX and BSMXXXXXX series, the first X may be replaced with A~Z or blank; the second X may be replaced with 0, 1, 2, 3, 6, 8, 9 or A~G; the third X may be replace with 0~9 or A~Z; the fourth X may be replaced with 1~9; the fifth X may be replaced with A~Z or XB; and the sixth X may be replaced with A~E, M, N, Q or P. For RXXXXXXX series, the first X may be replaced with A~Z or blank; the second X may be replaced with 0, 1, 2, 3, 5, 6, 8, 9 or A~C; the third X may be replaced with 0~9 or A~Z; the fourth and the fifth X may be replace with 01~99, or when the fourth X may be replaced with A~Z, the fifth X may be replaced with 0~9; the sixth X may be replaced with A~Z or XB; and the seventh X may be replaced with A~E, M, N, Q or P. For ZXXXXXXX series, the first X may be replaced with A~Z or blank; the second X may be replaced with 0, 1, 2, 3, 5, 6, 7, 8, D, E; the third X may be replaced with 0~9 or A~Z; the fourth and the fifth X may be replace with 01~99, or when the fourth X may be replaced with A~Z, the fifth X may be replaced with 0~9; the sixth X may be replaced with A~Z or XB; and the seventh X may be replaced with A~E, M, N, Q or P.
1. These products are only suitable for connection to a Class 2 power source, rated 24 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than electrical ratings.
3. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 24 Vdc or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. The suitability of supply leads shall be determined in end use.

LED Drivers, Class 2, Models LW30-0120250, LW30-0240125.
1. The power supply has been evaluated to Class 2 output requirements for dc circuits with a maximum of one Class 2 output.
2. The products are intended to be built-in, the suitability of enclosure, mounting, input / output connections shall be considered in the end product.
4. The products are intended for use in damp and wet locations.
5. These products are to be used in maximum ambient temperature (Ta) and Maximum case temperature (Tc) are as below :

Models	Wet location		Damp location	
	Ta	Tc	Ta	Tc
LW30-0120250	40	--	70	85
LW30-0240125	40	--	70	85

6. These LED drivers are of the constant voltage type that requires the proper number of LED modules and controllers that does not exceed the maximum output current.
7. These products are suitable for factory wiring only.
8. These products have been evaluated using a resistive load resulting in a maximum input and output.
9. The products are intended to be connected to a maximum 20 A branch circuit.

10. Humidity and Rain tests have been conducted for reference only. The need to repeat these tests shall be considered when mounted in the end-product.
11. In the end product, LED driver spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
12. In the end product, LED Drivers shall be located not less than 1 inch (25.4mm) apart when arranged end-to-end, and not less than 4 inches (102mm) apart when arranged otherwise.

LED Drivers, isolated, non-Class 2, Models LW60-0120500A, LW60-0240250A, LW100-0120833, LW100-0240416, LW150-0121250, LW150-0240625.

1. These units have an isolated Non-Class 2 output.
2. The products are intended for built-in, the suitability of enclosure, mounting, input / output connections shall be considered in the end product.
4. These products are suitable for use in damp and wet locations.
5. These products are to be used in maximum ambient temperature (Ta) and Maximum case temperature (Tc) are as below :

Models	Wet location		Damp location	
	Ta	Tc	Ta	Tc
LW60-0120500A	40	--	70	85
LW60-0240250A	40	--	70	85
LW100-0120833	40	--	65	85
LW100-0240416	40	--	65	85
LW150-0121250	40	--	50	75
LW150-0240625	40	--	50	75

6. The LED drivers are of the constant voltage type that requires the proper number of LED modules and controllers that does not exceed the maximum output current.
7. These products are provided with Input and Output cord. The grounding continuity shall be checked in end product.
8. These products are suitable for factory wiring only.
9. The product has been evaluated as isolated output rated Non-Class 2 using a resistive load resulting in a maximum input and output.
10. These products are intended to be connected to a maximum 20 A branch circuit.
11. In the end product, LED driver spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
12. In the end product, LED Drivers shall be located not less than 1 inch (25.4mm) apart when arranged end-to-end, and not less than 4 inches (102mm) apart when arranged otherwise.

LED Drivers, isolated, Class 2, Models LW60-0120500, LW60-0240250, LW100-0120833A, LW100-0240416A, CPW60-0120500, CPW60-0120500A, CPW60-0120500B, CPW60-0240250,CPW60-0240250A, CPW60-0240250B, CPW100-0120833, CPW100-0120833A, CPW100-0120833B, CPW100-0240416, CPW100-0240416A, CPW100-0240416B.

1. These power supplies have been evaluated to Class 2 output requirements for dc circuits with a maximum of one Class 2 output.
2. These products are provided with the following electrical ratings:

Model Number	Input Voltage (V)	Input Current (A)	Frequency (Hz)	Output Voltage (Vdc)	Output Current (mA)
LW60-0120500	100-240	0.78	50/60	12	5
LW60-0240250	100-240	0.78	50/60	24	2.5
LW100-0120833A	100-240	1.25	50/60	12	3.9 #
LW100-0240416A	100-240	1.25	50/60	24	4.0
CPW60-0120500	100-240	0.90	50/60	12	5
CPW60-0120500A	100-277	0.90	50/60		
CPW60-0120500B	277	0.35	50/60		
CPW60-0240250	100-240	0.90	50/60	24	2.5
CPW60-0240250A	100-277	0.90	50/60		
CPW60-0240250B	277	0.35	50/60		
CPW100-0120833	100-240	2.20	50/60	12	3.9 #
CPW100-0120833A	100-277	2.20	50/60		
CPW100-0120833B	277	0.85	50/60		
CPW100-0240416	100-240	2.20	50/60	24	4.0
CPW100-0240416A	100-277	2.20	50/60		
CPW100-0240416B	277	0.85	50/60		

- Two outputs: Each 12 Vdc, 3.9 A.

3. In the end product the power supply spacing to other power supplies shall be at least 25.4 mm (1 in.) from end-to-end, and 101.6 mm (4 in.) from side-to-side. When spaced closer, a temperature test is required.
4. These products shall be enclosed in the end product.
5. These products are intended for use in dry, damp or wet locations.
6. The suitability of input/output leads and the wiring shall be determined in end product use.
7. These products are provided with 18 AWG stranded, rated minimum 300 Vac, minimum 60 C (for wet location), minimum 105 C (for damp and dry location), for input and output connections. Acceptability of the leads relative to strain relief and secureness, is to be determined as part of the end device evaluation. The grounding continuity shall be checked in end product

Company name, tradename "DEMASLED" or trademark SLW LED™, LED WHOLESALERS, SLW LED® and catalog designation.

ROCOX INC **E73588**
14001 TANGLE AIRE PL
AMARILLO, TX 79118

Sign Flasher, Models 110, 210, 310, 410, 120, 220, 320 or 420.

1. These are open-type devices. A suitable enclosure shall be provided in the end use and the suitability of the bonding means through the mounting means shall be determined in the end use. The suitability of conduit connections shall be determined in the end use.
2. These components are suitable for use in Dry or Damp Locations.

ROSTI INTEGRATED MANUFACTURING SOLUTIONS (SUZHOU) CO LTD **E347776**
1 HUAZHENG ST
SUZHOU INDUSTRIAL PARK
SUZHOU, JIANGSU 215026 CHINA

Class 2 LED light board, Model. No. KLB355W.

1. This product is only suitable for connection to a Class 2 power source rated 24 Volt DC or less.
2. This product has not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit and which is rated greater than 24 V DC.
3. When unit is connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. This product is suitable for use in dry, damp and wet locations with supply sources rated at 24 Volts DC or less.
5. This product is not required to be enclosed or protected from the weather in the end product.
6. When this product is used in applications other than signs the need to conduct a temperature test shall be considered.
7. This product cannot be wired in series.

S & F SUPPLIES INC **E344915**
93 EMERSON PL
PO BOX 050071
BROOKLYN, NY 11205

LED Module, Models DLM3W, DLM3R, DLM3RGB, DLS2W, DLS2R, DLS2B, DLS2G.

1. These products have been evaluated for connection to a Class 2 power source only, rated 12 Vdc, 60 W max.
2. These products are suitable for use in dry, damp or wet locations.
3. The LED module is provided with leads for interconnection. The suitability of the leads shall be determined in the end product.

Sign accessories, **Class 2 LED modules**: Models ECLEDS2W, ECLEDS2R, ECLEDS2G, ECLEDS2B, ECLEDM3W, ECLEDM3R, ECLEDM3RGB.

1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Volts DC or less.
4. These products are not required to be enclosed or protected from the weather in the end product.
5. These products may be secured in place in the end product by any means available.

SABIC INNOVATIVE PLASTICS US LLC **E136722**
SPECIALTY COMPONENTS & PRODUCTS
1 PLASTICS AVE
PITTSFIELD, MA 01201

Rigid sign face system, designated: Lexan S-10, SG, SL6832, SGC, 903, and Sabic Lexan Sign Grade Sheet All may be followed by additional letters and/or numbers.

1. Acceptable for use in dry, damp and wet locations.
2. Acceptable for enclosure, sign body and decorative applications. For enclosure applications, exposed live parts shall be spaced min. 0.8mm (1/32”) from the enclosure surface.
3. Suitable for use in component support applications.
4. Water exclusion must be determined in the end product.
5. This material is suitable for contact with heat producing components such as electrodes, transformers, power supplies and ballasts in the end product.
6. Marking required on end product stating, "Replace only with (manufacturer's name of component), type (type designation of sign face) sign face material".
7. Suitable for use in terminating conduit.
8. The mounting system must secure the sign face to the enclosure in such a way that the edges of the sign face are not exposed to the interior of the sign. This may be accomplished with channels, flanges or other suitable mechanical means.
9. Not suitable for the support of components weighing more than 7.5lbs (3.4Kg).

SEOUL SEMICONDUCTOR **E363669**
1B-25, 727-5 WONSI-DONG
DANWON-GU

ANSAN-CITY, KYUNGGI-DO 425-851 REPUBLIC OF KOREA

Class 2 LED modules, Models SMJS-1SCABIN-65, SMJS-3SCABIN-65.

1. These products are only suitable for connection to a Class 2 power source, rated 12 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than electrical ratings.
3. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Vdc or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. The suitability of supply leads shall be determined in end use.

SHANGHAI HUILI TUVGAL SHEETS CO LTD E363988

268 EAST KANGQIAO RD
PUDONG, SHANGHAI 201319 CHINA

Rigid non-enclosure rated sign faces, designated "PC face, PC edge"**.**

1. These products are only suitable for use with Class 2 powered LED illuminated type signs.
2. These products are suitable for use in dry and damp locations only.
3. These products are limited to use with decorative, sign face, and sign body applications only.
4. The rigid sign face non-enclosure rated material is not suitable for use as an electrical enclosure of non-Class 2 circuitry.
5. The sign face material shall be spaced a minimum of 5 cm (2 in.) from heat producing components.
6. Not intended for mechanical support of components.

SHANGHAI JIATANG ELECTRONIC CO LTD E242985

NO 685 E GAOKE RD
HEQING TOWN
PUDONG
201201 SHANGHAI, CHINA

Channel letter LED Modules, Models SLS-1-X, SLS-2-X, SLS-3-X, and SLS-3-X-y (where, X may be replaced with any letters of alphabet A~Z, or any number 0~9; y can be any letters of alphabet A~Z).

1. These products are only suitable for connection to the output of a UL Listed or R/C (UYMR2), Component – Sign Accessory Class 2 LED power supply or UL Listed or R/C Class 2 Power Supply rated 12 V DC.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 requirements.
3. Class 2 LED Illumination is rated per following table. When units are connected to a Class 2 circuit, their number is to be limited to draw a total wattage of no greater than the secondary current rating of each Class 2 circuit. The following identifies the rating to be used in calculating the maximum number of units per circuit.

Cat. No.	Load Max (mAmps)	Watts
SLS-1-X	30	0.36
SLS-2-X	30	0.36
SLS-3-X, SLS 3-X-y	50	0.60

4. These products are suitable for use in dry, damp and wet locations.
5. The weather enclosure does not require evaluation.

Channel letter LED Modules, Models SU-3-X and SU-4-X, where X may be replaced with any letters of alphabet A through Z or any numbers 0 through 9.

1. These products are only suitable for connection to a Class 2 power source, rated 24 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit.
3. Class 2 LED Illumination Module, model no. SU-3-X is each rated max. 1.5 Watts per unit. SU-4-X is each rated max. 1.2 Watts per unit. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations.
5. These products are not required to be enclosed or protected from the weather in the end product.

SHANGHAI WHQ OPTOELECTRONIC CO LTD E343895

6788 BEI QING RD
200011 SHANGHAI, CHINA

Class 2 LED Module, Cat. No. WHQ-B100x, WHQ-B111x, WHQ-B160x, WHQ-B200x, WHQ-B211x and WHQ-B300x, where x may be any alphanumeric character or blank.

1. These products are only suitable for connection to a Class 2 power source, rated 12 Volt DC or less for models WHQ-B111x, WHQ-B160x, WHQ-B200x, WHQ-B211x and WHQ-B300x and 24 Volt DC or less for model WHQ-B100x.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than electrical ratings.
3. These Class 2 LED modules are each rated as noted in the electrical ratings tables. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at electrical ratings or less.
5. These products are not required to be enclosed or protected from the weather in the end product.

SHEAD ENTERPRISES INC E360000

15164 N 140 DRIVE
APT. 2187
SURPRISE, AZ 85379

Power supplies, Class 2, Models PLN-60-12, PLNF-60-12.

1. These LED Drivers comply with Class 2 output requirements.
2. These products are provided with the following electrical ratings:

Model No.	Input Voltage (VAC)	Input Freq (HZ)	Input Current (A)	Output Voltage (Max. Vdc)	Output Current (Max. A)
PLN-60-12	100-277	50/60	1.3	12	5
PLNF-60-12	100-277	50/60	1.3	12	5

3. In the end product, power supply spacing to other heat producing components shall be at least 25.4 mm (1 in.) from end to end, and 101.6 mm (4 in.) from side to side.
4. These products shall be enclosed in the end product.
5. These products are suitable for factory wiring only.
6. These products are intended for use in dry or damp locations only.
7. The suitability of input/output leads and the wiring shall be determined in end product.
8. These products are constant voltage type that require the proper number of LED modules and controllers that do not exceed the maximum total output current rating.
9. These LED drivers are intended to be operated on a maximum 20 A branch circuit.

Molded Silicone Rubber Boot/Nut Assembly, Model S.E.I. S-B-1000.

1. The suitability of protective barrier shall be determined in the end-use application.
2. Consideration shall be given to conducting a Water Exclusion Test in the end product.
3. The suitability of a Listed toggle switch for use with this boot shall consider the following:
   (A) The toggle (switch actuator) shall be metal, and
   (B) The toggle (switch actuator) shall be rounded to prevent abrasion and cutting of the boot.
   (C) The assembly shall be mounted on the bottom or side surface of a sign body only.

SHENZHEN BRIGHT LIGHTING TECHNOLOGY CO LTD E352755

BLDG 18 SHANGCHENG INDUSTRIAL PARK
SHIYAN TOWN
BAOAN DISTRICT
SHENZHEN, GUANGDONG 518108 CHINA

Class 2 LED Strip, Models BRT-12V-XXX[#], BRTWL-12V-XXX[#], BRT-HO-24V-XXX[#], BRTWL-HO-24V-XXX[#], BRT-VHO-24V-XXX[#], BRTWL-VHO-24V-XXX[#].

1. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuit and is rated less than 24V DC.
2. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. These products are suitable for use in dry, damp and wet locations.
4. These products do not require an electrical enclosure.
5. These products may be secured in place in the end product by any means available.

SHENZHEN COLLESUN LIGHTING CO LTD E356842

ROOM 508 TOWER B
TIAN AN CYBER TIMES
FU TIAN DISTRICT
SHENZHEN, GUANGDONG 518040 CHINA

Sign accessories, LED sign box, Models PBS-8G, PBS-8R, PBS-12G, PBS-12R.

1. Enclosure is required and suitability should be considered in end products.
2. These products are suitable for Dry locations only.
3. These products are provided without mounting means. Mounting shall be determined in the end-use application.
4. Wiring should be considered by end products.

Sign accessories, gas price display modules, Models PBS-6G, PBS-6R, PBS-16G, PBS-16R, PBS-18G, PBS-18R, PBS-24G, PBS-24R.

1. These components are intended to be mounted with sign and shall be reliably mounted with the end-product.
2. These products are suitable for use in Damp location. If used in wet location, additional investigation should be conducted.
3. Enclosure is required and suitability should be considered in end products.
4. For power supply cord, if not provided, wiring and strain relief means should be considered by end products.

SHENZHEN LINGBENYANG TECHNICAL CO LTD E348340

A XINGYONGFENG INDUSTRIAL AREA
YINGRENSHI VILLAGE
BAOAN DISTRICT, SHIYAN TOWN
SHENZHENG, GUANGDONG 518000 CHINA

Class 2 LED Module, Models CH452F, CH743F, CK743F, TH384F, TH383F, TH502F, TK504F, ZH362F, ZH334F, ZH623F, LBY-CH452F-5W-0001, LBY-CH743F-3W-0001, LBY-CK743F-3C-0001, LBY-ZH362F-5W-0001, LBY-ZH334F-7W-0001, LBY-CK262G-3C-0001.

1. These products are only suitable for connection to a Class 2 power source, rated 12 Volt DC or less for all models.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than electrical ratings.
3. These Class 2 LED modules are each rated as noted in the electrical ratings tables. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at electrical ratings or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These LED modules have been evaluated electrical input noted below.

Model	Alternate Model	Voltage Vdc	Rated wattage W
CH452F	LBY-CH452F-5W-0001	12	0.42
CH743F	LBY-CH743F-3W-0001	12	0.6
CK743F	LBY-CK743F-3C-0001	12	0.3
TH384F	-	12	0.8
TH383F	-	12	0.6
TH502F	-	12	0.42
TK504F	-	12	0.6
ZH362F	LBY-ZH362F-5W-0001	12	0.4
ZH334F	LBY-ZH334F-7W-0001	12	1.2
ZH623F	LBY-CK262G-3C-0001	12	0.6

Sign Accessories, Class 2 LED Modules, Models SEXXGA1-AA-BB-CCDD, ZEXXGA1-AA-BB-CCDD, YEXXGA1-AA-BB-CCDD, where “E” can be any letters denoting LED package type, “XX” denotes the LED density - can be any 2 or 3 digit alpha-numeric character, “G” denotes process technique, can be a letter from B to Z or blank; “A” denotes the input voltage - can be any character, “1” denotes the product design code, can be any digit number from 1 to 9, “AA” denotes the product deviation code, can be one or two letters or blank, “BB” denotes the length/density of product, can be any 1 or 2 digit number or blank, “CC” denotes the LED color temperature - can be any 1 or 2 digit character or blank, and “DD” can be any two digit number for packaging code or blank. 1. This product is only suitable for connection to a Class 2 power source, rated 24 Volt DC or less.

2. This product has not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than electrical ratings.
3. This Class 2 LED module is rated as noted in the electrical ratings tables. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. This product is suitable for use in dry, damp and wet locations with supply sources rated at electrical ratings or less.
5. This product is not required to be enclosed or protected from the weather in the end product.
6. This product may be secured in place in the end products by any means available.

SHENZHEN TOPLED OPTO-ELECTRONIC TECHNOLOGY CO LTD E465329

1/F, 2/FC, 3/F, 5/F, Chashu Workshop A
Hangcheng Industrial Zone
Baoan District
Shenzhen, Guangdong 518102 CHINA

LED Display, Models Regular LED Display series NX-XXX-00X-XRXGXB/Y, Curtain LED Display series CX-XXX-00X-XRXGXB/Y, Transparent LED Display series TX-XXX-00X-XRXGXB/Y, Ultra-thin LED Display series UX-XXX-00X-XRXGXB/Y.

1. These components should be installed in accordance with the manufacturer's instructions. See ILL.1 for Regular LED Display series NX-XXX-00X-XRXGXB/Y, ILL. 2 for Curtain LED Display series CX-XXX-00X-XRXGXB/Y, ILL. 3 for Transparent LED Display series TX-XXX-00X-XRXGXB/Y, ILL. 4 for Ultra-thin LED Display series UX-XXX-00X-XRXGXB/Y.
2. These devices are to be used in accordance with the ratings and load types.
3. The suitability of supply connections shall be considered in the end product.
4. The Rain Test for Curtain LED Display series CX-XXX-00X-XRXGXB/Y was performed only on the face of the LED sign without the power supply box. Suitability for outdoor use when installed in the overall sign construction shall be considered in the end product evaluation.
5. Acceptability for multiple connections (daisy chaining) shall be determined by the end product requirements.
6. Power supply cord may be provided, SJOW or SJOOW type, 14 AWG, the suitability should be determined by end product.
7. Disconnect means and its suitability should be determined by end product.
8. Suitability of mounting means should be considered by end products.

SICOM SYSTEMS E336738

4434 PROGRESS MEADOW DR
DOYLESTOWN, PA 18902

Sign Accessory, Model 1900-OC OCU.

1. These products are required to be enclosed in the end use sign. The diffuser over LCD screen shall be a R/C sign accessory, rigid sign face, meeting electrical enclosure requirements for outdoor signs.
2. These products are intended only for factory installation in new signs.
3. Suitability for other than dry and damp locations shall be determined in the end used application.
4. Grounding of frame to supply ground is required. Suitability of bonding for grounding connection is to be determined in final application.

5. Suitability of OCU mounting shall be determined in final application.
6. In the end product, the OCU spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
7. Suitability of the electrical connection to the final signage shall be determined in the end-use product.
8. Since the fan connection is located outside the OCU enclosure, the fans are required to be enclosed in the sign electrical enclosure.
9. Installation Instructions shall be provided with each unit.
10. Fans that are identified for connection to Class 2 circuits only, may be connected to fan outputs provided the fans are installed within sign electrical enclosure. The fan output circuits have been evaluated as LVLE (Low Voltage Limited Energy).

