DEH-40460 Installation Instructions

Lighting Contactors

CR460 LIGHTING CONTACTOR SERIES

WARNING !

HAZARDOUS VOLTAGE
Disconnect all power before working on equipment.
Electrical shock will cause severe injury or death.

TENSION DANGEREUSE
Coupez l'alimentation avant travailler sur le produit.
Electrocution peut causer de severes blessures ou la mort.

Description

The ABB CR460 Series is a magnetically operated lighting contactor, and is available in either an open or an enclosed form. These contactors are field configurable for up to twelve poles, with a maximum of eight normally closed "NC" poles.

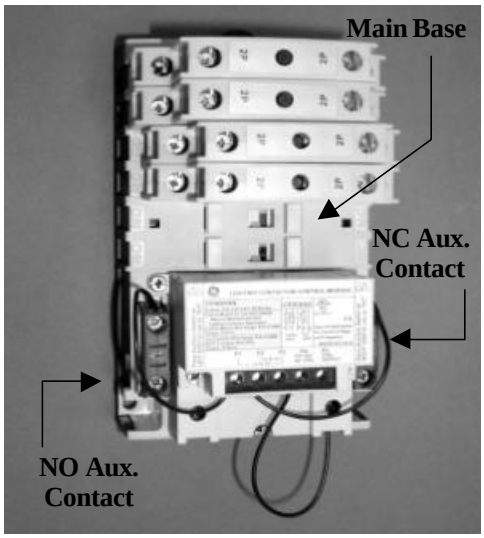


Figure – 1 Mechanically Held Contactor

1 MAIN BASE

1.1 Description

The base of the lighting contactor (see Figure 1) has provisions to accept power poles at positions "1" to "6". Provisions are also provided for up to 2 "NO" and 2 "NC" auxiliary contacts.

1.2 Installation

1. Remove all packing material from the base and all the kits.
2. Contactor must be mounted in the *vertical position* on a sturdy support.
3. Additional over-current protection may be required. Refer to the National Electrical Code or local electrical code as required.
4. Refer to Table D on page 3 for the wire size and the required torque for the coil terminals.

2 POWER POLES: CR460XP31 / 32

2.1 Description

Power poles are available in both single pole (CR460XP31) and double pole (CR460XP32) versions. A maximum of twelve poles may be installed on the base. Positions "1" to "4" on the base can be configured as either normally open "NO" or "NC" while positions "5" and "6" can be configured as "NO" only.

2.2 Removal and Conversion of Power Poles

1. If installed ensure that all power is disconnected.
2. For multiple possible configurations of the power pole, refer to the Table A below.

# of NC Contacts desired (3)

NO	NC								
	0	1	2	3	4	5	6	7	8
0			20	30	40	50	60	70	80
1		11	30	31	50	51	70	71	90
2	20	30	40	50	60	70	80	90	B0
3	30	31	50	51	70	71	90	91	C0
4	40	50	60	70	80	90	B0	C0	D0
5	50	51	70	71	90	91	C0		
6	60	70	80	90	B0	C0	D0		
7	70	71	90	91	C0				
8	80	90	B0	C0	D0				
9	90	91	C0						
10	B0	C0	D0						
11	C0								
12	D0								