SIGN CRAFTERS INC E341775
1508 STRINGTOWN RD
EVANSVILLE, IN 47711

Sign Accessory, Model LED PETALS

1. This component shall be installed in accordance with the manufacturer's installation instructions.
2. These products are suitable for use in dry, damp and wet location.
3. These products are rated as the following:

Model Designation	Input Voltage (Vac)	Input Current (A)	Input Frequency (Hz)
Led Petals	120	1.2	50/60

4. These units have not been tested for use in recessed or enclosed areas.

SIGN SPECIALTIES INC E319828
120 15TH ST NE
WATERTOWN, SD 57201

Sign Face Tensioning Systems, designated Flexi-Wedge Models FWC-15-Z, FWC-25-Z, FWC-15-SS, FWC-25-SS.

1. The suitability of these tensioning systems in combination with any R/C (UYMR2) Flexible Sign Face Material to prevent entrance of water in outdoor sign applications shall be determined in the end product.
2. This product has not be evaluated for use as an electrical enclosure.
3. Tensioning clips shall be spaced as described in the Installation Instructions.
4. When employed in a sign with any frame dimension greater than 6 feet the sign shall be provided with a means to prevent billowing.
5. The mounted assembly of sign face material in these tensioning systems shall comply with the external decorative face requirements of UL 48 particularly clearance to lamps and lampholders.
6. These clips have been determined to be suitable with any R/C Flexible Sign Face Material of min. 0.020 inches (0.51mm) thick, suitability for use with a material of lesser thickness shall be determined in the end product.

SIGN/LITE INC E163602
319 GRANDVIEW
DRKODAK, TN 37764

Channel letter and small sign lighting systems, Models BLH-579-1-6*, BLV-579-1-6*, BLE-579-1-6*, BLH-13-1-6*, BLV-13-1-6*, BLE-13-1-6*, BLH-846-1-6*, BLH-846-1-6-K*, BLV-846-1-6*, BLV-846-1-6K*. (*Outdoor signs and channel letters).

1. The exposed leads must be enclosed by a suitable means or be behind UYMR2, rigid sign face material.
2. Spacings of not less than 1/2 in. are to be maintained between the lampholder, live metal, or other parts that may be a source of heat or arcing, and decorative and structural parts other than glass.
3. The ballast is to be within an overall electrical enclosure.
4. The ballasts shall be located not less than 1 in. apart when arranged end-to-end, and not less than 4 in. apart when arranged otherwise.

SIGNALEX INC E86197
5617 MCADAM RD
MISSISSAUGA, ON L4Z 1N4 CANADA

LED class 2 backlit panel, Model Luminex3.

1. These products are only intended for use with a LPS/Class 2 output power sources with 12 Vdc, maximum 5 A output.
2. When products provided with more than one input connector, there shall be no interconnection of the circuits allowed, and each LPS/Class 2 circuit is separately connected to each LPS/Class 2 power supply. Each input shall not exceed 5 A. Power supply with multiple Class 2 outputs may be used.
3. These products are suitable for use in dry, damp and wet locations with supply sources rated Class 2.
4. These LED Backlight panels may be provided with a mounting means and frame. The suitability is to be determined in the end product.
5. These products are not required to be enclosed or protected from the weather in the end product.

LED class 2 led strips, Model CarpetLight.

1. These products are only intended for use with a LPS/Class 2 output power sources with 24 Vdc, Maximum 4.1 A output.
2. When units are connected to a LPS/Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the LPS/Class 2 supply.
3. These products are suitable for use in dry and damp locations with supply sources rated Class 2.
4. These LED strips may be provided with a mounting means. The suitability is to be determined in the end product use.

SIGNCOMP E136850
3032 WALKER RIDGE NW

GRAND RAPIDS, MI 49544

Flexible Sign Face Tensioning System and Sign Frames, Model FH, for use as a frameless design, Models FC, 5365, for use with Frames Models RF, R3F, Model 24-63-390, for use with Frames Models 24-63-300, 24-63-305, 24-63-310, 24-63-315, and Model 5360, for use with Frames Models 2090, 2142, 2094, 2105, 2104, 2085, 2065, 2112, 2092.

1. The following table details the acceptable clip/frame combinations:

Clip	Frame
FC, 5365	(frameless design)
FH	RF, R3F
24-63-390	24-63-300, 24-63-305, 24-63-310, 24-63-315
5360	2090, 2142, 2094, 2105, 2104, 2085, 2065, 2112, 2092

2. The suitability of these tensioning systems in combination with any R/C (UYMR2) Flexible Sign Face Material to prevent entrance of water in outdoor sign applications shall be determined in the end product.
3. This product has not be evaluated for use as an ultimate enclosure.
4. Tensioning clips shall be spaced in the end product as described in the Installation Instructions.
5. When employed in a sign with any frame dimension greater than 6 feet the sign shall be provided with a means to prevent billowing.
6. The mounted assembly of sign face material in these tensioning systems shall comply with the external decorative face requirements of UL 48 particularly clearance to lamps and lampholders.
7. These clips have been determined to be suitable with any R/C Flexible Sign Face Material al least 0.020” (0.51mm) thick. Suitability for use with a material of lesser thickness shall be determined in the end product.

Flexible Sign Face Tensioning System and Sign Frames designated Clip Tensioning System (CTS)

1. The suitability of these tensioning systems in combination with any R/C (UYMR2) Flexible Sign Face Material to prevent entrance of water in outdoor sign applications shall be determined in the end product.
2. This product has not be evaluated for use as an ultimate enclosure.
3. When employed in a sign with any frame dimension greater than 6 feet the sign shall be provided with a means to prevent billowing.
4. The mounted assembly of sign face material in these tensioning systems shall comply with the external decorative face requirements of UL 48 particularly clearance to lamps and lampholders.
5. These clips have been determined to be suitable with any R/C Flexible Sign Face Material at least 0.02in. (0.53mm) thick. Suitability for use with a material of lesser thickness shall be determined in the end product.
6. This product is suitable for use in Dry, Damp, and Wet Locations.
7. Clips shall be spaced no more than 8 in apart and no closer than 6 in apart in accordance with the installation instructions.

Raceway, Cat. Nos. B8789, B8788, ZipWayBR2012, End Cap.

1. The mounting means of a channel letter or sign component to the raceway was not evaluated. Acceptability of securement shall be determined in the end use.
2. An outdoor sign may require a water exclusion test.
3. Suitable for indoor and outdoor use, drain holes are required for outdoor use.
4. Mounting means of the back plate was not evaluated.
5. Entrance of GTO into the raceway was not evaluated. Protection of the wiring shall be determined in the end use.
6. Product has been evaluated for use with LED or neon channel letter signs.

Notching tools, used for sign face retention system for channel letters, Models JTCP-BB2011, JTK-BB2011.

1. The retention of the sign face and the channel letter was not evaluated. Acceptability of securement shall be determined in the end use.
2. An outdoor sign may require a water exclusion test.
3. This tool forms tabs that are approximately 3/8 inch wide by 3/16 inch long and extend outward about 1/8 inch.
4. Best results are obtained when the sign face with plus tolerance of 1/8 inch over hang along the contour of the channel letters or shapes to achieve a snug-fit joining of the two component.
5. Bottle opener type tool (Key), Model JTK-BB2011 is provided for the removal of the plastic sign face from the metallic channel letter.
6. The tooling shall be serviced and maintained in accordance with the manufacturer's instructions. A service log shall be maintained for each machine.

Retention clips, Models 9500 and 9510.

1. The retention of the sign face and the channel letter was not evaluated. Acceptability of securement shall be determined in the end use.
2. Overall size of the retention clips is approximately 0.438 inch wide by 0.775 inch long.
3. Best results are obtained when the sign face with plus tolerance of 1/8 inch over hang along the contour of the channel letters or shapes to achieve a snug-fit joining of the two component.
4. Deleted.
5. Sign face is adhesive secured to the trim-cap., Sign face with thickness of 1/8 inch shall use Model 9500 with retention arm length of 0.602 inch .Sign face with thickness of 3/16 inch shall use Model 9510 with retention arm length of 0.540 inch. Retention clips shall fully engage the trim cap and the channel letter as described in the installation instructions provided with the retention clip.

SIGNTECH CO LTD **E468853**
#609 SEONIL TECHNOPIA
555 DUNCHON-DAERO
JUNGWONTG-GU
SEONGNAM-SI, GYEONGGI-DO 462-726 REPUBLICA OF KOREA

Component sign accessories, Class 2 LED modules, Model ST-B45-CS-#.

1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Volts DC or less.
4. These products are not required to be enclosed or protected from the weather in the end product.
5. These products may be secured in place in the end product by any means available.

SIGNTRONIX E364872
1445 W SEPULVEDA BLVD
TORRANCE, CA 90501

LED gas price display modules, Models GURU-GPU-8, GURU-GPU-12, GURU-GPU-16, GURU-GPU-18, GURU-GPU-24, GURU-GPU-30.

1. These components are intended to be installed in a sign and shall be reliably mounted in the end product.
2. Suitable for connection to a branch circuit not exceeding 20A.
3. If installed in an outdoor sign, the Water Exclusion Test should be conducted on the overall end-product.
4. Any changes or additional components added by the end-product sign manufacturer require consideration of additional testing (Temperature, Input, etc.).

SILICON CONSTELLATIONS INC E324890
2980 SCOTT BLVD
SANTA CLARA, CA 95054

LED Modules, Model No. REBELLIOUS I.

1. These products are only suitable for connection to a Class 2 power source rated 30 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit and which is rated greater than 30 V DC.
3. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 30 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.
7. When these products are used in applications other than signs or outline lighting, the need to conduct a temperature test shall be considered.

SINO-OPTO USA LLC, DBA LED LIGHTING SERVICES LLC E342085
3575 COMMERCIAL AVE
NORTHBROOK, IL 60062

LED Tube, Cat. Nos. LLIT8-48-18W, LLIT8-24-10W.

1. These products are suitable for use in dry, or damp locations.
2. The lamp is maintained not less than 2 inches (50.8 mm) from combustible materials such as wood or plastic and parts that are a source of heat or arcing. Spacing from lampholder to sign housing is zero.
3. This LED lamp is not for use with internally shunted bipin lampholders used with fluorescent instant start lamps.

SINO-OPTO USA LLC, DBA LED LIGHTING SERVICES LLC E345360
3575 COMMERCIAL AVE
NORTHBROOK, IL 60062

LED Tube, Cat. No. SN-T.

1. These products are suitable for use in dry, or damp locations.
2. The lamp is maintained not less than 2 inches (50.8 mm) from combustible materials such as wood or plastic and parts that are a source of heat or arcing. Spacing from lampholder to sign housing is zero.
3. This LED lamp is not for use with internally shunted bipin lampholders used with fluorescent instant start lamps.

LED Tube, Cat. No. LLI-T10DBL.

1. Manufacturer's name, trade name, or trademark.
2. Distinctive catalog or model number.
3. The electrical ratings.
4. When multiple manufactures are involved, then a Factory ID identifying the product to a particular factory shall be provided.
5. Optional - “For Connection with Class 2 Circuits Only.”

SLOANLED, DIV OF SLOAN CO INC E215393
5725 OLIVAS PARK DR
VENTURA, CA 93003

LED Modules, Cat. Nos. 701261, 701261-PW, 701340, with suffix -R, -O, -Y, -B, -G, -W or -A; Cat. Nos. 701340-PW with suffix -R, -O, -Y, -A, -B, -G or -W; Cat. No. 701340-CM.

1.These products are only suitable for connection to a UL Listed or Recognized Class 2, 24 V dc power source for Model 701340 and 7.5 V dc or 5 V dc power source for Model 701261.
2.These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited supplies.
3.The total number of Model 701261 LED Lighting Units are not to exceed a total of 75 units per Class 2 circuit. The total number of Model 701340 LED Lighting Units are not to exceed a total of 40 units per Class 2 circuit.
4.These products are suitable for use in dry, damp and wet locations.

5.These products are not required to be enclosed or protected from weather.

Class 2 LEDs, “ThinLED”, Model 701228 , with suffix -A, -B, -G, -R, -W or -Y; Cat. No. 701228-18, with suffix -A, -B, -G, -R, -W or -Y.

1. These products are only suitable for connection to a UL Listed or Recognized Class 2, max. 12 V dc power source. . Only Models 701228-A, -R, or -Y are only suitable for connection to UL Listed or Recognized Class 2, max. 7.5 V dc.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited supplies.
3. The total number of these products when interconnected is not to exceed a total of 14 feet or 14 “ThinLED” units per Class 2 circuit. These products are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations.
5. These products are not required to be enclosed or protected from weather.

Class 2 power supply, Model LED Outline Lighting Systems “FlexiBRIGHT”, Cat. No. 701499-X-Y, where X and Y may be any alphanumeric character.

1. These products are only suitable for connection to a UL Listed or Recognized Class 2, 12 volt DC power source or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited supplies.
3. These products are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply per Class 2 circuit.
4. These products are provided with wire soldered on the printed wiring board for connection.
5. These products are suitable for use in dry, damp and wet locations.

Class 2 LEDs, Modules designated, "LED STRIPE2 (Border Light)" and “701956-XXXXXX” series, where XXXXXX may be replaced with alphanumeric characters.

1. These products are only suitable for connection to a UL Listed or Recognized Class 2, 15 Volt or less DC power source.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited supplies.
3. Class 2 LEDs, “LED STRIPE2 (Border Light)”, is rated max. 48 Watts per module. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations.

Class 2 LED Module, Cat. No. 701269-xxxxxxxxxx-MB Series, where xxxxxxxxxx may be blank or any alphanumeric characters.

1. These products have been evaluated only for use when connected to the Class 2 output of a Listed or Recognized power source rated 15 V DC or less.
2. These products are suitable for use in dry, damp and wet locations with supply sources rated at 15 V DC or less.
3. These products are not required to be enclosed or protected from the weather in the end product.
4. These products may be secured in the end product with any available means.
5. These products are rated for a maximum of 7.5 watts or less per module.

Class 2 LED Border Light, Class 2 "Border Light", Cat. No. 701189-XXXXXXXXXX series.

1. These products are only suitable for connection to a Class 2 power source, rated 30 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than 30 V DC.
3. These products are each rated max. 100 Watts per unit. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations when rated maximum 30 VDC.
5. These products are not required to be enclosed or protected from the weather in the end product when rated 30 VDC or less.
6. These products may be secured in place in the end product by any means available.
7. When these products are used in applications other than signs or outline lighting, the need to conduct a temperature test shall be considered.

LED Strips, Cat. No. 701174, 701181 and 701195 with suffix -R, -Y, -A, -B, -W, or -G followed by -1" through -24".

1. These products are only suitable for connection to a UL Listed or Recognized Class 2, 24 volt AC power source.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited supplies.
3. These products may be cut into segments through a black mark provided on the printed wiring board. No other cut across the board is permitted.
4. Cat. No. 701174 is rated for 4.2 watts per foot, Cat. No. 701181 is rated for 9.2 watts per foot and Cat. No. 701195 is rated at 1.5 Watts per foot. The total number of feet of each type and inches for the inch unit are not to produce a total wattage of greater than 60 watts per Class 2 circuit.
5. These products are suitable for use in dry, damp and wet locations.
6. These products are not required to be enclosed or protected from weather.

Class 2 LED Module, Cat. No. 701946-XXYYYYYYZZZ series, where XX, YYYYYY and ZZZ may be replaced with any alphanumeric characters or blank.

1. These products are suitable for use in dry, damp and wet locations and supplied only with a Class 2 power source rated 24 Volt DC or less.
2. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. These products are not required to be enclosed or protected from the weather in the end product.
4. These products may be secured in place in the end product by any means available.

Class 2 power supply, Model 701285.

1. Power supply is intended to power LEDs in signs.
2. Power supply model is intended for permanent connection only.
3. These units are suitable for use in dry location without a need for an additional enclosure and in damp locations when installed inside a sign that complies with the Exclusion of Water Test in UL 48.
4. If the power supply output wiring is extended longer than the 5 foot leads provided, the spliced connections shall be made inside a Listed junction box suitable for the application included with proper grounding.

Class 2 power supply, Cat. Nos. 701349, 701351.

1. Power supply models 701349 and 701351 are intended to power LEDs in signs.
2. Power supply model 701349 and 701351 are intended for permanent connection only.

3. These units are suitable for use in dry location without a need for an additional enclosure and in damp locations when installed inside a sign that complies with the Exclusion of Water Test in UL 48.
5. These power supplies have two outputs. The Class 2 output circuits are not to be conductively connected to each other in the sign by wiring or other type of component.
6. The maximum rated output power for Model 701349 is 42 watts at each Class 2 output. The maximum rated output power for Model 701351 is 60 watts at each Class 2 output.

Class 2 power supplies, Models 701507-MOD, 701507-MOD277 (AD060S277/347-SLN). All may be followed by alphanumeric suffix.

1. These power supplies have a maximum of one Class 2 output. The output of these power supplies has been evaluated to Class 2 output requirements for dc circuits.
2. These products with Class 2 outputs are suitable for use in dry, damp and wet locations.
3. In the end product, power supply spacing to other heat producing components shall be minimum 4 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
4. When used in wet locations, each unit shall be provided with Listed (QCRV) 1/2 inch, liquid tight conduit fittings on primary circuit.
5. When used in a cord connected product, the need for conducting a leakage current test shall be considered in the end product.
6. When not marked for Dry and Damp Locations Only the power supply primary bracket shall be provided with min. 3.5 threads and maximum 5 threads tapered for connection to liquid tight conduit fitting. If less than 3. 5 threads, the liquid tight shall be provided with watertight fitting Listed (QCRV) 1/2 inch, liquid tight conduit fittings.
7. The suitability of grounding connection shall be determined in the end-use product.

Class 2 power supply, Model 701680-MW.

1. These power supplies have been evaluated to Class 2 output requirements for dc circuits with a maximum of one Class 2 output.
2. The load powered by the Class 2 output of the power supplies rated at max 30 VDC or less are suitable for use in dry, damp and wet locations.
3. In the end product, power supply spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
4. These products are provided with the following electrical ratings:

	Input			Output	
Model	Vac	A	Hz	Vdc	A
701680-MW	100-240	0.55	50/60	12	1.67

5. These products shall be enclosed in the end product.
6. These power supplies are suitable for use in dry and damp locations.

Class 2 power supplies, Model 701495.

1. These power supplies have been evaluated to Class 2 output requirements for dc circuits with a maximum of four Class 2 outputs.
2. These power supplies are only suitable for use in dry, damp and wet locations.
3. In the end product, power supply spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.

Class 2 power LED Lighting Strip, 701912-QQXXYYZZZ series, where QQ represents length, XX represents the LED color temperature, YY represents configuration and ZZZ represents the LED drive current.

1. These products are only suitable for connection to a Class 2 power source, rated 24VDC.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than 24VDC.
3. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated class 2.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.
7. When these products are used in applications other than signs or outline lighting, the need to conduct a temperature test shall be considered.

Class 2 "Dimming Control Knob" potentiometer, Model 701843.

1. These products are only suitable for connection to the output of a UL Listed or Recognized Class 2 power supply rated max 12 VDC.
2. These products are suitable for use in dry and damp locations.
3. These products are suitable for factory wiring only.
4. These products are 1 Kohm potentiometers intended for connection to max 12 VDC Class 2 power supply that drops the voltage to a 0-10 V signal to feed into the PWM dimmer.

Class 2 LED Modules, Cat. No. 701960-XXYYYZ Series, where XX, YYY, and Z may be replaced with any alphanumeric character or blank.

1. These products are suitable for use in dry, damp and wet locations and supplied only with a Class 2 power source rated 24 Volt DC or less.
2. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. These products are not required to be enclosed or protected from the weather in the end product.
4. These products may be secured in place in the end product by any means available.

Component sign accessories, Class 2 power supply, Model 701507-60W1-CT.

1. These power supplies have been evaluated to Class 2 output requirements for dc circuits with a maximum of one Class 2 output.
2. These products are provided with the following electrical ratings:

Model Number	Input Voltage (V)	Input Current (A)	Frequency (Hz)	Output Voltage (Vdc)	Output Current (A)

701507-60W1-CT	100-240	0.85	50/60	12	0-5

3. In the end product, power supply spacing to other heat producing components shall be at least 25.4 mm (1 in) from end to end and shall be spaced by standard j-box knockout spacing from side to side.
4. For field wiring, when Junction Box is not provided on the primary circuit, each unit shall be provided with detailed Installation Instructions requiring the installer to use a UL Listed Junction box suitable for use in wet location for primary leads connection.
5. These products are intended for use in a dry, damp or wet locations.
6. The suitability of input/output leads and the wring shall be determined in end product use.

Component sign accessories, Class 2 power supply, Model 701507-60W1-JV.

1. These power supplies have been evaluated to Class 2 output requirements for dc circuits with a maximum of one Class 2 output.
2. These products are provided with the following electrical ratings:

Model Number	Input Voltage (V)	Input Current (A)	Frequency (Hz)	Output Voltage (Vdc)	Output Current (A)
701507-60W1-JV	100-240	0.85	50/60	12	0-5

3. In the end product, power supply spacing to other heat producing components shall be at least 25.4 mm (1 in) from end to end and shall be spaced by standard j-box knockout spacings from side to side.
4. For field wiring, when Junction Box is not provided on the primary circuit, each unit shall be provided with detailed Installation Instructions requiring the installer to use a UL Listed Junction box suitable for use in wet location for primary leads connection.
5. Deleted.
6. These products are intended for use in a dry, damp or wet locations.
7. The suitability of input/output leads and the wring shall be determined in end product use.

Component sign accessories, class 2 powered LED module, designated as "New Sign BOX"701972-WWYXXXZ where WWYXXXZ may be any combination of alphanumeric characters.

1. These products are only suitable for use in dry, damp and wet locations and supplied with a Class 2 power source rated 24 Volt DC or less.
2. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. These products are not required to be enclosed or protected from the weather in the end product.
4. These products may be secured in place in the end product by any means available.

Component Sign Accessories, Class 2 Power Supply: Models 701895-24W and 701895-24.

1. These power supplies have maximum of one Class 2 output. The output of these power supplies have been evaluated to Class 2 output requirements for dc circuits.
2. These products are required to be temperature tested in the end product with maximum temperature on the enclosure not to exceed 90°C when installed in the end product.
3. These products are provided with the following electrical ratings:

Cat. No.	Input (AC)			Output (DC)		Max. Output Power (W)
	Voltage	Current	Frequency	Voltage	Current	
701895-24W	100-240 V	2.0 A	50-60 Hz	20-24 V	4.2 A	100
701895-24C	100-240 V	2.0 A	50-60 Hz	24 V	4.2 A	100

4. In the end product, power supply spacing to other heat producing components shall be at least 25.4 mm (1 in) from end to end and 101.6 mm (4 in) from side to side.
5. These products shall be enclosed in the end product.
6. These products are suitable for factory wiring only.
7. These products are intended for use in a dry or damp locations only.
8. The suitability of input/output leads and the wring shall be determined in end product use.
9. The units are not provided with an external grounding connection. Consideration for connecting the metal enclosure to a suitable grounding point shall be considered in the end product.

SS LIGHT CO LTD **E346996**

7 SINPUNG-DONG PALDAL-GU
SUWON-SI, GYEONGGI-DO 442-040 REPUBLIC OF KOREA

Class 2 LED Modules, KPL, PPL, DPL, OSPL, CPL, OCPL, KPL(W), DPL(W), OSPL(W), KR3, KB3, KG3, KY3, DR3, DB3, DG3, DY3, KTW3, KTB3, KTR3, DTW3, DTB3, DTR3, WPL, WPL(W), WR3, WB3, WG3, WSPL, NSR3, NSG3, NSB3, NSR3, FPL, KGL, DGL, KR2, KB2, KG2, DR2, DB2, DG2, DDL, KDL(W), DDL(W), KRD2, KBD2, KGD2, KYD2, DRD2, DBD2, DGD2, DYD2, OSDL(W), OSGL, OSDL, KPL4, DPL4, KPL40, DPL40, KPL40(W), DPL40(W), OSPL40, OSPL40(W), OSPL4, FPL40, KOL, DOL, KOR, DOR, KOB, DOB, KOG, DOG, DRGB3, WRGB3, WSRGB3, KRGB3, KSL, DSL, SSL, KSL(W), DSL(W), KR1, KB1, KG1, DR1, DB1, DG1, NSR, NSG, NSB, DRGB2, SRGB2, KRGBD, DRGBD, SRGBD, KRGB2, KRGB40, DRGB40, SRGB40, KPL6, DPL6, OSPL6, KPL, PPL, DPL, OSPL, CPL, OCPL, KPL(W), DPL(W), OSPL(W), KR3, KB3, KG3, KY3, DR3, DB3, DG3, DY3, KTW3, KTB3, KTR3, DTW3, DTB3, DTR3, WPL, WPL(W), WR3, WB3, WG3, WSPL, NSR3, NSG3, NSB3, NSR3, FPL, KGL, DGL, KR2, KB2, KG2, DR2, DB2, DG2, KDL, DDL, KDL(W), DDL(W), KRD2, KBD2, KGD2, KYD2, DRD2, DBD2, DGD2, DYD2, OSDL(W), OSGL, OSDL, KPL4, DPL4, KPL40, DPL40, KPL40(W), DPL40(W), OSPL40, OSPL40(W), OSPL4, FPL40, KOL, DOL, KOR, DOR, KOB, DOB, KOG, DOG, DRGB3, WRGB3, WSRGB3, KRGB3, KSL, DSL, SSL, KSL(W), DSL(W), KR1, KB1, KG1, DR1, DB1, DG1, NSR, NSG, NSB, DRGB2, SRGB2, KRGBD, DRGBD, SRGBD, KRGB2, KRGB40, DRGB40, SRGB40, KPL6, DPL6, OSPL6, SPL40, SPL4, SPL(W1), KRD, KBD, KGD, KYD, SDL, SDL(W1), SPL, SPL6, SCPL, ODL, OPL, OPL40, OPL4, OPL6, KSL(W1), KDL(W1), CPL(W1), KPL4(W1), JRGB3, KR40, KB40, KG40, CSL(W1), CSR, CSB, CSG, WSL(W1), WSR, WSB, WSG, WPL(W1), KOL-1C(W1), KOL-2C, KOL-2C(W1), KOR-2C, KOB-2C, KOG-2C, GPL, GPL(W1), GRGBD, GRGB3, GRGB40, JGRGB3, GCS RGB, WGS RGB, WGRGB3, SSL(W1), SCPL(W1), SPL40(W1), JSRGB3, SCSL, SCSL(W1), SCS

RGB, WSSL, WSSL(W1), WSS RGB, WSPL(W1), WSL, GDL, GPL40, GPL40(W), EPL, GCPL, OPCB 5030 6 (3P), OPCB 5030 8 (3P), PCB 5030 6 (1P), PCB 5030 8 (3P), PCB 5030 6 (1P) KP1, PCB 5030 8 (3P) KP1, PCB 5030 6 (1P) KW1, PCB 5030 8 (3P) KW1, RGB 5030 8 (3P), LRGB 5030 10 (3P), PCB 5030 (3P) R, PCB 5030 (3P) B, PCB 5030 (3P) G, PCB 4530 - 1C (2P), PCB 4530 W1 - 1C (2P), PCB 4530 R - 1C (2P), PCB 4530 B - 1C (2P), PCB 4530 G - 1C (2P), PCB 4545 - 2C (3P), PCB 4545 W1 - 2C (3P), PCB 4545 R - 2C (3P), PCB 4545 B - 2C (3P), PCB 4545 G - 2C (3P), GPCB 5030 8 (3P), GPCB 5030 8 (3P) W, GRGB 5030 8 (3P), LGRGB 5030 10 (3P), SPCB 5030 8 (3P), SPCB 5030 8 (3P) W, A/L S18, A/L S30, A/L S60, A/L PP18, A/L PP30, A/L PP60, A/L S18 (W1), A/L S30 (W1), A/L S60 (W1), A/L PP18 (W1), A/L PP30 (W1), A/L PP60 (W1), A/L S18(R), A/L S30(R), A/L S60(R), A/L PP18(R), A/L PP30(R), A/L PP60(R), A/L S18(B), A/L S30(B), A/L S60(B), A/L PP18(B), A/L PP30(B), A/L PP60(B), A/L S18(G), A/L S30(G), A/L S60(G), A/L PP18(G), A/L PP30(G), A/L PP60(G), A/L RGB S18, A/L RGB S30, A/L RGB S60, A/L RGB P18, A/L RGB P30, A/L RGB P60, A/L GS18, A/L GS30, A/L GS60, A/L GPP18, A/L GPP30, A/L GPP60, A/L GS18 (W1), A/L GS30 (W1), A/L GS60 (W1). A/L GPP18 (W1), A/L GPP30 (W1), A/L GPP60 (W1), A/L GRGB S18, A/L GRGB S30, A/L GRGB S60, A/L GRGB P18, A/L GRGB P30, A/L GRGB P60, A/L SS18, A/L SS30, A/L SS60, A/L SPP18, A/L SPP30, A/L SPP60, A/L SS18 (W1), A/L SS30 (W1), A/L SS60 (W1), A/L SPP18 (W1), A/L SPP30 (W1), A/L SPP60 (W1), WAL PP18, WAL PP30, WAL PP60, WAL PP18 (W1), AL PP30 (W1), WAL PP60 (W1), WAL PP18(R), WAL PP30(R), WAL PP60(R), WAL PP18(B), WAL PP30(B), WAL PP60(B), WAL PP18(G), WAL PP30(G), WAL PP60(G), WAL RGB P18, WAL RGB P30, WAL RGB P60, WAL GPP18, WAL GPP30, WAL GPP60, WAL GPP18 (W1), WAL GPP30 (W1), WAL GPP60 (W1), WAL GRGB P18, WAL GRGB P30, WAL GRGB P60, WAL SPP18, WAL SPP30, WAL SPP60, WAL SPP18 (W1), WAL SPP30 (W1), WAL SPP60 (W1).

1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuit and is rated greater than 12 V DC.
3. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.

Marking: Company name or trademark SS LIGHT and product designation.

STANDARDVISION LLC **E465202**

1320 N WILTON PLACE
LOS ANGELES, CA 90028

Class 2 LED module, Model Blade.

1. These products are only suitable for connection to a Class 2 power source rated 30 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit and which is rated greater than 30 V DC.
3. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 30 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. When these products are used in applications other than signs the need to conduct a temperature test shall be considered.
7. These products cannot be wired in series.

LED Controller, Models SPDDx32, SPDDx16.

1. These products are only suitable for connection to an Isolated power source rated 48 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Isolated power source and which is rated greater than 48 V DC.
3. These products are suitable for use in dry, damp and wet locations with supply sources rated at 48 Volts DC or less.
4. When these products are used in applications other than signs the need to conduct a temperature test shall be considered.
5. The need for ground continuity and dielectric tests shall be determined in the end product applications.
6. The output of the units comply with class 2 limits.
7. These products shall be installed in accordance with the manufacturer's instructions.
8. The suitability of wiring of these products shall be determined in the end product.

Component Sign Accessories, LED Module, Model Interior Blade with LED controller Model SPDDx32 and SPDDx16.

1. These products are only suitable for connection to an Isolated power source rated 48 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Isolated power source and which is rated greater than 48 V DC.
3. These products are suitable for use in dry, damp and wet locations with supply sources rated at 48 Volts DC or less.
4. When these products are used in applications other than signs the need to conduct a temperature test shall be considered.
5. The need for ground continuity and dielectric tests shall be determined in the end product applications.
6. The output of the units comply with class 2 limits.
7. These products shall be installed in accordance with the manufacturer's instructions.
8. The suitability of wiring of these products shall be determined in the end product.
9. The LED modules may be used with LED Controller SPDDx32 and SPDDx16 manufactured by Standardvision LLC.
10. The Dielectric Voltage Withstand Test (DVWT) shall be considered in the end product as applicable.

Component Sign Accessories, LED Module, Matrix Tile, designated as LDM series.

1. These products are required to be enclosed or protected from the weather in the end product.
2. When these products are used in applications other than signs the need to conduct a temperature test shall be considered.
3. The suitability of connection to main circuit of these products shall be determined in the end use.
4. These products are only suitable for use in dry and damp locations.
5. When applicable, the suitability of the enclosure, mounting means, grounding, supply lead wires and the electrical connection shall be determined in the end product.

STARTEC CO LTD **E350879**

310-8 YUHYUN-RI
YANGCHON-MYEON
GIMPO-SI, GYEONGGI-DO 415-821 REPUBLIC OF KOREA

Class 2 LED Module, R03-25KN, R03C.
1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Volts DC or less.
4. These products are not required to be enclosed or protected from the weather in the end product.
5. These products may be secured in place in the end product by any means available.

SUNSIGNLED OPTO-ELECTRONICS CO LTD E359615

2F BLDG B LAOBING INDUSTRY PARK
ZHOUSHI RD
SHIYAN TOWN BAOAN DISTRICT
518108 SHENZHEN, CHINA

Class 2 powered LED modules, Models IYX225U, IYX324U, IYX220U, IYX340U, IYX326U, IYX332U, IYX341U, MYX112U, MYX120U, MYX102U, MYX117U, where X and Y may be replaced by any letter denoting LED color and type respectively.
1. This product is only suitable for connection to a Class 2 power source, rated 12 Volt DC or less.
2. This product has not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than electrical ratings.
3. This Class 2 LED module is rated as noted in the electrical ratings tables. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. This product is suitable for use in dry, damp and wet locations with supply sources rated at electrical ratings or less.
5. This product is not required to be enclosed or protected from the weather in the end product.
6. This product may be secured in place in the end products by any means available.

Class 2 or LPS LED modules, Models UTX359U("X" could be W, D, M, N or C, indicate for different color temperature), UTX360U ("X" could be W, D, M, N or C, indicate for different color temperature) and IAX371U ("X" could be R, G, B, O or Y, indicate for different color temperature).
1. These products are only suitable for connection to a Class 2 or LPS power source, rated 12 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 or LPS voltage and energy limits and which is rated greater than electrical ratings.
3. When units are connected to a Class 2 or LPS circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 or LPS supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Vdc or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. The suitability of supply leads shall be determined in end use.

SUPER BRIGHT LEDS INC E357849

4400 EARTH CITY EXPY
EARTH CITY, MO 63045

LED Lighting Modules, Cat. Nos. LB4-x6, LBM-x2, LBM-x4, where "x" can be any alphanumeric combination.
1. These products are only suitable for connection to the output of a UL Listed or R/C (UYMR2), Component - Sign Accessory Class 2 LED power supply or UL Listed or R/C Class 2 Power Supply rated 12VDC.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 requirements.
3. These products are rated per the Table below. When units are connected to a Class 2 circuit, their number is to be limited to draw a total wattage of no greater than the secondary current rating of each Class 2 power supply.
4. These products are suitable for use in dry, damp and wet locations without additional enclosures.

LED Lighting Modules, Cat. Nos. SWFLS-x60, SNFLS-x30, where "x" can be any alphanumeric combination.
1. These products are only suitable for connection to the output of a UL Listed or R/C Class 2 Power Supply rated 12VDC.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 requirements.
3. These products are rated per the Table on Page 2. When units are connected to a Class 2 circuit, their number is to be limited to draw a total wattage of no greater than the secondary current rating of each Class 2 power supply.
4. These products are suitable for use in dry, damp and wet locations without additional enclosures.

LED Lighting Modules, Cat. Nos. LBM-x3SMD, LSM-x3X3, LSMCC-x1X3-LP, LSMCC-x3X3-LP[@], LSMCC-x4X3-LP[@], where "x" can be any alphanumeric combination.
1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuit and is rated greater than 15 V DC.
3. These products are each rated max. 1.5 watts per module. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.

SUPER X MFG LTD E347032

UNIT 1001

FOOK LEE COMMERCIAL CENTRE
33 LOCKHART RD
WAN CHAI, HONG KONG

Class 2 LED Modules, Models LD-60-1-12V, LD-60-1-24V, LD-80-1-24V, LD-60-UV-24V, LD-60-UV-24V-SC, LD-60-UV-24V-DIW, LD-60-UV-1214V, LD-60-1-24V-SC, LD-60-UV-1214V-SC.

1. These LED drivers have been evaluated using resistive load resulting in the electrical input and output noted on page 1.
2. These LED drivers are provided with Class 2 output.
3. These LED drivers are intended to be operated in a maximum ambient (Ta) noted as below. Acceptance of higher ambient shall be determined in end product use.

Model	Ta (°C)
LD-80-1-24V	40
LD-60-1-12V	40
LD-60-1-24V	40
LD-60-UV-24V	40
LD-60-UV-24V-SC	40
LD-60-UV-24V-DIW	40
LD-60-1-24V-SC	52
LD-60-UV-1214V	40
LD-60-UV-1214V-SC	40

4. These LED drivers are intended for use in dry and damp locations.
5. These LED drivers are provided with 18 AWG AWM input and output leads. The suitability of the wiring and the need for a suitable enclosure shall be considered in the end product.
6. These LED drivers are intended to be operated on a maximum 20 A branch circuit.
7. The need of the grounding means shall be determined in the end product.
8. These LED drivers shall be enclosed within a suitable end product enclosure.
9. For model LD-60-UV-24V-DIW, the conduit knockout test was not conducted. The suitability is to be determined in end product.
10. In the end product, LED driver spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
11. In the end product, LED Drivers shall be located not less than 1 inch (25.4mm) apart when arranged end-to-end, and not less than 4 inches (102mm) apart when arranged otherwise.

Class 2 output LED drivers, Models LD-100-UV-24V-P6, LD-24-1-12V.

1. These LED drivers have been evaluated using resistive load resulting in the electrical input and output noted on page 1.
2. These LED drivers are provided with Class 2 output.
3. These LED drivers are intended to be operated in a maximum 40°C ambient.
4. Model LD-100-UV-24V-P6 is intended for use in wet locations. Model LD-24-1-12V is intended for use in damp locations.
5. Model LD-100-UV-24V-P6 was provided with SJTW cord for input/output connection. Model LD-24-1-12V was provided with AWM leads for input/output connection. The suitability of the wiring and the need for a suitable enclosure shall be considered in the end product.
6. These LED drivers are intended to be operated on a maximum 20 A branch circuit.
7. Models LD-24-1-12V shall be grounded through its mounting ears.
8. In the end product, LED driver spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure. Otherwise, temperature test shall be conducted.
9. In the end product, LED Drivers shall be located not less than 1 inch (25.4mm) apart when arranged end-to-end, and not less than 4 inches (102mm) apart when arranged otherwise. Otherwise, temperature test shall be conducted.

LED drivers, Models LD-10-1N-12V, LD-10-1N-24V, LD-100-UV-24V, LD-100-UV-12V, LD-12-1-0A35-FDIM, LD-24-1-24V, LD-24-UV-12V, LD-24-UV-24V, LD-150-UV-24V-P6A, LD-60-UV-12V-P6B, LD-60-UV-12V-ALS, LD-60-UV-24V-P6B.

1. These LED drivers have been evaluated using resistive load.
2. These products have been evaluated with the following characteristics.

Model No.	Input type	Output is	Intended Location	Ta, °C.	Connection	
					Input	Output
LD-10-1N-12V	[X] Branch Circuit (Mains)	[X] Isolated [X] Class 2	Damp	60	AWM Leads	AWM Leads
LD-10-1N-24V	[X] Branch Circuit (Mains	[X] Isolated [X] Class 2	Damp	60	AWM Leads	AWM Leads
LD-150-UV-24V-P6A	[X] Branch Circuit (Mains)	[X] Isolated [X] Non-Class 2	Wet	60	SJTW Cord	SJTW Cord
LD-60-UV-12V-P6B	[X] Branch Circuit (Mains)	[X] Isolated [X] Class 2	Wet	60	AWM Leads	SJTW Cord
LD-60-UV-12V-P6B-ALS					SJTW Cord	SJTW Cord
LD-60-UV-24V-P6B	[X] Branch Circuit (Mains)	[X] Isolated [X] Class 2	Wet	60	AWM Leads	AWM Leads

LD-100-UV-24V	[X] Branch Circuit (Mains	[X] Isolated [X] Class 2	Damp	40	AWM Leads	AWM Leads
LD-100-UV-12V	[X] Branch Circuit (Mains	[X] Isolated [X] Non-Class 2	Damp	40	AWM Leads	AWM Leads
LD-12-1-0A35-FDIM	[X] Branch Circuit (Mains)	[X] Isolated [X] Class 2	Damp	40	AWM Leads	AWM Leads
LD-24-1-24V	[X] Branch Circuit (Mains)	[X] Isolated [X] Class 2	Damp	40	AWM Leads	AWM Leads
LD-24-UV-24V	[X] Branch Circuit (Mains)	[X] Isolated [X] Class 2	Damp	40	AWM Leads	AWM Leads
LD-24-UV-12V	[X] Branch Circuit (Mains)	[X] Isolated [X] Class 2	Damp	40	AWM Leads	AWM Leads

5. The suitability of the input/output connection and the wiring in a suitable enclosure is also to be considered in end product use.
6. These products are intended for building in or mounted on the surface of end product. Acceptability of the LED driver with respect to mounting, spacing, casualty, temperature and segregation are to be determined as part of the end device evaluation.
7. The suitability of grounding means shall be determined in the end-use product for models LD-10-1N-12V, LD-10-1N-24V, LD-100-UV-24V, LD-100-UV-12V, LD-24-1-24V, LD-24-UV-12V, LD-24-UV-24V.
8. For models LD-10-1N-12V, LD-10-1N-24V, LD-12-1-0A35-FDIM, the suitability of the driver enclosure as final enclosure shall be evaluated in end product.
9. In the end product, LED driver spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure. Otherwise, temperature test shall be conducted.
10. In the end product, LED Drivers shall be located not less than 1 inch (25.4mm) apart when arranged end-to-end, and not less than 4 inches (102mm) apart when arranged otherwise. Otherwise, temperature test shall be conducted.

SYDEMEX E348149

ALTOS B
358 AV BENITO JUAREZ
COL JUAN JOSE RIOS 1
28984 VILIA DE ALVAREZ, COL MEXICO

Class 2 LED Modules, Models UBMM02, UBCMM02, UBFMM02, URMM02, UAMMM02, UAZMM02, UVEMM02, UBLA03S, UBLC03S, UBLF03S, UROJ03S, UAZU03S, UVER03S, UAMA03S, UBLS03, UBLCS03, UBLFS03, UROS03, UAZS03, UAMS03, UVES03, UBLCS03M, UBLCCS03M, UBLCFS03M, UROCS03M, UAZCS03M, UAMCS03M, UVECS03M.

1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit and which is rated greater than 12 V DC.
3. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp, and wet locations with supply sources rated at 12 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.
7. When these products are used in applications other than signs or outline lighting, the need to conduct a temperature test shall be considered.

T-LED SYSTEM INC E342484

8028 NW 68TH ST
MIAMI, FL 33166

Class 2 LED Module & Controller, designated “T-LED System”

1. These products are only suitable for connection to a Class 2 power source rated 24 Volt DC or less in dry and damp locations.
2. These products are each rated max. 36 watts per unit. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. These products are for factory wiring only in sign or outline lighting related application.
4. The product has not been evaluated for use with dimmers. The suitability for use with dimmers shall be determined in the end product.

TACTEC APPLIED OPTOELECTRONICS E352708

SUITE 106
4510 W DIABLO DR
LAS VEGAS, NV 89118

Self-Ballasted Lamps, LED Type, Model TAO-SXX, where xx can be any numeric character.

1. These units have been tested in a 6 inch diameter can and test box per UL 1993. If the device is used in a different product or configuration, consideration shall be given to re-conducting the Temperature Test.
2. These units have been evaluated for use in dry and damp locations. The use in other environments shall be considered in the end product.
3. The need for additional end product markings, such as lamp replacement, shall be considered in the end product evaluation.
4. The units have been evaluated for use with standard wall dimmers.