# of NO Contacts desired (4)

Standard Catalog # Digits
CR463L70AJA0

Table A

3. Remove block by pulling the clip as shown (see Figure 2). Rotate block 180 degrees to convert from NO to NC.

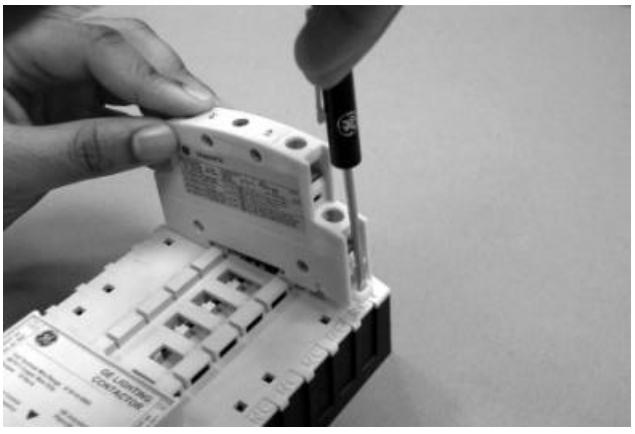


Figure – 2

2.3 Installation of Power Poles

1. Check moving carrier to assure free movement
2. Install the block by sliding foot into slot; pull the clip, and position block onto base. Release the clip.

3. Check for the lettering on the base. "NO" should be visible if the power pole is assembled as normally open, or "NC", if it is assembled a normally closed (see Figure 3).

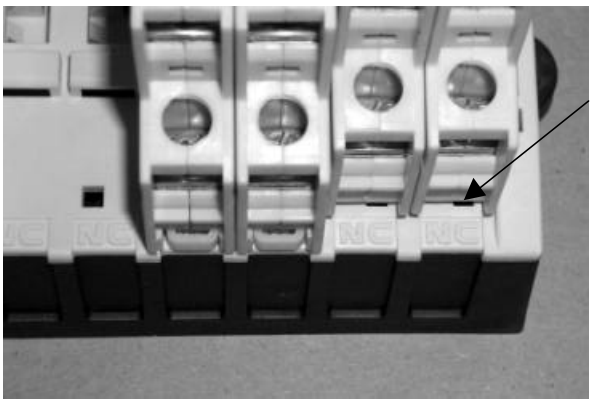


Figure – 3

2.4 Termination

Power poles can accept wires from #14 to #8 AWG (either solid or stranded) as single or combination of two wires (refer to Table B below for valid wire combination). Refer to Table D on page 3 for the required torque.

Size	*Type*	*8 AWG*	*10 AWG*		*12 AWG*		*14 AWG*	
		Stranded	*Stranded*	*Solid*	*Stranded*	*Solid*	*Stranded*	*Solid*
8 AWG	*Stranded*	*X*	*X*	*X*	*X*	*X*	*X*	*X*
10 AWG	*Stranded*		*X*	*X*	*X*	*X*	*X*	*X*
	Solid			*X*	*X*	*X*	*X*	*X*
12 AWG	*Stranded*				*X*	*X*	*X*	*X*
	Solid					*X*	*X*	*X*
14 AWG	*Stranded*						*X*	*X*
	Solid							*X*

Table B

3 AUXILIARY CONTACTS: CR460XB1/XB2

3.1 Description

The auxiliary contact blocks are available in both single pole (CR460XB1) and double pole (CR460XB2) versions. Auxiliary contacts can be added on either side of the base (see Figure 1). When added to the LEFT side of base, the auxiliary block functions as "NO", and when added to the RIGHT side of base it functions as "NC". Refer to Table D on page 3 for wire size and required torque.

4 CONTROL MODULE KITS

The base (electrically held) can be converted to a mechanically held type by adding the control module kit.

***IMPORTANT**: The control module kits are for use with the coils up to 277 Vac maximum. Use a control power transformer for higher voltages.*

Conversion from an electrically held to a mechanically held type is possible by adding the "control module kit" to the base.

4.1 Description

Control modules kits are available both for 2-wire and 3-wire control with a wide range of control voltage inputs. Figure 4 shows the components in 2-wire control module kit. A 3-wire kit includes an additional single-pole auxiliary contact block. Refer to the Ordering Detail section for more information on the control module kits and the control voltages available.