Class 2 LED Modules, designated as TS-XXX-YYY, where XXX and YYY are any alphanumeric characters.
1. These products are suitable for use in dry, damp and wet locations when supplied with a Class 2 power source rated 24 Volt DC or less.
2. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. These products are not required to be enclosed or protected from the weather in the end product.
4. These products may be secured in place in the end product by any means available.

Class 2 powered LED controllers, Model Nos. TC-XXXYYY and TC-XXXYY.
1. These products are only suitable for connection to the output of a UL Listed or Recognized Class 2 power supply rated max 12 VDC.
2. These products are rated per the Table below. When the units are connected to the Class 2 supply, their loads are to be limited to draw a total power or current of no greater than the output power or current rating of the Class 2 power supply.

Model	Max. Input - Class 2 Vdc	Each Output - Class 2		Number of Class 2 Output(s)
		Max. Vdc	Max. VA	
TC-DMXHub	12 (one port)	12	60	1
TC-DMXBUF	Each rated at 12 Vdc	12	60	6

3. These products are suitable for factory wiring only.
4. These products shall be enclosed in the end product.
5. The mounting of these products shall be done per manufacturer's instructions.
6. In the end product, power supply spacing to other heat producing components shall be at least 25.4 mm (1 in.) from end to end, and 101.6 mm (4 in.) from side to side.

TAIWAN OASIS TECHNOLOGY CO LTD — E325673

348 SHAN YIN RD
KWEI SHAN SHIANG
TAOYUAN HSIEN, 333 TAIWAN

Class 2 LED Modules, TOLB series, Cat. Nos. TOLB-R36X36(3XX)YPX10-Z, TOLB-R40X17(3XX)YPX10-Z, TOLB-R196X17(3XX)YP-Z, TOLB-R58X15(3XX)YPX10-Z, TOLB-R58X15(3XX)YPX10-Z; Cat. Nos. TOLC-2XXXX, -3XXXX, -4XXXX, -6XXXX, where XX may be any combinations of alpha characters from A through ZZ, where XXXX may be any combinations of alpha characters from A through ZZZZ, Y may be any combinations of numeric characters from 0 through 99 and Z may be DC12V.
1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit and which is rated greater than 12 V DC.
3. These products are each rated max. 6 watts per module. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.
7. When these products are used in applications other than signs or outline lighting, the need to conduct a temperature test shall be considered.

TECH 22 — E192264

1160 JOSHUA WAY
VISTA, CA 92083

Controller/Dimmer for Neon Power Supplies, Model GEN-3, CNTM12-xxx, CNTM24-xxx.
1. Must be inside an electrical enclosure in the end product.
2. The controller/dimmer is intended to be used with neon supplies and solid state relays that have an optically isolated control input rated 3 to 6 Volts, 2 to 10 mA.
3. The controller is rated for a 120 Volt input, 20 mA with an output of maximum 6 Volts, and 350 mA.
4. This controller is intended only for use in indoor and inside outdoor signs.

Dimmer Load, Cat. No. “Active load”.
1. Must be inside an electrical enclosure in the end product.
2. Dimmer load is for use with applicant's neon power supplies or controllers with 120 V dimmer control input.
3. Dimmer load for use in indoor signs or enclosed within outdoor signs.
4. This dimmer load has been evaluated in a 40°C ambient only.
5. If a heat producing component such as electrode, transformer or ballast is located within 3 in. of the dimmer load, a temperature test should be conducted in the end product.

Electronic Incandescent Lamp Controller, Cat. No. Chase 004.
1. Must be inside an electrical enclosure in the end product.
2. Controller is only suitable for connection to a UL Listed or Recognized Class 2, 12 to 24 V dc or ac (50/60 Hz) power source.
3. Controller for use in indoor signs or within outdoor signs.
4. This controller has been evaluated in 40°C ambient.
5. If a heat producing component such as electrode, transformer or ballast is located within 3 in. of the controller, a temperature test should be conducted in the end product.

Electronic LED and Incandescent Lamp Controller, Cat. Nos. CNTS3D-xxx, CNTS3A-xxx, CNTS4D-xxx, CNTS4A-xxx, CNTS5D-xxx and CNTS5A-xxx.
1. Must be inside an electrical enclosure in the end product.
2. Controller is only suitable for connection to a UL Listed or Recognized Class 2, 12 to 24 V dc or ac (50/60 Hz) power source.
3. This controller is intended only for use in indoor and inside outdoor signs.
4. Shall not be located within 3 in. of heat producing components such as electrodes, transformers or ballasts.

LED Modules, Model designation LED strips XXX YYY, where XXX and YYY may be replaced with any alpha numeric character from 000 to 999 or from AAA to ZZZ or combination of letter and numbers; T-lights XX YYY, model designation where XX and YYY may be replaced with any alpha numeric character from 00 to 99 or from AA to ZZ or combination of letter and numbers; Spotlight XXX where XXX may be replaced with any alpha numeric character from 000 to 999 or from AAA to ZZZ or combination of letter and numbers; LED assembly XXXXXX, where XXXXXX may be replaced with any alpha numeric character from 000 to 999 or from AAA to ZZZ or combination of letter and numbers. All models may or may not be followed with suffix KK, where KK may be replaced with any alpha numeric character from 00 to 99 or from AA to ZZ or combination of letter and numbers.

1. These products are only suitable for connection to a Class 2 power source, rated 24 Volt or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than 15 V.
3. These Class 2 LED modules are each rated max. 60 Watts per unit. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 24 Vdc or less.
5. These products are not required to be enclosed or protected from the weather in the end product.

TECHNI-LITE SYSTEMS INC E315540

PO BOX 445
910 HIGH ST
PETERBOROUGH, ON K9J 6Z3 CANADA

Fluorescent Grids, Models LG17MF, LG25MF, LG32MF, LG17BX, LG25BX, LG32BX.

1. Sign Components LG17MF, LG25MF, and LG32MF being power supply cord connected are suitable for use only in indoor portable power supply cord connected signs.
2. Sign Components LG17BX, LG25BX and LG32BX are suitable for use in a damp location within a sign where protected from the weather.
3. The Electrical rating shall be as per table below.

	RATING	
MODEL	120 V - 50/60 Hz	240 V - 50/60 Hz
LG17MF, LG17BX	0.50 A	0.22 A
LG25MF, LG25BX	0.74 A	0.32 A
LG32MF, LG32BX	0.95 A	0.40 A

4. The maximum number of grids that can be inter-connected shall not exceed maximum number of units as noted below.

Model Number	Maximum Number of Units
LG17MF, LG17BX	12
LG25MF, LG25BX	8
LG32MF, LG32BX	6

5. Suitability of the branch supply connecting means and interconnecting means for models with suffix MF shall be evaluated in the end use application.

TECHNOLUX INC E248791

103 14TH ST
BROOKLYN, NY 11215

High Voltage Electrodes/GTO Splice End Cap, Model No. xxSC1yDB, where xx is 10, 12, 15 or 18 and y is B, G or W, For dry locations only.

1. Model Nos. xxSC1yDB and xxSC1y are suitable for use in USL Listed Signs when marked for Dry or Damp Locations Only. Model Nos. xxSC1yDB are suitable for use in CNL Listed Signs when marked for Dry Locations Only.
2. They have been evaluated with GTO cable with integral sleeving, cat. no. GTO15 (14 through 18 AWG) and GTO10 (18AWG) manufactured by Silitherm S.R.L. only. Use with any other GTO type or manufacture will need to be evaluated in the end product.
3. Models 18SC1xDB and 18SC1x are additionally rated for 100mA

TEN PAO INDUSTRIAL CO LTD E348519

6TH FL, ROOM 10-11
KWONG SANG HONG CENTRE
KWUN TONG, 151-153 HOI BUN RD
KOWLOON, HONG KONG

Class 2 LED Module, Model S060BN1200500.

1. The output of the unit complies with Class 2 criteria of UL 1310 and CSA C22.2 No. 223-M91.
2. The product is provided with 18 AWG input and output leads. The suitability of the wiring and the need for a suitable enclosure shall be considered in the end product.
3. The product is provided with 1.0 mm thick aluminum enclosure, the suitability of the enclosure as ultimate enclosure shall be determined in the end use application.
4. The product is intended for use in dry and damp locations.
5. The product is to be used in a maximum 50°C ambient temperature.
6. The units are intended for factory wiring only.
7. The product is of the constant voltage type that requires the proper number of LED modules and controllers that does not exceed the maximum output current.
8. In the end product, LED driver spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
9. In the end product, LED Drivers shall be located not less than 1 inch (25.4mm) apart when arranged end-to-end, and not less than 4 inches (102mm) apart when arranged otherwise.

THE BRIGHT GROUP PTY LTD **E245307**
106 DERBY ST
SILVERWATER
SYDNEY NSW 2128, AUSTRALIA

Class 2 LED Module, Series TBG-ELP-X-YYYY-ZZ-QQQ, may be provided with additional suffixes.

1. These components are to be installed in accordance with the manufacturer's instructions in the end product.
2. These products are only suitable for connection to a Class 2 power source, rated 24 Volt or less.
3. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits rated greater than 24 V.
4. These devices are rated as specified below.

Catalog Number	Max. Rated Input		Type Load
	V	A	
TBG-ELP-X-YYYY-ZZ-QQQ	12	0.50	LED
	24	0.25	LED

5. When marked for use in Canada, consideration for conducting a temperature test in the end product shall be considered.
6. These products are suitable for use in dry, damp and wet locations.

Cold cathode fluorescent light assemblies Product Designations: specified in the Table below.

Cat. No.	Lamps		Ratings		
	No.	Designation	Input Volts, V	Input current, A	Output Volts, V
TBG-INV04-12V	1 or 2	8 watt max., singly or in combination from 10 to 73 cm long cold cathode type	12 VDC	0.7	850 VAC
TBG-INV04-24V			24 VDC	0.35	850 VAC

1. These lamp and ballast assemblies are intended for use in gaming equipment, point of sale (POS), and other similar sign applications.
2. The acceptability of the supply connecting means shall be determined in the end use. The supply connecting means is striped, insulated wire; wire is 20AWG, which is acceptable for sign applications.
3. The ballast was tested and found to be acceptable for use in a 40 °C ambient temperature. Acceptable operation at a higher temperature should be determined. When multiple ballasts are assembled into sign applications the ballasts can be spaced 1-inch end-to-end and 4-inch side-to-side - minimum.
4. The ballast and its associated supply and lamp wires need to be in suitable electrical enclosure.

Cold cathode fluorescent light assemblies, Product Designations: specified in the Table below.

Cat. No.	Lamps		Ratings		
	No.	Designation	Input Volts, V	Input current, A	Output Volts, V
LPS-INV40-24	1 or 2	400 mm long, cold cathode type	24VDC	.45	900 VAC
LPS-INV40-12	1 or 2	400 mm long, cold cathode type	12VDC	.9	900 VAC
LPS-INV03-24	1 or 2	300 mm long, cold cathode type	24VDC	.35	850 VAC
LPS-INV03-12	1 or 2	300 mm long, cold cathode type	12VDC	.67	850 VAC
LPS-INV02-24	1 or 2	200 mm long, cold cathode type	24VDC	.25	680 VAC
LPS-INV02-12	1 or 2	200 mm long, cold cathode type	12VDC	.50	670 VAC
LPS-INV01-24	1 or 2	100 mm long, cold cathode type	24VDC	.20	450 VAC
LPS-INV01-12	1 or 2	100 mm long, cold cathode type	12VDC	.35	430 VAC

Cat. No.	Cold Cathode type Lamps		Ratings		
	No.	Designation	Input Volts, V	Input Current Amps	Output Volts, V
TBG-INV40A-24V	1 or 2	400 mm long	24VDC	0.38	1030 VAC
TBG-INV03A-12V	1 or 2	300 mm long	12VDC	0.67	989 VAC
TBG-INV03A-24V	1 or 2	300 mm long	24VDC	0.38	953 VAC
TBG-INV02A-12V	1 or 2	200 mm long	12VDC	0.55	813 VAC
TBG-INV02A-24V	1 or 2	200 mm long	24VDC	0.28	754 VAC
TPG-INV01A-12V	1 or 2	100 mm long	12VDC	0.46	850 VAC
TBG-INV01A-24V	1 or 2	100 mm long	24VDC	0.25	812 VAC

1. These lamp and ballast assemblies are intended for use in gaming equipment, point of sale (POS), and other similar sign applications.
2. The acceptability of the supply connecting means shall be determined in the end use. The supply connecting means is striped, insulated wire; wire is 20AWG, which is acceptable for sign applications.

3. The ballast was tested and found to be acceptable for use in a 40 °C ambient temperature. Acceptable operation at a higher temperature should be determined. When multiple ballasts are assembled into sign applications the ballasts can be spaced 1-inch end-to-end and 4-inch side-to-side - minimum.
4. The ballast and its associated supply and lamp wires need to be in suitable electrical enclosure.

Cold cathode fluorescent light assemblies, Designated TBG-UNITOP-XXX, where XXX may be any alphanumeric characters.

1. These components are to be installed in accordance with the manufacturer's instructions in the end product.
2. These products are only suitable for connection to a Class 2 power source, rated 24 Volt or less.
3. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits rated greater than 24 V.
4. These devices are rated as specified below.

	Max. Rated Input		
Catalog Number	V	A	Type Load
TBG-UNITOP-XXX	24	1	Cold Cathode Fluorescent and LED

5. No tests have been conducted on these components and as such, end product testing should be considered.
6. Suitability of the input leads (AWG, temperature rating, etc…) and the supply connector shall be considered in the end product.
7. When marked for use in Canada, consideration for conducting a temperature test in the end product shall be considered.
8. These products are suitable for use in dry locations only.

TIVOLI LLC E363009

15602 MOSHER AVE
TUSTIN, CA 92780 USA

Class 2 LED modules, Cat. No. FXLM-XX-M-24, where XX can be RD, YL, BL, GR, 50, 41, 32, 28.

1. These products are only suitable for connection to a Class 2 power source rated 24 Volt DC, 12 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit and which is rated greater than the electrical ratings.
3. These Class 2 LED modules are each rated as noted in the electrical ratings tables. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at electrical ratings or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.
7. The suitability of supply leads shall be determined in end use.

TOTAL LED SOLUTIONS INC E467534

SUITE C
8382 ARTESIA BLVD
BUENA PARK, CA 90621

Component sign accessories, Non-extendable portable Flexible Lighting products employing LED lamps, Models LSC-120v-50m and LSN-120v-50M.

1. These products are suitable for use in dry and damp locations.
2. When these products are used in applications other than signs the need to conduct a temperature test shall be considered.
4. The suitability of wiring connection of these products shall be determined in the end product applications.
5. These products were not subjected to flexing test or other mechanical bending tests. The need for additional applicable mechanical flexing or bending tests shall be considered in the end product.
6. These devices are intended for factory installation only and are not intended for field wiring, field cutting or field splicing.
7. The operation temperature of flexible light body shall not exceed (C based on the functional use temperature for portable products.
8. These components shall be provided with a means for mounting in the end use application.
9. The suitability of installation of these products shall be determined in the end product applications.
10. These products shall be enclosed in the end product applications.
11. The need to conduct end cap pull, insulation resistance, crush, grounding and leakage tests shall be determined in the end product applications.

TRANSPORTATION CONTROL SYSTEMS INC E464766

1059 COLITE DR
WEST COLUMBIA, SC 29170

LED Tube Lamp, Models LED-XXXX-HO-UL-3-XX, LED-XXXX-HO-UL-3.5-XX, LED-XXXX-HO-UL-4-XX, LED-XXXX-HO-UL-4.5-XX, LED-XXXX-HO-UL-5-XX, LED-XXXX-HO-UL-5.5-XX, LED-XXXX-HO-UL-6-XX, LED-XXXX-HO-UL-6.5-XX, LED-XXXX-HO-UL-7-XX, LED-XXXX-HO-UL-7.5-XX, LED-XXXX-HO-UL-8-XX, LED-XXXX-HO-UL-8.5-XX, LED-XXXX-HO-UL-9-XX, LED-XXXX-HO-UL-9.5-XX, LED-XXXX-HO-UL-10-XX. Model No. may be provided with suffix "X", where "X" can be any number or letter. Models SN-T8-2FT-XX, SN-T8-3FT-XX, SN-T8-4FT-XX, SN-T8-5FT-XX, SN-T8-8FT-G13. Where "X" represents lamp base type, G13 OR G5.

1. The LED Tube Lamps have been evaluated for use in dry and damp locations.
2. The LED tube lamps are for use in the horizontal mounting position only.
3. The LED tube lamps shall not be used with instant start type lampholders marked “I” unless the shunt jumper wire is removed.
4. The LED Tube Lamps were only evaluated for factory installation in electric signs. Use in other applications requires evaluation.
5. Connect power to only one end of lamp. The other end is not connected to any electrical power and it serves as means of mechanical support only.
6. These lamps are not for use on dimmer circuits.

TRANSITIONS DIGITAL GRAPHICS LLC E334318
3 W LOS OLIVOS ST
SANTA BARBARA, CA 93105-3927

Class 2 LED Module & Controller, designated as EL-ASM-T0X, where X may be any number between 0 to 9.
1. These components should be installed in accordance with the manufacturer's instructions.
2. These products are only suitable for connection to the output of a UL Listed or R/C Class 2 Power Supply rated max 12 VDC.
3. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 requirements.
4. When units are connected to a Class 2 circuit, their ratings are to be limited to draw a total wattage of no greater than the secondary current rating of each Class 2 power supply.
5. These products are suitable for use in dry locations.

TRI-MAG LLC E309796
1601 N CLANCY ST
VISALIA, CA 93291

LED Power Supply with Class 2 output, Models TMG-Z016-W, TMG-Z336.
1. These power supplies have a maximum of two Class 2 output. The output of these power supplies has been evaluated to Class 2 output requirements for dc circuits.
2. These power supplies have not been provided with a suitable enclosure. In the end product these units shall be enclosed.
3. When used in a cord-connected products, the need for conducting a leakage current test shall be considered in the end product.
4. The product was tested for use at the maximum ambient temperature (Tma) of 65°C permitted by the manufacturer's specification. This product will need to be temperature tested in the end product and the results cannot exceed 65° C.
5. This product is intended for use in changing message signs.
6. These products with Class 2 outputs are suitable for use in dry and damp location.
7. In the end product, power supply spacing to other heat producing components shall be minimum 4 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.

TRIAD MAGNETICS E305150
22520-B TEMESCAL CANYON RD
CORONA, CA 92883

LED sign system, Models TLD1020-10-Cnnnn, TLD1020-12-Cnnnn, TLD1020-13-Cnnnn, TLD1020-15-Cnnnn, TLD1020-17-Cnnnn, TLD1020-18-Cnnnn, TLD1020-22-Cnnnn, TLD1020-24-Cnnnn (#), TLD1020-36-Cnnnn (#), Where the optional suffix "Cnnnn" may be any alphanumeric character. (#) - May be followed by –H.
1. The product shall be installed in compliance with the mounting, spacing, casualty, and segregation requirements of the ultimate application.
2. These units are provided with a Class 105(A) insulation system.
3. The suitability of the input and output connections shall be determined in each end use application.
4. These power units are intended for dry or damp location use only.
5. Strain Relief and Impact Tests have not been investigated.
6. The polymeric enclosure of each unit has not been evaluated as ultimate enclosure. The flame class of polymeric enclosure of each unit is V-2, and the necessity of additional fire barriers shall be determined in end product.

LED sign system, Models TLD1040-09-Cnnnn, TLD1040-10-Cnnnn, TLD1040-12-Cnnnn (#), TLD1040-13-Cnnnn, TLD1040-15-Cnnnn, TLD1040-18-Cnnnn, TLD1040-22-Cnnnn, TLD1040-24-Cnnnn (#), TLD1040-36-Cnnnn (#).
1. The product shall be installed in compliance with the mounting, spacing, casualty, and segregation requirements of the ultimate application.
2. These units are provided with a Class 105(A) or Class 130 (B) insulation system.
3. Input leads are Style 1015, No. 18 AWG, rated VW-1, 600 V, 105°C. Output leads are Style 1430, No. 18 AWG, rated VW-1, 300 V, 105°C. The suitability of the input and output connections shall be determined in each end use application.
4. These power units are intended for dry or damp location use only.
5. Strain Relief and Impact Tests have not been investigated. The suitability of the enclosure as ultimate enclosure shall be determined in the end-use application.
6. The polymeric enclosure of each unit has not been evaluated as ultimate enclosure. The flame class of polymeric enclosure of each unit is V-0 and the necessity of additional fire barriers shall be determined in end product.
7. In the end product, power supply spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.

TRIDONIC GMBH & CO KG E313318
FAERBER GASSE 15
6850 DORNBIRN, AUSTRIA

Class 2 LED Modules, Cat. Nos. Cat. No. PXXX-AAAA YYY Series, where XXX can be 503, 510, 515, 540, 550 and 560; optional AAAA can be any alphanumeric character combination; and YYY can be any alphanumeric character combination from 000 to 999 incl., AAA to ZZZ incl. or any combination of letters and numbers.
1. These products are only suitable for connection to a Class 2 power source, rated 12 Volt or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than 12 V.
3. Class 2 LED modules, Cat. No. Cat. No. PXXX-AAAA YYY series are each rated max. 18 Watts per unit, except Model P516-2 is rated max. 23 watts. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 V or less.
5. These products are not required to be enclosed or protected from the weather in the end product.

Class 2 LED Modules, Cat. No. L51K-AABB YYY series, where L may be replaced with D; K may be replaced with 1 or 6; AA and YYY may be any combinations of alphanumeric characters; and BB may be any combinations of alphanumeric characters or blank.

1. These products are only suitable for use in dry, damp and wet locations and supplied with a Class 2 power source rated 14 Volt DC or less.
2. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. These products are not required to be enclosed or protected from the weather in the end product.
4. These products may be secured in place in the end product by any means available.

Class 2 LED Modules, designated as "TALEXXengine IMAGE" Cat. No. IMA-AAA-BBBCCCDDDEEEFFFGGGHHHIIIJJJ Series, where AAA may be replaced with CLA or SEL and CCCDDDEEEFFFGGGHHHIIIJJJ may be replaced with any combinations of alphanumeric characters or blank.

1. These products are only to be powered by a Class 2 power source rated 48 Volt DC or less.
2. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. These products are suitable for use in dry or damp locations only.
4. These products may be secured in place in the end product by any means available.
5. When the rated input is above 42.4 VDC, the units are only suitable for use in the United States only.

Power Supply with Class 2, Models LCU 060/12 D, LCU 035/12 D XX and LCU 015/12 D, where X=A~Z, 0~9 or blank.

1. These power supplies have been evaluated to Class 2 output requirements for dc circuits with a maximum of one Class 2 output.
2. These products are provided with the following electrical ratings:

Model No.	Input Voltage (V)	Input Freq (HZ)	Input Current (A)	Power Factor	Output Voltage (V dc)	Output Current (A)	Output Power (W)
LCU 060/12 D	120-240	50/60	0.75	0.95	12	5.0	60
LCU 035/12 D XX	120-240	50/60	0.39	0.95	12	2.92	35
LCU 015/12 D	120-240	50/60	0.35	0.4	12	1.25	15

3. In the end product, power supply spacing to other heat producing components shall be at least 25.4 mm (1 in) from end to end and 101.6 mm (4 in) from side to side.
4. These products shall be enclosed in suitable electrical enclosure in the end product.
5. These products are suitable for factory wiring only.
6. The load powered by the Class 2 output of these power supplies at the 12 Vdc rating or less is suitable for use in dry, damp and wet locations.
7. These products have been tested in oven at 50ºC ambient, with the following maximum case temperatures, T_c: For model LCU 060/12 D the T_c = 82ºC; for model LCU 035/12 D XX the T_c = 64ºC; for model LCU 035/12 D XX the T_c=74ºC.
8. These products are intended for use in a dry or damp locations only.
9. The suitability of input/output leads and the wring shall be determined in end product use.
10. The metal case of Model LCU 015/12 D is not grounded. The proper grounding means of this product shall comply with the end product requirements.

Class 2 LED modules, Models P541-CLA, P551-SEL.

1. These products are only suitable for connection to a Class 2 power source rated 14 V DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuit and is rated at 14 V DC or less.
3. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 14 V DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.

Low voltage dimmers, designated LNU S, LNU M.

1. These devices, including all connections have only been evaluated for factory installation.
2. These controls have not been evaluated for safety or limiting applications. They have been evaluated for regulating function only.
3. The suitability of the connections, including spacing, shall be determined in the end-use application.
4. The devices shall be mounted within a suitable ultimate enclosure and the suitability of mounting means shall be determined in end-product applications.
5. LNU S is only for Use with LNU M, and a maximum of 19 LNUS can by sync'd to 1 LNU M.

Class 2 LED modules, Cat.Nos. LED P541E-X AABBCCCDDDEEFGGH, LED P551E-X AABBCCCDDDEEFGG. Where X is an alphabetical character, that represents the version of the module; AABBCCCDDDEEFGG(H) is an alphanumeric character combination, that represents different features.

1. These products are only suitable for connection to a Class 2 power source rated 12 Vdc or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuit and is rated at 12 Vdc or less.
3. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Vdc or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.

Low voltage dimmers, Model LCU 60W 12V IP67 TOP.

1. The LED Drivers have been evaluated to Class 2 output requirements for dc circuits with a maximum of one Class 2 output.
2. In the end product, LED Drivers spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure. Otherwise, temperature test shall be conducted.
3. In the end product, LED Drivers shall be located not less than 1 inch (25.4 mm) apart when arranged end-to-end, and not less than 4 inches (102 mm) apart when arranged side to side. Otherwise, temperature test shall be conducted.

4. The LED drivers had been considered ambient 60 degree C. If operated at a higher ambient temperature, it should be determined in end product.
5. The LED drivers are intended for factory installation only.
6. The LED drivers are intended for use in a dry and/or damp location. Other uses shall be considered in end product.
7. The LED drivers shall be installed in compliance with the enclosure, mounting, spacing, casualty, and segregation requirements of the end product application.
8. The suitability of input and output leads shall be determined in end product.
9. The product is provided with 17 AWG flexible cord, rated 105°C, 300 V minimum for input and output connections. Acceptability of the cords relative to strain relief and secureness, is to be determined as part of the end device evaluation.

LED drivers with class 2 output, Model LCU 100W 12V IP67 TOP.

1. In the end product, LED Drivers spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure. Otherwise, temperature test shall be conducted.
2. In the end product, LED Drivers shall be located not less than 1 inch (25.4 mm) apart when arranged end-to-end, and not less than 4 inches (102 mm) apart when arranged side to side. Otherwise, temperature test shall be conducted.
3. The LED drivers had been considered ambient 60 degree C. If operated at a higher ambient temperature, it should be determined in end product.
4. The product utilizes a UL Recognized OBJY2 Class B (130) electrical insulation system.
5. The product is intended for building in. The enclosure for this product has no openings. Acceptability of the LED driver with respect to mounting, spacing, casualty, temperature and segregation is to be determined as part of the end device evaluation.
6. The product is provided with 17 AWG flexible cord for input and 14 AWG for output connections, rated 105°C, 300 V minimum. Acceptability of the cords relative to strain relief and secureness, is to be determined as part of the end device evaluation.
7. This product has been evaluated per environmental tests for Wet locations and for wet location construction requirements (i.e. enclosure materials, input/ output leads, etc.) at the component level. This product is marked suitable for wet locations. Additional considerations will be necessary as this LED driver is integrated into wet rated end devices (i.e. input and output supply connection means, accessibility of the output based on maximum voltage restrictions for wet rated Class 2 circuits, acceptability of markings, etc.).

LED Driver, Model LCU 35W 12V IP67 TOP.

1. In the end product, LED Drivers spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure. Otherwise, temperature test shall be conducted.
2. In the end product, LED Drivers shall be located not less than 1 inch (25.4 mm) apart when arranged end-to-end, and not less than 4 inches (102 mm) apart when arranged side to side. Otherwise, temperature test shall be conducted.
3. The LED drivers had been considered ambient 60 degree C. If operated at a higher ambient temperature, it should be determined in end product.
4. The product utilizes a UL Recognized OBJY2 Class B (130) electrical insulation system.
5. The product is intended for building in. The enclosure for this product has no openings. Acceptability of the LED driver with respect to mounting, spacing, casualty, temperature and segregation is to be determined as part of the end device evaluation.
6. The product is provided with 17 AWG flexible cord for input and output connections, rated 105°C, 300 V minimum. Acceptability of the cords relative to strain relief and secureness, is to be determined as part of the end device evaluation.
7. This product has been evaluated per environmental tests for Wet locations and for wet location construction requirements (i.e. enclosure materials, input/ output leads, etc.) at the component level. This product is marked suitable for wet locations. Additional considerations will be necessary as this LED driver is integrated into wet rated end devices (i.e. input and output supply connection means, accessibility of the output based on maximum voltage restrictions for wet rated Class 2 circuits, acceptability of markings, etc.).

LED Drivers with Class 2 Output, Model LCU 60W 24V IP67 TOP.

1. The LED Driver has been evaluated to Class 2 output requirements for dc circuits with a maximum of one Class 2 output.
2. In the end product, LED Driver spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure. Otherwise, temperature test shall be conducted.
3. In the end product, LED Driver shall be located not less than 1 inch (25.4 mm) apart when arranged end-to-end, and not less than 4 inches (102 mm) apart when arranged side to side. Otherwise, temperature test shall be conducted.
4. The temperature tests were performed at nominal 60 ambient. The 60°C maximum ambient temperature rating was then calculated based on temperatures observed during testing and temperature ratings of the integral components including the electrical insulation system.
5. The product utilizes a UL Recognized OBJY2 Class B (130) electrical insulation system.
6. The product is intended for building in. The enclosure for this product has no openings. Acceptability of the LED driver with respect to mounting, spacing, casualty, temperature and segregation is to be determined as part of the end device evaluation.
7. The product is provided with 17 AWG flexible cord for input and output connections, rated 105°C, 300 V minimum. Acceptability of the cords relative to strain relief and secureness, is to be determined as part of the end device evaluation.
8. This product has been evaluated per environmental tests for Wet locations and for wet location construction requirements (i.e. enclosure materials, input/ output leads, etc.) at the component level. This product is marked suitable for wet locations. Additional considerations will be necessary as this LED driver is integrated into wet rated end devices (i.e. input and output supply connection means, accessibility of the output based on maximum voltage restrictions for wet rated Class 2 circuits, acceptability of markings, etc.).

Marking: Company name or trademarks or tradenames TALEXchain, TALEX, TRIDONIC enlightening your ideas, "TRIDONIC" and catalog designation.

TRONICC TECHNOLOGIES **E357992**
18584 BUDGE
PIERREFONDS, QC H9K1K8 CANADA

Sign accessories, Class 2 LED modules, TT-M-01, TT-M-02, TT-M-03, TT-M-04, TT-B-01.

1. These products were evaluated for connection to a UL Listed or Recognized Component Sign Accessory - UYMR2, Class 2 source.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limiting requirements.
3. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry and damp locations.
5. Consideration for the installation and power supply connection and interconnection is to be determined in the end-use application.

TUBE LIGHTING PRODUCTS E348777
1346 PIONEER WAY
EL CAJON, CA 92020

Class 2 LED Strip, Model DSH Series.

1. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuit and is rated less than 24V DC.
2. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. These products are suitable for use in dry, damp and wet locations.
4. These products do not require an electrical enclosure.
5. These products may be secured in place in the end product by any means available.

U S LED LTD E226833
6807 PORTWEST DR
HOUSTON, TX 77024

Class 2 LED Module, Model MY-12-K-XX "MegaX" Series, where Y may be replaced by any number from 0 to 99 incl., K may be replaced by W, R, B, Y, G or RO and XX is optional, where it may be replaced by any alphanumeric characters (0 to 99 incl. or A to Z incl. or combinations). .

1. These products are only suitable for connection to a Class 2 power source, rated max 24 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit.
3. These Class 2 LED Modules are each rated 0.77 Watts per unit. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Volt DC or less. When rated 24 VDC, these products are suitable for dry and damp locations only.
5. These products are not required to be enclosed or protected from the weather in the end product.

LED Accent Module, Mega, Accent or Right Light Series, Model Q ABC-XX-YY-ZZZZ series, where Q may be P, M, AC or blank; AB, XX and YY may be replaced by any alphanumeric characters (0 to 9 incl. or A to ZZ incl. or combinations); C may be blank or may be any alphanumeric characters (0 to 9 incl. or A to Z incl. or combinations); and ZZZZ may be any alphanumeric characters (0 to 9999 incl. or A to ZZZZ incl. or combinations) or blank.

1. These products are only suitable for connection to a Class 2 power source, rated max 24 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit.
3. These Class 2 LED Modules are each rated 0.77 Watts per unit. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Volt DC or less. When rated 24 VDC, these products are suitable for dry and damp locations only.
5. These products are not required to be enclosed or protected from the weather in the end product.

LED Accent LED module, Model AC-X-Y-Z-T, where X is the length of the module, Y identifies the operating voltage, Z identifies the color, and T identifies a standard.

1. These products are only suitable for connection to a UL Listed or Recognized Class 2, max 30 Vdc only power source.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited supplies.
3. These products are not provided with break points in the printed wiring board. No cuts across the board is permitted.
4. These products are suitable for use in dry, damp, and wet locations.
5. These products are not required to be enclosed or protected from weather.

Class 2 LED module “Right Light”, Models TP-2-12-z, abc-X-Y-Z and RLS-X-Y-Z, where X may be any number from 0 to 9, Y may be any number from 00 to 99, and Z may be any alphanumeric character..

1. These products are only suitable for connection to a UL Listed or Recognized Class max. 24 VDC power source.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited supplies.
3. These products are not provided with break points in the printed wiring board. No cuts across the board are permitted.
4. These products are suitable for use in dry, damp, and wet locations.
5. These products are not required to be enclosed or protected from weather.

LED Driver Enclosure, Model Life Extender Box.

1. This product has been evaluated for Dry and Damp Locations only. If used in a wet location, Rain Testing shall be conducted during the end product evaluation.

Class 2 LED Module, Models EXSA-1-6, EXSA-1-12.

1. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuit and is rated less than 24V DC.
2. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.

3. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Volt DC or less. When rated 24 VDC, these products are suitable for dry and damp locations only.
4. These products do not require an electrical enclosure. The 24Vdc modules require protection from the weather in the end product, as they are not suitable for wet locations. The 12Vdc modules require no such protection.
5. These products may be secured in place in the end product by any means available.

Class 2 LED Module, Models Tandem XX and Tandem XX Dual, where XX, a non-safety related designation, may be any alphanumeric character.

1. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuit and is rated less than 24V DC.
2. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. These products are suitable for use in dry, damp and wet locations with supply sources rated at 15 V AC or 30 V DC max.
4. These products do not require an electrical enclosure.
5. These products may be secured in place in the end product by any means available.

Class 2 LED Module,"BE1" series, designated as Models BE1-W-XY-ZZ series, Where W may be any number from 0 to 9, X may be any number from 0-9, Y may be L or Hand ZZ may be any two digit number between 0-9.

1. These products are only suitable for connection to a UL Listed or Recognized Class 2 power source with max. 24 VDC.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited supplies.
3. These products are provided with break points in the printed wiring board. No cuts across the board are permitted except where indicated in the installation instructions.
4. These products are suitable for use in dry, damp, and wet locations.
5. These products are not required to be enclosed or protected from weather.
6. These products may be secured in place in the end product by any means available

Class 2 LED Module, Series "Versalink" Models VLa-b-c-d-e, where a is an alphanumeric number designating the product generation, b is a numeric value designating variant, c designates Flux and may be S for Standard or 14 LEDs max. or H for High or 28 LEDs max., d designates the LED color, i.e. 50 = 5000K, R = Red, B = Blue, G = Green and e designates the optic.

1. These products are only suitable for connection to a UL Listed or Recognized Class 2 power source with max. 24 VDC.
2. These products are suitable for use in dry, damp and wet locations with supply sources rated at 15 V AC or 30 V DC max.
3. These products are not required to be enclosed or protected from weather.
4. These products may be secured in place in the end product by any means available

Class 2 LED modules, Models Tandem XX, Tandem XX Dual, where XX, a non-safety related designation, may be any alphanumeric character.

1. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuit and is rated less than 24V DC.
2. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
3. These products are suitable for use in dry, damp and wet locations with supply sources rated at 15 V AC or 30 V DC max.
4. These products do not require an electrical enclosure.
5. These products may be secured in place in the end product by any means available.

Class 2 LED Module, Models TD3-1-12-65, TD3-3-12-65.

1. These products are only suitable for connection to a Class 2 power source, rated 12 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than electrical ratings.
3. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Vdc or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. The suitability of supply leads shall be determined in end use.

UNILUMIN GROUP CO LTD — E330828

BLDG A, 112 YONGFU RD
QIAOTOU, FUYONG TOWN
BAOAN DISTRICT
SHENZHEN, GUANGDONG 518103 CHINA

Changing Message Signs, Model P16.

1. Maximum of 2 units when installed in a 15 Amp branch circuit and 3 units for a 20 Amp branch circuit.
2. This product was tested for use at a room ambient temperature of 25°C. Testing was conducted on an open bench positioned in a vertical position facing horizontally. The need for conducting temperature testing in the end product shall be considered where the units are installed in a higher ambient.
3. The suitability of the mounting means shall be determined in the end use.
4. The Rain Test per UL 879 was performed only on the face of the LED sign with the top sides and back sealed for testing. Suitability for outdoor use when installed in the overall sign construction shall be considered in the end product evaluation.

UNION ELECOM CO LTD — E362059

102-1207 CHUNUI TECHNO PARK 1
200-1 CHUNUI-DONG
WONMI-KU
BUCHUN-SI, 420-857 REPUBLIC OF KOREA

Class 2 output power supply, Model UP40S12W1.

1. This Power Supply complies with the Class 2 output requirements and have a maximum of one Class 2 outputs.

2. This unit is suitable for use in dry and damp locations.
3. In the end product, power supply spacing to other heat producing components shall be min. 2 inches spacing to sidewalls, and min. 2 inches spacing to top of enclosure.
4. These products are provided with the following electrical ratings:

Model No.	Input Voltage (Vac)	Input Frequency (Hz)	Power Consumption(W)	Input Current (A)	Output Voltage (Vdc)	Output Current (A)	Output Wattage (W)
UP40S12W1	100-120	50/60	49	0.84	12	3.3	40

5. This product shall be enclosed in the end product.
6. In the end product, power supply shall be located not less than 1 inch (25.4mm) apart when arranged end-to-end, and not less than 4 inches (102mm) apart when arranged otherwise.
7. The unit is intended for being used in fixed signs.
8. The input and output connections have been investigated for factory wiring only. The need for other consideration should be considered in end-use product.

Component sign accessories, Non-Class 2 LED power supply, Model UP150S12W1.

1. These units are suitable for use in dry and damp locations.
2. These products are provided with the following electrical ratings:

Model No.	Input Voltage (Vac)	Input Frequency (Hz)	Power Consumption(W)	Input Current (A)	Output Voltage (Vdc)	Output Current (A)	Output Wattage (W)
UP150S12W1	100-120	50/60	176	2.54	12	12.5	150

3. These products shall be enclosed in the end product.
4. In the end product, power supply shall be located not less than 1 inch (25.4mm) apart when arranged end-to-end, and not less than 4 inches (102mm) apart when arranged otherwise.
5. The unit is intended for being used in fixed signs.
6. The input and output connections have been investigated for factory wiring only. The need for other consideration should be considered in end-use product.
7. This product is intended to be used in the condition Variable Resister (VR1) set to 190~450 Ohm.
8. The Power Supply has been temperature tested in a 40 °C ambient, where the maximum temperatures on the outer surface of the enclosure above Transformer (T1) reached 83.1 °C. The need for further evaluation of the internal components shall be considered if enclosure temperatures exceed this value when subjected to temperature testing in the end product.

Component sign accessories, Class 2 LED power supply, Model UP60S12W1.

1. This Power Supply complies with the Class 2 output requirements and has a maximum of one Class 2 outputs.
2. This unit is suitable for use in dry and damp locations.
3. In the end product, power supply spacing to other heat producing components shall be min. 2 inches spacing to sidewalls, and min. 2 inches spacing to top of enclosure.
4. This product is provided with the following electrical ratings:

Model No.	Input Voltage (Vac)	Input Frequency (Hz)	Power Consumption(W)	Input Current (A)	Output Voltage (Vdc)	Output Current (A)	Output Wattage (W)
UP60S12W1	100-120	50/60	74	1.11	12	5.0	60

5. This product shall be enclosed in the end product.
6. In the end product, power supply shall be located not less than 1 inch (25.4mm) apart when arranged end-to-end, and not less than 4 inches (102mm) apart when arranged otherwise.
7. The unit is intended for being used in fixed signs.
8. The input and output connections have been investigated for factory wiring only. The need for other consideration should be considered in end-use product.
9. The Power Supply has been temperature tested in a 40°C ambient, where the maximum temperatures on the outer surface of the enclosure above Transformer (T1) reached 64.9 °C. The need for further evaluation of the internal components shall be considered if enclosure temperatures exceed this value when subjected to temperature testing in the end product.

Component sign accessories, Non-Class 2 LED power supply, Model UP100S12W1.

1. These units are suitable for use in dry and damp locations.
2. These products are provided with the following electrical ratings:

Model No.	Input Voltage (Vac)	Input Frequency (Hz)	Power Consumption(W)	Input Current (A)	Output Voltage (Vdc)	Output Current (A)	Output Wattage (W)
UP100S12W1	100-120	50/60	125	1.85	12	8.4	100

3. These products shall be enclosed in the end product.
4. In the end product, power supply shall be located not less than 1 inch (25.4mm) apart when arranged end-to-end, and not less than 4 inches (102mm) apart when arranged otherwise.
5. The unit is intended for being used in fixed signs.
6. The input and output connections have been investigated for factory wiring only. The need for other consideration should be considered in end-use product.
7. This product is intended to be used in the condition Variable Resister (VR1) set to 200~450 Ohm.
8. The power supply has been temperature tested in a 40 °C ambient, where the maximum temperatures on the outer surface of the enclosure above Electrolytic Capacitors (C1) reached 67.3 °C. The need for further evaluation of the internal components shall be considered if enclosure temperatures exceed this value when subjected to temperature testing in the end product.

Component sign accessories, Class 2 LED power supplies, Model UP60S12WH.

1. This Power Supply complies with the Class 2 output requirements and has a maximum of one Class 2 outputs.
2. This unit is suitable for use in dry and damp locations.
3. This product is provided with the following electrical ratings:

Model No.	Input Voltage (Vac)	Input Frequency (Hz)	Power Consumption(W)	Input Current (A)	Output Voltage (Vdc)	Output Current (A)	Output Wattage (W)
UP60S12WH	100-277	50/60	72.6	0.99	12	5	60

4. This product shall be enclosed in the end product.
5. The unit is intended for being used in fixed signs.
6. The input and output connections have been investigated for factory wiring only. The need for other consideration should be considered in end-use product.
7. The LED Power Supply has been temperature tested in a 50 °C ambient, where the maximum temperatures on the outer surface of the enclosure above Line Filter (LF1) reached 89.5 °C. The need for further evaluation of the internal components shall be considered if enclosure temperatures exceed this value when subjected to temperature testing in the end product.

UNIVERSAL LIGHTING TECHNOLOGIES E315636
1430 WALL TRIANA HWY
MADISON, AL 35756

LED Class 2 Modules, Cat. Nos. LEDP503X-YY(@), LEDP510X-YYLEDP515X-YY(@), where (@) X can be R, A, G, B, O, NW, DL or YW, YY can be 8V or 12V.

1. These products are only suitable for connection to a Class 2 power source, rated 12 Volt or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than 12 V.
3. Class 2 LED modules when units are connected to a Class 2 circuit, are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 V or less.
5. These products are not required to be enclosed or protected from the weather in the end product.

LED Class 2 Modules, Cat. Nos. LMA-25R, LMA-25W, LMA-25B, LMA-25G, LMA-25WW.

1. These components are only suitable for connection to a UL Listed or R/C (UYMR2), Component - Sign Accessory Class 2 power supply.
2. These components have not been evaluated for use when connected to a power source that does not comply with Class 2 requirements.
3. Lead wires are not Listed Class 2 cable. Therefore leads must be enclosed in a sign housing, wireway, raceway, or electrical enclosure.
4. All models are suitable for use in dry, damp and wet locations.
5. Lead wires (R/C) (AVLV2) rated 300 V minimum, 80ºC minimum.

LED Power Supply with Class 2 output, Models L12V60UNV-A and D12V60UNV-A.

1. The power supply shall be installed in compliance with the applicable requirements of the end-product standard for, mounting, spacing, casualty and segregation.
2. The maximum available output parameters were within the maximum allowable limits for Class 2, inherently limited as specified in the UL 1310, Standard for Class 2 Power Units and also in accordance with the Canadian Safety Standard CSA C22.2 No. 223.
3. The power supply was submitted and tested for a maximum manufacturer's recommended Tc location, should not exceed 69°C, in ambient of 40°C. If adjacent LED power supplies are spaced closer than 1 in. end to end or 4 in. side to side a temperature test shall be conducted in the end use product.
4. Power Supply is intended for use in indoor Dry and Damp location only.
5. In the end product, power supply spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure. Adjacent power supplies shall be spaced at least 1 in. end to end and 4 in. in any other direction.
6. The input and output leads were not subjected to the strain relief test.
7. The primary (Black-White) and the output (Red-Black) connection wires of the power supply are R/C (AVLV2/AVLV8), 18 AWG, 90ºC. The suitability of the leads shall be determined in the end-use application.

LED Power Supply with Class 2 output, Models D24V100UNV-A, L24V100UNV-A.

1. The power supply shall be installed in compliance with the applicable requirements of the end-product standard for enclosure, mounting, spacing, casualty and segregation.
2. The maximum available output parameters were within the maximum allowable limits for Class 2, inherently limited as specified in the
   UL 1310, Standard for Class 2 Power Units and also in accordance with the Canadian Safety Standard CSA C22.2 No. 223.
3. The power supply was submitted and tested in an ambient of 40ºC. When evaluated in the end use, the Tc location as indicated on the label should not exceed 67°C.
4. Power Supply is intended for use in indoor Dry and Damp location only.
5. In the end product, power supply spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of housing. Adjacent power supplies shall be spaced at least 1 in. end to end and 4 in. in any other direction. If required spacings are not provided, a temperature test is required.
6. The input and output leads were not subjected to the strain relief test.
7. The primary (Black-White) and the output (Red-Black) connection wires of the power supply are R/C (AVLV2), (AVLV8)/CN, 18 AWG, 90ºC. The suitability of the leads shall be determined in the end-use application.
8. The metal case must be grounded in the end use.

LED Class 2 Modules, designated as Cat. Nos. LSA-25WH and LSA-25WW.

1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.

3. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Volts DC or less.
4. These products are not required to be enclosed or protected from the weather in the end product.
5. These products may be secured in place in the end product by any means available.

LED Power Supply with Class 2 output, models L12V60UNV-Q, and D12V60UNV-Q.

1. The drivers shall be installed in compliance with the applicable requirements of the end-product standard for, mounting, spacing, casualty and segregation.
2. The maximum available output parameters were within the maximum allowable limits for Class 2, inherently limited as specified in the UL 1310, Standard for Class 2 Power Units for wet location and also in accordance with the Canadian Safety Standard CSA C22.2 No. 223.
3. The drivers were tested for a maximum manufacturer's recommended Tc location, should not exceed 69°C, in ambient of 40°C. If adjacent LED power supplies are spaced closer than 1 in. end to end or 4 in. side to side a temperature test shall be conducted in the end use product.
4. The drivers are suitable for use in "DRY", "DAMP", and "WET" locations.
5. In the end product, power supply spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure. Adjacent power supplies shall be spaced at least 1 in. end to end and 4 in. in any other direction.
6. The input and output leads were not subjected to the strain relief test. However, the drivers are potted and the need to perform the Strain Relief and/or Pushback Relief Tests on the lead wires should be determined in the end-use application.
7. The primary (Black/White/GREEN) and the output (Red-Black) connection wires of the power supply are R/C (AVLV2/AVLV8), 18 AWG, 90ºC. The suitability of the leads shall be determined in the end-use application.
8. The leakage current test was performed in accordance with the Ul1310 standard while the driver was connected to a 120 V and also while connected to a 240 V source of supply and the maximum measured leakage current was 0.25 mA. Therefore, a maximum of two LED Drivers can be used for portable signs.
9. The Output Cable is Listed, Power-Limited Circuit Cable (QPTZ), type PLTC, marked "sunlight resistant" or "sun res", "WET" or "WET LOCATION", 3 conductor, -40°C.
10. The minimum thickness of the aluminum of the housing of the drivers is 0.91 mm. This is in compliance with the minimum required thickness that is specified in Table 6.1 of UL8750 standard for nonferrous sheet metal.

Power Supply with Class 2 output, models L24V100UNV-Q, and D24V100UNV-Q.

1. The drivers shall be installed in compliance with the applicable requirements of the end-product standard for, mounting, spacing, casualty and segregation.
2. The maximum available output parameters were within the maximum allowable limits for Class 2, inherently limited as specified in the UL 1310, Standard for Class 2 Power Units for wet location and also in accordance with the Canadian Safety Standard CSA C22.2 No. 223.
3. The drivers were tested for a maximum manufacturer's recommended Tc location, should not exceed 67°C, in ambient of 40°C. If adjacent LED power supplies are spaced closer than 1 in. end to end or 4 in. side to side a temperature test shall be conducted in the end use product.
4. The drivers are suitable for use in "DRY", "DAMP", and "WET" locations.
5. In the end product, spacings between transformers, ballast, nea power supplies, and LED power supplies shall be at least 25.4 mm (1 in.) from end to end and 101.6 mm (4 in.) from side to side. Minimum 25.4 (1 in.) spacing between thermoplastic, wood, fiber or other combustible material and enclosed LED power supply when only one LED power supply is provided; and minimum 12.7 mm (0.50 in.) between thermoplastic, wood, fiber, or other combustible material and unenclosed LED power supply.
6. The input and output leads were not subjected to the strain relief test. However, the drivers are potted and the need to perform the Strain Relief and/or Pushback Relief Tests on the lead wires should be determined in the end-use application.
7. The primary (Black/White/GREEN) and the output (Red-Black) connection wires of the power supply are R/C (AVLV2/AVLV8), 18 AWG, 90ºC. The suitability of the leads shall be determined in the end-use application.
8. The leakage current test was performed in accordance with the Ul1310 standard while the driver was connected to a 120 V and also while connected to a 240 V source of supply and the maximum measured leakage current was 0.50 mA. Therefore, a maximum of one LED Driver can be used for portable signs.
9. The Output Cable is Listed, Power-Limited Circuit Cable (QPTZ), type PLTC, marked "sunlight resistant" or "sun res", "WET" or "WET LOCATION", 3 conductor, -40 °C.
10. The minimum thickness of the aluminum of the housing of the drivers is 0.91 mm. This is in compliance with the minimum required thickness that is specified in Table 6.1 of UL8750 standard for nonferrous sheet metal.
11. The "IP67" has not been evaluated by UL and should be considered in the end-use application.

LED drivers with Class 2 output, Models D12V20UNV-JL, D24V20UNV-JL.

1. The LED Drivers have been evaluated to Class 2 output requirements for dc circuits with a maximum of one Class 2 output.
2. In the end product, LED Drivers spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure. Otherwise, temperature test shall be conducted.
3. In the end product, LED Drivers shall be located not less than 1 inch (25.4 mm) apart when arranged end-to-end, and not less than 4 inches (102 mm) apart when arranged side to side. Otherwise, temperature test shall be conducted.
4. The maximum working voltage present and dielectric voltage withstand test voltage applied between primary circuits and secondary output/plastic enclosure for each models are tabulated below.

Output Voltage (V dc)	Output Current (A)	Working Voltage	Hi-pot P-S and P-enclosure
12.0 (const.)	1.7 (max.)	441 Vrms, 684 Vpk	4514 (4242) Vdc
24.0 (const.)	0.85 (max.)	438 Vrms, 668 Vpk	4502 (4242) Vdc

5. The LED drivers had been considered ambient 60 degree C. If operated at a higher ambient temperature, it should be determined in end product.
6. The LED drivers are intended for factory installation only.
7. The LED drivers are intended for use in a dry and/or damp location. Other uses shall be considered in end product.
8. The LED drivers shall be installed in compliance with the enclosure, mounting, spacing, casualty, and segregation requirements of the end product application.
9. The suitability of input and output leads shall be determined in end product.

LED drivers with Class 2 output, Models D24VA100UNV-A, D24VA100UNVA-A

1. The LED Drivers have been evaluated to Class 2 output requirements for dc circuits with a maximum of one Class 2 output.
2. In the end product, LED Drivers spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure. Otherwise, temperature test shall be conducted.
3. In the end product, LED Drivers shall be located not less than 1 inch (25.4 mm) apart when arranged end-to-end, and not less than 4 inches (102 mm) apart when arranged side to side. Otherwise, temperature test shall be conducted.
4. The maximum working voltage present and dielectric voltage withstand test voltage applied between primary circuits and secondary output/plastic enclosure for each models are tabulated below.

Working Voltage	Hi-pot P-S and P-enclosure
471 Vrms, 764 Vpk	4634 Vdc

5. The LED drivers had been considered ambient 55 degree C. If operated at a higher ambient temperature, it should be determined in end product.
6. The LED drivers are intended for factory installation only.
7. The LED drivers are intended for use in a dry and/or damp location. Other uses shall be considered in end product.
8. The LED drivers shall be installed in compliance with the enclosure, mounting, spacing, casualty, and segregation requirements of the end product application.
9. The suitability of input and output leads shall be determined in end product.
10. Dimmable models as shown on the product label are using a low voltage 0-10 V proprietary interface. This interface is a sink, since the interface operates from an external source of supply. The interface circuit has been evaluated for isolation from primary (input) circuits.

VENTEX TECHNOLOGY INC E129809
1020A IDLEWILDE BLVD
COLUMBIA, SC 29201

Polymeric neon electrode enclosure, Model ECDB or ECS, followed by 7 or 8, followed by 10, 12, 13 or 15.

1. This product has been evaluated for use with systems rated 15 kV, open circuit, and 7.5 kV to ground.
2. This product has been investigated for use in Dry and Damp locations.
3. This product is suitable for use within a 1/2" trade size conduit opening.

Molded Silicone Rubber Boot/Nut Assembly, Model 1100, may be followed by NYSE, may be provided with a WOYR2 switch by Transco, Model 1000.

1. This device is intended to be used in outdoor electric sign applications where the boot/switch toggle are protected from inadvertent abuses. The suitability of protective barrier shall be determined in the end-use application.
2. Consideration shall be given to conducting a Water Exclusion Test as a regular part of each inspection. The suitability of a Listed toggle switch for use with this boot shall consider the following:
   (A) The toggle (switch actuator) shall be metal, and
   (B) The toggle (switch actuator) shall be rounded to prevent abrasion and cutting of the boot.
   (C) The assembly shall be mounted on the bottom or side surface of a sign body only.
3. Unless the switch body is completely enclosed in a Listed weatherproof enclosure, drain openings in the bottom of the switch enclosure are to be provided in accordance with UL 48.
4. The Molded Silicone Rubber Boot/Nut assembly may be optionally provided with a WOYR2 switch by Transco, Model 1000 rated 20 A, 120-277 Vac; 7.5 A, 125VL; 3HP, 120/240 Vac.

Transformer Box, Model No. 18TB-TPO, 20TB-TP0.

1. This product is suitable for Wet Locations.
2. When installed in outdoor, damp or wet location, drill a min. of 2 drain holes in the bottom. Hole size min. 1/4" to max 1/2". Elevate transformer 1/2" from bottom.
3. Transformer and Transformer box shall be properly grounded in the end product.
4. Spacings from the live parts to dead metal shall be considered in the end product.

Porcelain Panel Bushing, Model 1043-A

1. This product has been evaluated for use with systems rated max 15 kV open circuit, and 7.5 kV to ground
2. This product has been investigated for use in Dry and Damp locations.
3. This product is suitable for use within a 1/2" trade size conduit opening.

High Voltage Splice Box, Model TC-HV II, TC-HV III

1. These products are suitable for use with a system with a maximum open circuit voltage of 15 kV and 7.5 kV to ground.
2. These products are suitable for use in Wet Locations.
3. For installation in dry locations, at least 63.5 mm (2.5 in) of GTO cable insulation is required to be left on each cable entering the enclosure as measured from the point where the cable enters the inside area of the enclosure and the high voltage terminal. For a GTO cable splice enclosure suitable for use in damp and wet locations the instruction shall specify the minimum insulation on the GTO Cable to be at least 10.1 cm (4 in).

Transformer Box, Model TRA-LED-FPO.

1. This product is suitable for Wet Locations.
2. When installed in outdoor, damp or wet location, elevate transformer 1/2 in. from bottom and mount 12 in. above any horizontal surface.
3. The transformer box is to be installed with the knockout holes facing down and the cover facing out.
4. LED Drivers and Transformer Box shall be properly grounded in the end product.
5. Spacings from the live parts to dead metal shall be considered in the end product.

VENTEX TECHNOLOGY INC E319052
1020A IDLEWILDE BLVD
COLUMBIA, SC 29201

LED Lighting System, VenBrite, Consisting of Models VL-R100, VL-CW100, VL-W100, VL-x100, VL-x100N, VL-x100SC, VL-x200 Single LED Modules and Models VLP100-120, VLP100-277, VLP200-120, VLP200-277, VLP125SPD-120 LED Drivers. Provided with Low-Voltage LED Wire Cat. Nos. VA-W09, VA-W02, VA-W00 and Wire Connector Part No VA-WN01, where x represents the color of the LEDs (W, CW, WW, R, B, G, A, RO or any alphanumeric character).

1. The VL-x100 and VL-n100NS LED modules have been evaluated for use with Ventex VLP100-120 and Ventex VLP100-277 and VLP125SPD-120 power supplies. Suitability with any other power supply shall be determined.
2. The VL-x200 LED modules have been evaluated for use with Ventex VLP200-120 and Ventex VLP200-277 power supplies. Suitability with any other power supply shall be determined.
3. The LED lighting system is suitable for use in dry and damp locations. Consideration shall be given in the end product to the Exclusion of Water Test.
4. These products may be installed in a sign body that is not enclosure rated. Wiring outside the sign body shall be in conduit or equivalent wireway. Wiring provided between the power supplies and the LED modules within the sign body shall be R/C (ZNPA2), Low-Voltage LED Wire, Manufactured by Ventex Technology Inc, Cat No VA-W09, VA-W02, and VA-W00, Rated 600V and 105°C. All wire splices within the sign body shall be made using Listed wire connectors, Ventex Part No VA-WN01 (Manufactured by Ideal Industries Inc, Cat No 61), rated min 600V.
5. When wiring connections are not made with Ventex Part No VA-WN01 (Manufactured by Ideal Industries Inc, Cat No 61) wire connectors, all splices shall be provided within an electrical enclosure and shall be provided with strain relief.
6. The LED driver input connection methods shall comply with the wiring requirements in UL48.
7. When provided, the power supply shall be suitably grounded through the grounding conductor and bonded through the metal mounting tabs.
8. The power supply is intended for hard wiring only.
9. Components have been evaluated for a maximum temperature/density, per the following table:

Accessory Type	Model(s)	Density of Accessory (#/in^3)	Max Temp of component(□C)	Min Rating of plastic mount (°C)
LED Module	VL-x100, VL-x200	1/6	82.6	80
Power Supply	All	1/31	70.3	80
LED Module	VL-x100SC, VL-x100N	1/4	51	48
LED Module	VL-n100NS	1/4	55	60

Note: The suitability of any condition that would result in a more severe wattage density shall be determined in the product.

9a. Models VL-x100 have been evaluated for a maximum amount of LEDs, per the following table:

x - LED Color	Quantity of LEDs
W - White	120
CW - Cool White	120
WW - Warm White	120
R - Red	180
B - Blue	120
G - Green	120
A - Amber (Yellow)	120
RO - Red Orange	150
Any Alphanumeric Character	120

LEDs W, CW, and R shall have a maximum power dissipation of 1.33W and LEDs B, G, and A shall have a maximum power dissipation of 0.7W.

9b. Models VL-x100SC, VL-x100N have been evaluated for a maximum amount of LEDs, per the following table:

x - LED Color	Quantity of LEDs
W - White	120
CW - Cool White	120
WW - Warm Whit	120
R - Red	150
B - Blue	120
G - Green	120
A - Amber (Yellow)	120
RO - Red Orange	150
Any Alphanumeric Character	120

10. Models VL-x200 have been evaluated for a maximum amount of LEDs, per the following table:

x - LED Color	Quantity of LEDs
W - White	70
CW - Cool White	70
WW - Warm White	70
R - Red	100
B - Blue	70
G - Green	70
A - Amber (Yellow)	70
RO - Red Orange	100
Any Alphanumeric Character	70

10a. Models VL-n100NS have been evaluated for a maximum amount of LEDs, per the following table:

n - LED Color	Quantity of LED Modules	Quantity of LEDs
W - White	105	210
CW - Cool White	105	210
WW - Warm Whit	105	210
R - Red	135	270
B - Blue	105	210
G - Green	105	210
A - Amber (Yellow)	105	210
RO - Red Orange	135	270
Any Alphanumeric Character	105	210

11. LED Strings are intended to be series connected only. No parallel connections or interconnections of power supply circuits shall be made.
12. The adhesive is suitable for securement to the following materials: Aluminum, Galvanized Steel, Stainless Steel, Enameled Steel, Nickel Coated ABS, Glass (with or without Silane Coating), PVC, Glass/Epoxy, PBT, Polycarbonate, Acrylic/Polyurethane Paint, Polyester Paint or Ceramic. For other materials where suitability of securement has not been determined, the adhesive shall be submitted for evaluation or the LED module shall be secured by an additional suitable mechanical means.
13. LED model numbers may be followed with another suffix added to the end of the model number name. The suffix format will be "-letter". This suffix represents improved versions of LEDs whereby they exhibit a greater Efficacy (lumens/watt) than the original LED. There would be no increase in heat dissipated or more energy used. The maximum forward voltages and current through the LED would remain the same or be less than as stated in this report. For Example: Model VL-W100 may be provided with a suffix such as VL-W100-b. Where the "-b" represents a brighter LED (126 lm/W compared to 100 lm/W) for the same power dissipated)

LED drivers other than Class 2, Models VLP100D-U, VPL200D-U.

1. These LED Drivers comply with other than Class 2 output requirements.
2. These products are provided with the following electrical ratings:

	Input			Output	
Model No.	Vac	Hz	A	Vdc	A
VLP100D-U	100-277	50/60	0.5	400	0.125
VPL200D-U	100-277	50/60	.60	250	.250

3. In the end product, power supply spacing to other heat producing components shall be at least 25.4 mm (1 in.) from end to end, and 101.6 mm (4 in.) from side to side.
4. These products shall be enclosed in the end product.
5. These products are suitable for factory wiring only.
6. These products have been tested in an oven at max. 40ºC ambient.
7. These products are intended for use in dry or damp locations only.
8. The suitability of input/output leads and the wiring shall be determined in the end product use.
9. These products are constant current type that require the proper number of LED modules and controllers that do not exceed the maximum output voltage.
10. These LED drivers are intended to be operated on a maximum 20 A branch circuit.
11. These LED drivers are intended for use in fixed equipment only.

VERSEIDAG-INDUTEX GMBH E219382

INDUSTRISTRASSE 56
POSTFACH 2906
04150 KREFELD, GERMANY

Flexible sign face material, designated "Seemee IV".

1. Suitable for outdoor use.
2. Not suitable for use as an electrical enclosure.
3. Base color white.
4. Minimum thickness 0.015 in. (0.38 mm), minimum thickness 0.021 in. (0.53 mm) when secured with Recognized Component ABC Sign Products tensioning systems.
5. Any dimension greater than 6 feet needs braces to prevent billowing.
6. Suitable for use with all Recognized Component Securement and Tensioning systems.
7. Securement and tensioning systems shall reliably secure the face to the sign and pull the face taut in all directions.

VINTECH INDUSTRIES E318117

611 INDUSTRIAL PARK DR
IMLAY CITY, MI 48444

Aluminum Reinforced Thermoplastic Sign Trim Cap, Type Channel Trim.

1. Acceptable for use in wet locations.
2. Water exclusion must be determined in the end product.
3. Minimum 5 cm (2 in.) spacing from heat producing components required.
4. The specified solvents are continuously applied to edge of acrylic or polycarbonate sign face. Additional specified adhesives may be applied for the final bond.

Sign Face Generic Material	Solvent	Final Bond Adhesive	Sign Trim Generic Material

Methyl Methacrylate (Acrylic)	Weld-On #4 or (Methylene Chloride)	Weld-On #16, Weld-On #58	Cellulose Acetate Butyrate
(Polycarbonate)	Weld-On #4 or Methylene Chloride	Weld-On #58, Lord Adhesive 7550	Cellulose Acetate Butyrate

5. The sign trim and sign face assembly shall be secured to the sign body or sign enclosure.

VIRGINIA OPTOELECTRONICS INC E301137
92 HONORS COURSE DR
LAS VEGAS, NV 89148 USA

Class 2 LEDs, Model ZLS-PCB-X Series, ZLS-PCBC-X Series and PL1-PMBC-X Series; where X can be any letter: R, Y, B, G or W; ZLS-PMBC-T Series; where T may be C or RGB.

1. These products are only suitable for connection to a Class 2 power source, rated 15 Volt or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit and which is rated greater than 15 V.
3. Class 2 LEDs Cat. ZLS-PCB-X Series, ZLS-PCBC-X Series, PL1-PMBC-X Series and ZLS-PMBC-T Series are each rated max. 3 watts per unit. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 15 V or less.
5. These products are not required to be enclosed or protected from the weather in the end product.

Class 2 LED Modules, Cat. Nos. 2LS-PCBC-WT, 2LS-PCBC-R, 2LS-PCS-R, 2LS-PCB-WT, 2LS-PMBC-RGB, 2LS-PMBC-C, PL-PMBC-W, PL-PCBC-W, PL-PMBC-WT, PL1-PMBC-W, PL1-PMBC-WT.

1. These products are only suitable for connection to a Class 2 power source rated 15 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit and which is rated greater than 15 V DC.
3. These products are each rated max. 7 watts per module. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 15 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.
7. When these products are used in applications other than signs or outline lighting, the need to conduct a temperature test shall be considered.

Class 2 LED Modules, Cat. Nos ZLS-PYBT-XKA and PLQ-PYBT-XKA series, where Y and X maybe any alpha characters, A, T and K may be blank or any alpha character and Q may be 1 or blank.

1. These products are only suitable for connection to a Class 2 power source rated 24 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit and which is rated greater than 24 V DC.
3. These products are each rated max. 7 watts per module. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 24 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.
7. When these products are used in applications other than signs or outline lighting, the need to conduct a temperature test shall be considered.

Class 2 LED Modules, Cat. Nos. ZLS-PPBC-Axx, ZLS-PPBC-Txx, ZLS-PPBC-Fxx, ZLS-PPBC-Bxx Series, where xx can be any alpha characters or blank.

1. These products are only suitable for connection to a Class 2 power source rated 12 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit and which is rated greater than 12 V DC.
3. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 12 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.

Class 2 LED Modules, Cat. No. ZLS-PPBC-TXXLY series, where XX can be replaced by any letters to represent a light color and where Y is any number or blank.

1. These products are only suitable for connection to a Class 2 power source rated 24 Volt DC, 12 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit and which is rated greater than the electrical ratings.
3. These Class 2 LED modules are each rated as noted in the electrical ratings tables. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at electrical ratings or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.
7. The suitability of supply leads shall be determined in end use.

Power supplies, isolated Class 2, Models VO-12-20, VO-12-60.

1. These power supplies have been evaluated to Class 2 output requirements for dc circuits with a maximum of one Class 2 output.
2. These products are provided with the following electrical ratings:

Model Number	Input Voltage (V)	Input Current (A)	Frequency (Hz)	Output Voltage (Vdc)	Output Current (mA)
VO-12-20	120-277	0.2-0.09	50/60	12	1660

VO-12-60	120-277	0.61/0.27	50/60	12	5000

3. In the end product, power supply spacing to other heat producing components shall be at least 25.4 mm (1 in.) from end to end, and 101.6 mm (4 in.) from side to side.
4. These products shall be enclosed in the end product.
5. These products are suitable for factory wiring only.
6. These products have been tested in oven at the noted ambient temperature with the following maximum case temperatures, T_c:
   a) For model VO-12-20 the T_c = 90ºC at max. ambient of 60ºC.
   b) For model VO-12-60 the T_c = 82.2ºC at max. ambient of 40ºC.
8. These products are intended for use in dry or damp locations only.
9. The suitability of the input/output leads and wiring shall be determined in the end use product.

VISUAL LIGHTING TECHNOLOGIES E352767
9 RANCHO CIR
LAKE FOREST, CA 92630

Class 2 Power Supply, Model HMLD-288-24SC-120.

1. These power supplies have been evaluated for use in portable LED signs.
2. The power supplies have outputs that individually comply with Class 2 circuit requirements.
3. These units are suitable for use in dry and damp locations without a need for an additional enclosure.
4. The output of this power source shall not be connected to any other power source or provide power to components connected to another power source.
5. The attachment plug on the end of the power supply cord is not to be removed.

VYNEX SIGN SYSTEMS LTD E173052
8175 WINSTON CHURCHILL BLVD
NORVAL ON CANADA L0P 1K0

Flexible sign face material, designated "Marquee", "Premier", "Premier 2000", and "Reflections" all w/ suffix numbers.

1. Suitable for outdoor use.
2. These products are not to be used as electrical enclosures.
3. These products are acceptable for use with all Recognized Component Sign Securement and Tensioning.

Marking - Company name or trademark **Vyna-brite™** and model designation.

W R PABICH MANUFACTURING CO INC E333077
2323 N KNOX AVE
CHICAGO, IL 60639-3415

Metal stitchers for sign channel letters, Models S13 and S25.

1. The tooling has been evaluated for joining only two pieces of painted or unpainted sheet metal using the #18 wire gauge for the fabrication of the channel letters.
2. The electrical safety of these metal stitchers, have not been determined.
3. These S13 and S25 Series Metal Stitchers, use the BHMB clincher head for No. 18 wire gauge with various degrees of hardness. It ranges from softest of 200, 230, 260, 280, 290, and up to 330 for being the most temper rating of the wire gauge.
4. Best results are obtained when joining the two pieces of painted or unpainted sheet metal with a total maximum thickness of 0.083 in. (2.11 mm.)
5. Minimum spacing between staples is 0.5 in. (12.7 mm) Maximum spacing between staples is 4 in. (101.6 mm).
6. All tooling shall be serviced and maintained in accordance with the manufacturer's instructions. A service log shall be maintained for each machine.

WAI CHI OPTO TECHNOLOGY LTD E364455
6/F LIVEN HOUSE
63 KING YIP ST
KWUN TONG, HONG KONG

Class 2 LED modules, Cat. No. LXT01.

1. This product is only suitable for connection to a Class 2 power source, rated 24 Vdc.
2. This product has not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than electrical ratings.
3. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. This product is suitable for use in dry and damp locations with supply sources rated at 24 Vdc.
5. The suitability of supply leads shall be determined in end use.
6. The mounting means shall be determined in end use.

WALT DISNEY IMAGINEERING E235817
1401 FLOWER ST.
GLENDALE, CA 91201

Incandescent Outline Lighting, Cat. Nos. LTNG-XXXXXX where X denotes a number between 0-9.

1. The rim lighting units are acceptable use in dry, damp and wet locations.
2. The Rim Lighting System is not to exceed a string of sixty-six lights.
3. Make sure that each connector is inserted fully into the lampholder base.
4. Each lampholder is to be secured by screws through the holes provided on lampholder base.

5. This rim lighting system is only acceptable for use with maximum 6 Watt, Type 6S6/BB with brass base light bulbs.
6. When installed in a wet location, each light bulb is to be fitted with a thermoplastic lamp gasket part no. SK124 over the base of the glass envelope.

WATCHFIRE SIGNS BY TIME-O-MATIC INC E350856

1015 MAPLE ST.
PO BOX 850
DANVILLE, IL 61832

Gas price sign module, designated PXY, where "X" is any character indicating LED color and "Y" is 12, 18, or 24 indicating height. May be provided with additional suffixes.

1. Suitable for use in an outdoor, wet location when conduit used. Otherwise, front of sign suitable for use in an outdoor, wet locations and the rest suitable for dry and damp locations. The sides and back need to be installed within a suitable wet location enclosure.
2. Provided with conduit knock-outs which are suitable for permanent connection to module. Ground wire needs to be connected to power supply ground.
3. The gas price module is constructed as a complete electrical enclosure for damp location use.
4. A suitable branch circuit protective device not exceeding 20 A shall be provided in the end-product.
5. Sign provided with drain holes and ventilation slot in the front of the enclosure. Openings shall not be obstructed.
6. Any splices need to be made in an electrical enclosure outside the equipment.

WESTRIM PRODUCTS E209062

2268 FAIRVIEW BLVD
PO BOX 300
FAIRVIEW, TN 37062

Special Use Switch with boot, Models 38057 and 39139.

1. This device is intended for use in outdoor applications where the boot is protected from inadvertent abuse.
2. The special use switch mounting hole and mounting surface shall be free from burrs and have a close tolerance to the diameter of the switch mounting collar.
3. The special use switch shall be locked in place by a lockwasher or other means to prevent rotation.
4. The special use switch shall be provided with a means of indicating the on and off positions in accordance with UL 48, the Standard for Electric Signs.
5. The special use switch is to be used within its electrical rating in accordance with UL 48, the Standard for Electric Signs.
6. The Water Exclusion Test shall be conducted as a regular part of each inspection.

WESTRIM PRODUCTS E330428

2268 FAIRVIEW BLVD
PO BOX 300
FAIRVIEW, TN 37062

Electrode Receptacle Insulators, Model Nos. GH100, GH200, GH200P.

1. Must be enclosed in end product.
2. These receptacles are intended for use in dry , damp and wet locations. In wet locations, unless provided with a R/C receptacle cover that prevents to the entry of precipitation, the receptacles when mounted in a raceway are to comply with the following:
   A)The raceway is required to have drain openings, and
   B)The receptacles are to be located such that no live parts are located below the inside end of the receptacle.
3. Water exclusion must be determined in the end product.
4. These receptacles are rated for maximum 15 kV, 7.5 kV to ground.

Electrode Receptacle Insulators, Model Nos. GH300, GH300P.

1. Must be enclosed in end product.
2. These receptacles are intended for use in dry, damp and wet locations. In wet locations, unless provided with a R/C receptacle cover that prevents to the entry of precipitation, the receptacles when mounted in a raceway are to comply with the following:
   A)The raceway is required to have drain openings, and
   B)The receptacles are to be located such that no live parts are located below the inside end of the receptacle.
3. Water exclusion must be determined in the end product.
4. These receptacles are rated for maximum 15 kV, 7.5 kV to ground.

WHITE LIGHTNING FIXTURES LTD E350640

SUITE 1201
TOWER 2, THE GATEWAY
25 CANTON RD, TSIM SHA TSUI
KOWLOON, HONG KONG

LED Kit, designated LB, WW or FL followed by suffixes YY, ZZ, LLL, AAA, DD, EEE, FF as indicated below.

1. The LED light strips are only suitable for connection to a Class 2 power source, rated 30 Volt DC or 15 Volt AC or less.
2. The LED light strips have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits and which is rated greater than 30 Volt DC or 15 Volt AC.
3. These Class 2 LED modules are rated as noted below.

Model	LED Strip Max Length In.	Voltage (DC)	Current (ma)	Power (Watts/foot)
LB	120	24	10-500	0.5-2

WW	120	24	10-500	3.5-8
FL	120	24	10-500	12-25

When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.

4. The LED light strips are suitable for use in dry, damp and wet locations with supply sources rated class 2.
5. All sizes may be cut every six inches except the 5 in. size may be cut every 1 in on the 12 LED / Ft models. All sizes may be cut every 4.8 inches except the 4 in. size may be cut every 0.8 in on the 15 LED / Ft models.
6. The suitability of the electrical box provided for LED driver mounting shall be evaluated. The following shall be considered: metal thickness, ability to exclude water when identified for outdoor use, drain holes, driver mounting, grounding, provision for power supply connections, and enclosure of LED driver line voltage lead wires.
7. LED drivers shall be installed in an electrical enclosure. When more than one LED driver is installed in electrical enclosure, the drivers shall be spaced at least 1 inch apart end to end and 4 inch apart in other directions.
8. LED drivers shall be installed in accordance with the installation instructions provided with LED driver and the nameplate markings.
9. The outdoor LED driver electrical box shall be installed in accordance with the instructions and markings provided with the electrical box. Instructions are not required for electrical boxes mounted indoors.

LED module, designated Class 2 Light Engine, Models LLL-AAA-DD-CC-MM-X-Y-Z as indicated below.

1. These products are only suitable for connection to a UL R/C (FKSZ2) or {UYMR2) Class 2 power source, rated 30 Volt DC or 15 Volts AC or less. The products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and power limits.
2. When the LED Array modules are connected and used with power supplies other than Class 2, the need for an additional evaluation shall be considered in the end use product investigation.
3. The Array modules shall be installed in compliance with the mounting, Spacing, casualty, and the segregation requirements applicable to the ultimate application.
4. This LED Module is suitable for use in dry, and damp locations with Supply source rated Class 2.
5. The LED modules come in various lengths and not designed for cutting.
6. The suitability of the LED Array to be used without an enclosure shall be determined in the end-use application.
7. Supply connection shall be determined in the end used application.
8. Temperature, abnormal fault and the need for conducting Dielectric-Withstanding test shall be determined in the end used application.
9. The suitability of the electrical box provided for LED driver mounting shall be evaluated. The following shall be considered: metal thickness, ability to exclude water when identified for outdoor use, drain holes, driver mounting, grounding, provision for power supply connections, and enclosure of LED driver line voltage lead wires.
10. LED drivers shall be installed in an electrical enclosure. When more than one LED driver is installed in electrical enclosure, the drivers shall be spaced at least 1 inch apart end to end and 4 inch apart in other directions.
11. LED drivers shall be installed in accordance with the installation instructions provided with LED driver and the nameplate markings.
12. The outdoor LED driver electrical box shall be installed in accordance with the instructions and markings provided with the electrical box. Instructions are not required for electrical boxes mounted indoors.

XI'AN QINGSONG PHOTOELECTRIC TECHNOLOGY CO LTD E470282

1 FLOOR QINGSONG BUILDING
7# BIYUAN 2ND ROAD, NEW HI-TECH
710118 XIAN, CHINA

Signs, Changing Message, Models Artemis XT20, Artemis XT20A, Artemis XT20B, Artemis XT20C, Artemis XT16, Artemis XT16A, Artemis XT16B and Artemis XT16C, suitable for wet location.

1. These products were evaluated for use at ambient temperature of 50°C max. The need for conducting temperature testing in the end product shall be considered where the units are installed in a higher ambient.
2. The suitability of the mounting means shall be determined in the end use.
3. No supply disconnecting means was provided. The need for a separate disconnect in the end product shall be considered.
4. The suitability of intended power supply cord and the relative strain relief means needs to be determined in the end use.
5. These products have been evaluated for use in Wet location. When used in wet location, these products shall be mounted with openings towards down.
6. Power terminal blocks are suitable for 12 AWG (part number KTB1-030)/16 AWG (part number KTB1-020) copper conductors with min. 5.3/4.4 Lb-In. torque.
7. These products employ two openings for cord entrance, the suitability should be determined by the end product

YAHAM OPTOELECTRONICS CO LTD E330631

HAN`S INDUSTRIAL PARK
NO 128 CHONG QING RD
FUYONG BAOAN DISTRICT
SHENZHEN, GUANGDONG 518103 CHINA

LED Cabinet Panels, Cat. Nos. YH-T10-1R1PG1B, YH-D16-1R1PG1B.

1. These components should be installed in accordance with the manufacturer's instructions.
2. These devices are to be used in accordance with the ratings and load types as specified below.

Catalog Number	Max. Operating Voltage, Current and Power			Type Load
	Input (V)	Input Current (A)	Input Power (Watts)	
YH-D16-1r1PG1B	100-240	4	600	LED

YH-T10-1R1PG1B	100-240	4	300	LED

3. The suitability of supply connections shall be considered in the end product.
4. Grounding should be in accordance with the end product requirements.
5. These products are intended to be permanently connected to a source of supply.
6. The Rain Test was conducted on the entire product. However, in an end product application where many panels are connected together, the Exclusion of Water Test should be conducted.
7. These power supplies are intended for connection to a maximum 20 Amp branch circuit.
8. These panels are only suitable for being coupled together in an overall sign and are not suitable for being interconnected in the field.

LED Cabinet Panels, Cat. No. YH-UL-XZT; where X and Z may be alphanumeric characters, and T may be alphanumeric characters or blank.

1. These components should be installed in accordance with the manufacturer's instructions.
2. These devices are to be used in accordance with the ratings and load types as specified below.

Catalog Number	Max. Operating Voltage, Current and Power			Type Load
	Input (V)	Input Current (A)	Input Power (Watts)	
YH-UL-T4	100-240	4	600	LED
YH-UL-D25	100-240	1	300	LED

3. The suitability of the supply connections shall be considered in the end product.
4. The need for the Ground Continuity Test and Leakage Current Test shall be determined in the end product.
5. The Exclusion of Water Test was conducted on the entire product. The need to conduct the Exclusion of Water Test in the end product shall be considered on the supply connection part of the product.

YESCO LLC E138960

5119 S CAMERON ST
LAS VEGAS, NV 89118

Class 2 LED Light Strings, Cat. No. FL Series.

1. These products are only suitable for connection to a UL Listed or Recognized Class 2 supply. If intended for Wet Locations, the power supply or transformer shall have an output of 12 volts.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited supplies.
3. When connected to a Class 2 circuit, the lighting string shall be sized appropriately so as to not exceed the output current and power rating of the Class 2 supply.
4. The light strings, when connected to a Class 2, 12 Volt output supply, are suitable for installation in wet, damp and dry locations. The light strings, when connected to Class 2, 24 Volt output supply, are suitable for installation in damp and dry locations only.

Decoder driver, Model YDD-128.

1. The need for an overall enclosure shall be determined in the end-use application.
2. The suitability of the mounting means shall be determined in the end-use application.
3. The need for a Temperature Test shall be determined in the end-use application. The connectors are not acceptable for field connections and are only intended for factory installation to mating connectors of the end-use product.

Sign flasher, Cat. No. YM-X where X is any number 1 to 6 incl.

1. The component shall be installed in compliance with the enclosure, mounting, creepage, clearance, casualty markings, and segregation requirements of the end-use application.
2. The terminal block and input/output connectors telephone jacks are not acceptable for field connections and are only intended for connection to mating connectors of internal wiring inside the end-use product. The acceptability of these and mating connectors relative to secureness, insulating materials, and temperature shall be considered in the end-use product.
3. A temperature test shall be conducted in the end-use product. The acceptability of the temperature reading or the following components shall be evaluated: Internal Wiring; PWB; Terminal Block, Max. 105°C; Transformer, Max. 90°C; Triac, Max. 100°C.

Sign Flasher, Model P. N.YFLASHAC.

1. This flasher is suitable for use when installed in a metal enclosure that is at least 12 by 12 by 3 inches having two 4 square inch openings on the side with a minimum 55 cfm fan mounted on the bottom.
2. Where more than one flasher is installed within an enclosure, each unit shall be located so that no part of each flasher is within 4 inches of each other. The enclosure shall be sized to provide at least 2 inches to sidewall and top and at least one or more fans provided that produces a cfm of a least 25 cfm per flasher.
3. No other components such as neon transformers or fluorescent ballasts shall be located within the enclosure with this flasher.
4. This component is suitable for use in dry and damp locations. In damp locations, the unit must either be located at least 1/2 inches from bottom of enclosure and the bottom of the enclosure provided with drain holes or the unit installed within an enclosure that is gasketed to prevent the entrance of water into the compartment.
5. This flasher is suitable for use on a 120 V, 60 Hz service and is rated for 0.25 amp input. It is capable of switching up to six 20 amp branch circuits each having maximum 16 amp load.
6. This component is to be installed and wired in the at end product manufacturer's location as the connectors are not suitable for field installation.

Changing Message Sign Transformer Assembly, Models YACDC1.5, YACDC3.3, YACDC750 may or may not be followed by X10 and LED Module "Sign Face" (LED Message Center), Model LEDMC.

1. Wiring and means of connection between modules shall be investigated in the end product requirements.
2. For models YACDC1.5, YACDC3.3 and YACDC750No no tests have been conducted on this component so consideration should be given to conduct input test, the normal temperature, dielectric voltage withstand components abnormal and rain tests in the end product changing message sign.

3. These components are not provided with suitable enclosure or sign body. The need for a electrical enclosure should be considered in the end product.
4. Transformer spacing to other heat producing components shall be minimum 4 inches when minimum spacing to sidewalls and top of enclosure is kept at minimum 2 inches.
5. Transformer spacing to other heat producing components shall be minimum 2 inches when minimum spacing to sidewalls and top of enclosure is kept at minimum 6 inches.

LED Disc Lamp, Model YPAR38LED-X series, where X can be replaced by A or R.
1. These components should be installed in accordance with the manufacturer's instructions.
2. These Lamps are suitable for use in wet locations.
3. These units unit has not been tested for use in totally enclosed recessed fixtures.
4. These units are not intended for use with emergency exit fixtures or emergency exit lights.
5. The base portion of lamp enclosure is not exposed to sunlight. Only the enclosure with the LEDs is to acceptable to be exposed to the weather.

Cold Cathode Self Ballast Lamp, Models "Cold Cathode Self Ballast Lamp" unit.
1. These components should be installed in accordance with the manufacturer's instructions.
2. These units are not intended for use with emergency exit fixtures or emergency exit lights.

Class 2 LED Light Strings, Designated: Smart Strip XX Series, where XX may be any alphanumeric characters.
1. These Class 2 LED modules are only suitable for connection to a Class 2 power source, rated 15 Volt or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits.
3. These Class 2 LED modules are rated max. 7 Watts per LED module. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at max. 15 Volts or less.
5. These products are not required to be enclosed or protected from the weather in the end product.

Class 2 LED Modules Designated Smart LED.
1. This component shall be installed in accordance with the manufacturer's installation instructions.
2. This component is only suitable for use in dry locations.
3. This component is to be connected to a Class 2 power source

Class 2 LED Modules Designated as "Smart Puck".
1. These products are only suitable for connection to a Class 2 power source rated 27 Volt DC or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited circuit and which is rated greater than 27 V DC.
3. These products are each rated max. 27 watts per module. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at 27 Volts DC or less.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.
7. When these products are used in applications other than signs or outline lighting, the need to conduct a temperature test shall be considered.

Class 2 Powered LED Lamp, Designated "YESCO Globe Lamp".
1. These products are only suitable for connection to a Class 2 power source, rated 12 Volt or less.
2. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limits.
3. These products Class 2 LED modules are rated max. 22 Watts. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations with supply sources rated at max. 12 Volts or less.
5. These products are not required to be enclosed or protected from the weather in the end product.

LED Driver Power Supply Box with Driver - I, Power Supply Box with Driver - II
1. The output of power supplies used of these units have been evaluated to Class 2 output requirements for dc circuits.
2. These products are suitable for use in dry locations only.
3. In the end product, the spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
4. The suitability of strain relief, current leakage and grounding tests shall be determined in the end-use product.

Fiber Illuminator Model No. YESCO Fiberoptic Illuminator
1. These products are suitable for Indoor use only.
2. The temperature test was conducted in a metal box with overall dimensions of 24 by 10 by 18 inch, in the end product, the spacing to other heat producing components shall be minimum 9 inches spacing to sidewalls; minimum 3 inches spacing to front and back walls, and minimum 14 inches spacing to top of enclosure.
3. Only the Input, Normal Temperature, Dielectric Voltage Withstand and Abnormal tests were conducted.
4. The wiring connection and mounting means were not evaluated and should be considered in the product.
5. The Ground Continuity and Strain Relief Tests were not conducted and needs to be conducted In the end product.
6. This product needs to be enclosed in the end product.

LED Changing Message Sign Computer designated as TF-TKS-G20-8310-00X-AT Series, where X is 5, 6, 7 or 8.
1. These components should be installed in accordance with the manufacturer's installation instructions.
2. In the end product, the spacing to other heat producing components shall be minimum 2 inches spacing to sidewalls, and minimum 2 inches spacing to top of enclosure.
3. These products are suitable for use in dry locations.
4. These products are rated as the following:

Model Designation	Input Voltage (Vac)	Input Current (A)	Input Frequency (Hz)
TF-TKS-G20-8310-00X-AT Series	100-240	2	50-60

Indoor Polymeric Sign Body Material, designated as "LED Housing".

1. These products are polymeric non-enclosure rated sign body material for use in dry locations. The materials are only suitable to house LED module strips that are powered by UL Listed or Recognized Class 2 power supplies rated max 30 VDC or max 30 VAC.
2. These products are not suitable for use as electrical enclosures.
3. These products shall be provided with mounting instructions.
4. These products are only suitable for indoor use.

Sign component, designated as "LCD SCREEN BOARD".

1. These components should be installed in accordance with the manufacturer's instructions.
2. These products are suitable for use in dry and damp locations.
3. These products shall be enclosed in a suitable electric enclosure in the end product.
4. These products have the following electrical ratings:

Model	Max Input Voltage (V)	Max Input Current (A)	Frequency (Hz)
LCD Screen Board	120	8.6	60

5. These units were tested in open air room ambient temperature with the fans operating continuously. Therefore, these units shall be subjected to a temperature test in the end product.
6. The need to conduct ground continuity tests shall be determined in the end product.

Sign component, designated as "LED Module".

1. These components should be installed in accordance with the manufacturer's instructions.
2. These products are suitable for use in dry location.
3. These products shall be enclosed in a suitable electric enclosure in the end product.
4. These products have the following electrical ratings:

Model	Max Input Voltage (V)	Max Input Current (A)	Max Input Power (W)	Frequency (Hz)
"LED Module"	120	1	110	60

5. These units were tested in open air room ambient temperature with the fans operating continuously. Therefore, these units shall be subjected to a temperature test in the end product.
6. The need to conduct ground continuity tests shall be determined in the end product.

LED controllers, designated as "Shelves System".

1. These components should be installed in accordance with the manufacturer's instructions.
2. These products are suitable for use in dry and damp locations.
3. These products are provided with the following electrical ratings:

Model	Max Input Voltage (V)	Max Input Current (A)	Frequency (Hz)
Class 2 LED Controllers, designed as "Shelves System"	120	1	60

4. The need to conduct a ground continuity test shall be considered in the end product.
5. All the circuitry connected to the output of the power supply are Class 2.
6. These products shall be enclosed in the end product.
7. These products are intended for connection to a dedicated receptacle inside permanently installed signs. The need for a leakage current test shall be considered in the end product if used in a cord connected sign or other cord-connected end products.

ZHANGJIAGANG FEITENG ALUMINIUM COMPOSITE PANEL CO LTD — E350268

HOUCHENG INDUSTRIAL DEVELOPMENT ZONE
JINGANG TOWN
ZHANGJIAGANG, JIANGSU 215631 CHINA

Structural panel, Model Aluminum composite panel.

1. Suitable for use in dry, damp and wet locations.
2. Suitable for use in decorative and sign body applications only.
3. Suitable for use in component support applications. When threaded directly into the panels, suitability of screws shall be determined in the end product.
4. Rain tightness shall be determined in the end product.
5. Electrical spacings and bonding for grounding shall comply with the end product standard.
6. A letter made from a structural panel shall have at least two points of support and shall have no point more than 10 in. from a point of support.
7. These materials are rated Polyethylene. Consideration will need to be given to end product thermal spacings from heat producing components or temperature test.
8. These materials are available as unpainted aluminum or pre-painted aluminum.
9. This material has not been investigated for the securement of conduit, electrode housings or the like, suitability shall be determined in the end product.

ZHEJIANG DOT LIGHTING CO LTD — E349849

768 ANCHANG WEST RD
KEQIAO ECONOMY DEVELOPMENT DISTRICT
SHAOXING, ZHEJIANG 312081 CHINA

LED Class 2 Modules, Cat. Nos. MOD3528-3-1, MOD5630-6-1, MOD5630-6-2, MOD5630-8-1.

1. These LED modules are each rated as noted in the electrical ratings tables. Input test for each LED module should be considered in end products.
2. The suitability of the electrical construction shall be determined in the end use.
3. The suitability of the mounting means shall be determined in the end use.
4. PWB is metal based, rated V-0, 130 C. Temperature testing shall be conducted in the end product.
5. Suitability for use in environmental locations shall be considered in the end product.

ZLIGHT TECHNOLOGY LLC — E338098

1013 HARIMAW CT E
METAIRIE, LA 70001

LED Class 2 Modules Models Z-ECO, Z-M2 and Z-ULTRA. May be followed by xxx-yyy where xxx-yyy may be any alphanumeric characters to indicate LED Color and other non-critical options for marketing purpose.
1. These products are only suitable for connection to a Class 2 power source rated 12V dc or less. When units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
2. These products are suitable for use in dry and damp locations with supply sources rated at 12V dc or less.

ZUNI SCROLLING SIGNS LLC E362393

2011 4TH AVE
SPRING LAKE, NJ 07762

Class 2 LED Modules, designated as LEDBL-XX Series, where XX may be replaced with ES, STD or HP.
1. These products are only suitable for connection to a Class 2 power source rated 24 Volt DC or less.
2. These products are intended for use only when connected to a power source that complies with Class 2 voltage and energy limited circuit.
3. When these units are connected to a Class 2 circuit, they are not to draw a total wattage of greater than the secondary or output rating of the Class 2 supply.
4. These products are suitable for use in dry, damp and wet locations.
5. These products are not required to be enclosed or protected from the weather in the end product.
6. These products may be secured in place in the end product by any means available.

Class 2 Scrolling System, Model SPDE-XXAY kit, where XX may be 51 or 76; and Y may be X or E.
1. These products are only suitable for connection to the output of a UL Listed or Recognized Class 2 power supply rated maximum 24 VDC.
2. These products are rated per the Table below. When the units are connected to the Class 2 supply, their loads are to be limited to draw a total power or current of no greater than the output power or current rating of the Class 2 power supply.

	Max. Input Class 2	Each Output – Class 2		Number of
Model	Vdc	Max. Vdc	Max. VA	Outputs
SPDE-XXAY kit	24	24	12	2

3. These products are suitable for use in dry and damp locations.
4. These drivers are provided with a maximum of 2, Class 2 outputs.
5. These products are suitable for factory wiring only.
6. These products shall be enclosed in the end product.

SIGN COMPONENTS CLASSIFIED FOR USE WITH SPECIFIED EQUIPMENT (UYTA)

This category covers specific components that are Classified for use with components manufactured by others, such as:
Listed GTO cable surface marked "Integral Sleeve" that is also Classified for use with specific Listed or Recognized Component neon electrode boots; and Listed or Recognized Component neon electrode boots that are also Classified for use with specific Listed GTO cable surface marked "Integral Sleeve."
The combination of the integral sleeve and the specified neon electrode boots identified under this Classification has been evaluated and found to comply with the enclosure requirements for:
a) the splice between neon tubing electrode leads and GTO cable, and
b) the GTO cable leading to the splice.
These products are provided with installation instructions that define the scope of the system and method of installation.

TECNOLUX INC E252991

103 14TH ST
BROOKLYN, NY 11215

GTO cable with integral sleeve, Neon electrode enclosures Model Nos. xxSC1y, where xx is 10, 12, 15, or 18 and y (optional) is B, G or W manufactured by Tecnolux Inc. Classified for use with GTO cable with integral sleeve Cat. No. GTO15 (14 thru 18AWG) and GTO10 (18AWG) with Integral Sleeving manufactured by Silitherm S.R.L. Suitable for dry and damp locations with the different models accommodating the electrodes diameters as follows: 10SC1y - 10 mm; 12SC1y - 12-13mm; 15SC1y - 15-16mm; 18SC1y - 18-19mm.
GTO cable with integral sleeve, Neon electrode enclosures Model Nos. xxSC1yDB, where xx is 10, 12, 15, or 18 and y (optional) is B, G or W manufactured by Tecnolux Inc. Classified for use with GTO cable with integral sleeve Cat. No. GTO15 (14 thru 18AWG) and GTO10 (18AWG) with Integral Sleeving manufactured by Silitherm S.R.L. Suitable for dry and damp locations.

VENTEX TECHNOLOGY LLC E247018

1020A IDLEWILDE BLVD
COLUMBIA, SC 29201

GTO cable with integral sleeve, Cat. No. Cat. No. GTO-10 with Integral Sleeving manufactured by Transco To Go LLC. Classified for use with neon electrode boots Part Nos. SS0, EC0, SS3 and EC3. manufactured by Electrobits International. GTO cable with integral sleeve GTO-15 with Integral Sleeving manufactured by Transco To Go LLC. Classified for use with neon electrode boots Part Nos. SSW3, ECW3, SSW5, ECW5, SSW6 and ECW6 manufactured by Electrobits International.
GTO cable with integral sleeve, Cat. No. GTO-10 and GTO-15 (14 thru 18AWG) with Integral Sleeving manufactured by Transco To Go LLC. Classified for use with Polymeric Neon Electrode Enclosures, Series Short Sleeve SS10mm30mA, SS12mm60mA, SS13mm60mA or SS15mm60mA and Series End Cap, EC10mm30mA, EC12mm60mA, EC13mm60mA or EC15mm60mA in

combination with GTO Cable Sleeving Adaptor GTOCA260 manufactured by Electrobits International, Inc.
GTO cable with integral sleeve, GTO-15 (14 thru 18AWG) with Integral Sleeving manufactured by Transco To Go LLC. Classified for use with Polymeric Neon Electrode Enclosures, Series Short Sleeve xxSC1y, where xx is 10 or 12 and y (optional) is B or W, and Series End Cap, xxSC1yDB, where xx is 10, 12 or 15 and y(optional) is B or W, manufactured by Technolux Inc.
GTO cable with integral sleeve, GTO-10 (14 thru 18AWG) with Integral Sleeving manufactured by Transco To Go LLC. Classified for use with Polymeric Neon Electrode Enclosures, Series Short Sleeve xxSC1y, where xx is 10 and y (optional) is B or W, and Series End Cap, xxSC1yDB, where xx is 10, 12 or 15 and y(optional) is B or W, manufactured by Technolux Inc.
GTO cable with integral sleeve, Cat. Nos. GTO-15 (14-18AWG) with Integral Sleeving manufactured by Transco To Go LLC. Classified for use with neon electrode boots Part Nos. ECS 7-10, ECS 7-12, ECS 7-13, ECS 7-15, ECDB 7-10, ECDB 7-12, ECDB 7-13 and ECDB 7-15 manufactured by Transco To Go LLC.
GTO cable with integral sleeve, GTO-15 (14AWG) with Integral Sleeving manufactured by Transco To Go LLC. Classified for use with neon electrode boots Part Nos. ESC 8-10, ECS 8-12, ECS 8-13, ECS 8-15, ECDB 8-10, ECDB 8-12, ECDB 8-13 and ECDB 8-15 manufactured by Transco To Go LLC.
GTO cable with integral sleeve, GTO-10 (18AWG) with Integral Sleeving manufactured by Transco To Go LLC. Classified for use with neon electrode boots Part Nos. ECS 7-10, ECS 7-12, ECS 7-13, ECS 7-15, ECDB 7-10, ECDB 7-12, ECDB 7-13 and ECDB 7-15 manufactured by Transco To Go LLC.
GTO cable with integral sleeve, GTO-10 (14-18AWG) with Integral Sleeving manufactured by Silitherm S.R.L. Classified for use with neon electrode boots Part No. ECDB 7-13 manufactured by Transco To Go LLC.
GTO cable with integral sleeve, Cat. Nos. GTO-15 (14-18AWG) with Integral Sleeving manufactured by Silitherm S.R.L. Classified for use with neon electrode boots Part Nos. ECDB 7-10, ECDB 7-13 and ECDB 7-15 manufactured by Transco To Go LLC.
GTO cable with integral sleeve, Cat. Nos. GTO-10 (18AWG min.) with Integral Sleeving manufactured by Silitherm S.R.L. Classified for use with neon electrode boots, Part No. ECS 7-13 manufactured by Transco To Go LLC.
GTO cable with integral sleeve, Cat. Nos. GTO-15 (18AWG min.) with Integral Sleeving manufactured by Silitherm S.R.L. Classified for use with neon electrode boots, Part Nos. ECS 7-10, ECS 7-13 and ECS 7-15 manufactured by Transco To Go LLC.
GTO cable with integral sleeve, Cat. No. GTO-15 (18AWG - 14AWG) with Integral Sleeving manufactured by Paige Electric Co L P. Classified for use with neon electrode boots Part Nos. ECS 7-10, ESC 7-13, ECS 7-15, ECDB 7-10, ECDB 7-13, ECDB 7-15 manufactured by Transco To Go LLC.
GTO cable with integral sleeve, Cat. No. GTO-10 (18AWG) with Integral Sleeving manufactured by Paige Electric Co L P. Classified for use with neon electrode boots Part Nos. ECS 7-10, ECS 7-13, ECS 7-15, ECDB 7-10, ECDB 7-13, ECDB 7-15 manufactured by Transco To Go LLC.

SIGN FLASHERS (UYZZ2)

NEMCO CONTROLS INC **E161347**
10306 SAGELINK CT
HOUSTON TX 77089

Electronic sign flasher, Model 2P-NX.
1. These devices must be used within a suitable enclosure.
2. These devices are rated 120 Vac, 600W for incandescent loads only.

Electronic Sign Flasher, Model Nos. 3P4 followed by: 1 on 3 off-120V-8A, 1 on 2 off-120V-8A, 1 on 2 off-24V-8A, 1 on 3 off-24V-8A, 1 on 2 off-24V-20A, or 1 on 3 off-24V-20A.
1. These devices must be used within a suitable enclosure.
2. These devices have only been investigated for load types as specified below.

Model Number 3P4 -	AC Input Voltage (Volts)	Input Current (Amps)	Output Current (Amps max. per circuit Tungsten Load only)
1 on 3 off-120V-8A	120	8	8
1 on 2 off-120V-8A	120	8	8
1 on 2 off-24V-8A	24	8	8
1 on 3 off-24V-8A	24	8	8
1 on 2 off-24V-20A	24	20	20
1 on 3 off-24V-20A	24	20	20

3. These devices must be surface mounted to an aluminum plate having a minimum 1/16 in. thickness with a 96.5 square inch surface area or the following measurements 10-7/8 by 8-7/8 in. or larger.

Electronic Sign Flasher, SLAVE-24V-20A and SLAVE-120V-20A.
1. These devices must be used within a suitable enclosure.
2. These devices have only been investigated for load types as specified below.

Model Number	AC Input Voltage (Volts)	Input Current (Amps)	Output Current (Amps max. per circuit Tungsten Load only)
24V-SLAVE-20A	24	20	20
120V-SLAVE-20A	120	20	20

3. These devices must be surface mounted to an aluminum plate having a minimum 1/16 in. thickness with a 96.5 square inch surface area or the following measurements 10-7/8 by 8-7/8 in. or larger.
4. The SLAVE units are only suitable for use with NEMCO Model 3P4 Series controllers.

COATED ELECTRICAL SLEEVING (UZFT2)

Consideration is to be given to the following Conditions of Acceptability when these components are employed in the end-use equipment:
1. Sleeving shall not be used over the maximum voltage rating.
2. Sleeving shall not be used over the maximum temperature rating.
3. Sleeving is not acceptable for use in contact with sharp edges, corners, projections or burrs, or where subjected to tension, compression, abrasion or repeated flexing without additional testing.
4. Sleeving is not recommended for use where it is feasible to employ a standard insulated conductor (appliance wiring material) intended for the purpose.
5. Sleeving shall be used in dry and damp locations only as defined in ANSI/NFPA 70, "National Electrical Code."

PHOTOELECTRIC SWITCHES (WJCT2)

PRECISION MULTIPLE CONTROLS INC **E36102**
33 GREENWOOD AVE
MIDLAND PARK, NJ 07432

Photoelectric switches, Models A105, A305 may be followed by suffix "BP".
1. Maximum load rating 8.3 A tungsten, 5 A ballast, 120 Vac.
2. Shall be reliably mounted within a suitable enclosure with lens protruding through a gasketed opening.

SPECIAL USE SWITCH (WOYR2)

1. Switch body shall be enclosed within suitable enclosure. Switches in outdoor signs shall be enclosed within Listed weatherproof enclosures or shall have drain holes in the separate enclosure that acts as an accessibility barrier.
2. HP rated switch is current rated as follows:

Full-load currents for a-c motors rated in horsepower

hp	Full-load current, A									
	120 – 125 V			240 – 250 V			480 V		600 V	
	Single-phase	Two-phase four-wire	Three phase	Single-phase	Two-phase four-wire	Three phase	Two-phase four-wire	Three phase	Two-phase four wire	Three phase
1/10	3.0	–	–	1.5	–	–	–	–	–	–
1/8	3.8	–	–	1.9	–	–	–	–	–	–
1/6	4.4	–	–	2.2	–	–	–	–	–	–
1/4	5.8	–	–	2.9	–	–	–	–	–	–
1/3	7.2	–	–	3.6	–	–	–	–	–	–
1/2	9.8	4.0	4.4	4.9	2.0	2.2	1.0	1.1	0.8	0.9
3/4	13.8	4.8	6.4	6.9	2.4	3.2	1.2	1.6	1.0	1.3
1	16.0	6.4	8.4	8.0	3.2	4.2	1.6	2.1	1.3	1.7
1-1/2	20.0	9.0	12.0	10.0	4.5	6.0	2.3	3.0	1.8	2.4
2	24.0	11.8	13.6	12.0	5.9	6.8	3.0	3.4	2.4	2.7

EXTRUDED INSULATING TUBING (YDPU2)

Consideration is to be given to the following Conditions of Acceptability when these components are employed in the end-use equipment:
1. Tubing shall not be used where it is feasible to employ a standard insulating conductor (e.g., appliance wiring material) intended specifically for the purpose.
2. Unless indicated in the individual Recognitions, the tubing has not been investigated for use in contact with sharp edges, corners, projections or burrs , or where subject to tension, compression, abrasion, repeated flexing or where exposed to ultraviolet radiation or oil contamination .
3. Tubing shall be used in dry and damp locations only as defined in ANSI/NFPA 70, "National Electrical Code."
4. The minimum wall thickness and the published ratings of the tube shall be considered in the end-product investigation.
5. The tubing has not been investigated with respect to its resistance to ignition from electrical sources.

MECHANICAL PROTECTION TUBING (YDRQ2)

1. Suitable for use as mechanical protection of insulation on low-voltage wiring.
2. Surfaces likely to bear against these materials must be free of burrs and sharp edges.

LOW-VOTAGE LED WIRE (ZNPA2)

This category covers single-conductor 18 - 10 AWG, low-voltage LED wire rated 105°C - 250°C (221°F - 482°F), and 300 or 600 V. The wire may be dry/damp or wet rated.

CONDITIONS OF ACCEPTABILITY

The following General Conditions of Acceptability and Use apply to all Low-Voltage LED wire in this category when used in the end-use equipment: These general conditions of acceptability are provided for additional guidance for complying with UL 48 Standard for Electric Signs.

1. This wire is for use within a sign body which is the portion of a sign that provides protection from the weather but is not an electrical enclosure.
2. The wire shall not be accessible except during user servicing.
3. The wire is suitable for use only in LED (Light-emitting-diode) secondary circuits not exceeding 600V.
4. Low voltage LED wire shall be used within its marked voltage rating and marked environmental rating.
5. Low voltage LED wire is not suitable for use in concealed spaces such as walls or above ceilings unless it is additionally UL Listed as Class 2 Cable under QPTZ and used in a Class 2 or LPS circuit.
6. Splices in Low Voltage LED wire shall be made in a suitable electrical enclosure with strain relief, unless directly connected to the LED power supply or are located in a Class 2 or LPS circuit.

PRODUCT MARKING

Components Recognized under UL's Component Recognition Program are identified by markings consisting of the Recognized company's identification and catalog number, the product designation "Low-voltage LED Wire" (or "LV LED Wire"), maximum temperature rating in degrees Celsius, voltage rating, and size of the conductors. The marking appears on the surface of the wire and on the attached tag, the reel, or the smallest unit container in which the product is packaged. In addition, components produced under the UL Component Recognition Program will also bear the Recognized Component Mark . Only those components that actually bear the "Marking" should be considered as being covered under the Component Recognition Program.

WIRE POSITIONING DEVICES (ZODZ2)

1. Refer to UL’s Recognized Component Directory for Conditions of Use.
2. Not suitable for use where exposed outdoors.
3. All materials that are rated less than 90 °C shall be located not less than 1 in. from heat producing components.

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