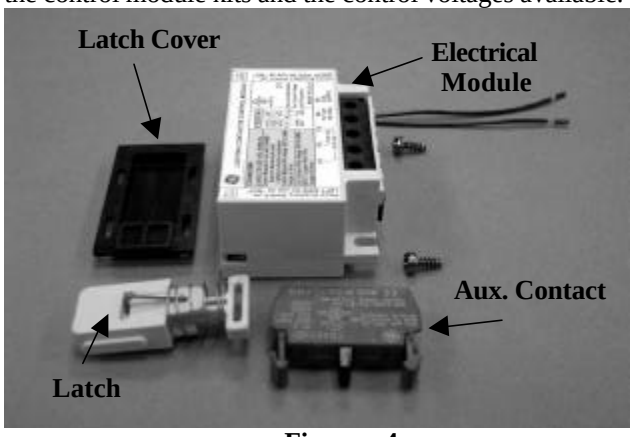


Figure – 4

4.2 Installation

1. Disconnect all power and mount the control module on the contactor as shown in Figure 1 (3-wire control type).
2. Mount the latch and the latch cover as shown in Figure 5.

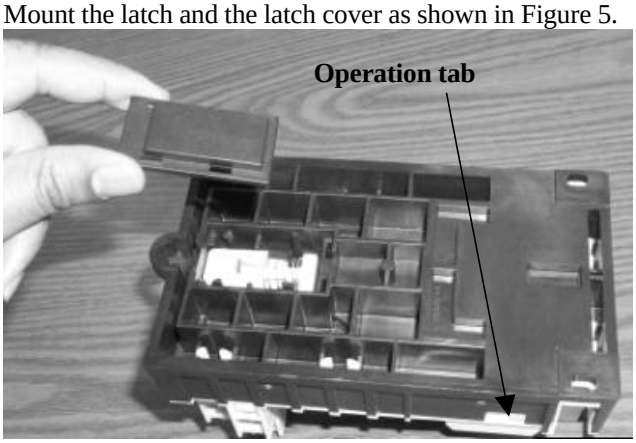


Figure – 5

3. Be sure the latch is firmly in place with the wire facing out and the slot positioned with tab inserted.
4. Operate contactor manually, using manual operation tabs on side, prior to installing cover to insure correct installation.
   ***Note**: Once latch cover has been installed, it may not be removed.*
5. For 2-wire control, the auxiliary contact block is assembled to the right side of the base for "NC".

***IMPORTANT**: Latch and electronic module must be used together to ensure proper operation. Failure to do so will void warranty.*

4.3 Wiring

Follow the schematic (Figure 6) for 2 and 3-wire control. Refer to Table D on page 3 for wire size and required torque.

Note: For 2-wire control, ensure the two wires coming from the control module are connected across a NC auxiliary contact.

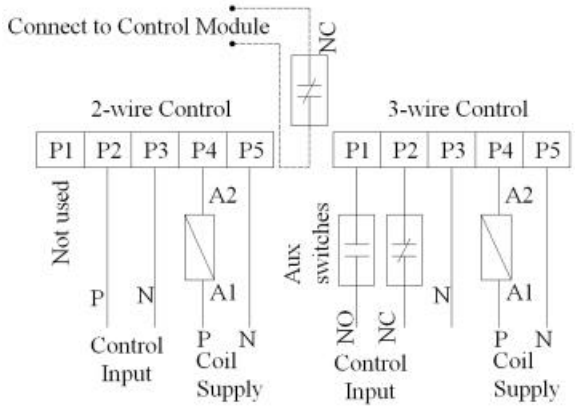


Figure – 6

5 COIL KITS

5.1 Description

A wide range of coils is available for both electrically held and mechanically held lighting contactor. Refer to the Ordering Detail section for more information about the coil kit catalog numbers and voltages available.

Note: For mechanically held lighting contactor, only use coil rated up to 277 VAC maximum. Use control power transformer for higher voltages.

5.2 Installation

1. Disconnect all power. Replace and mount the coil on the contactor as shown in Figure 7.
2. For mechanically held contactors, remove all wires from the control module and remove the coil cover **along with control module**.

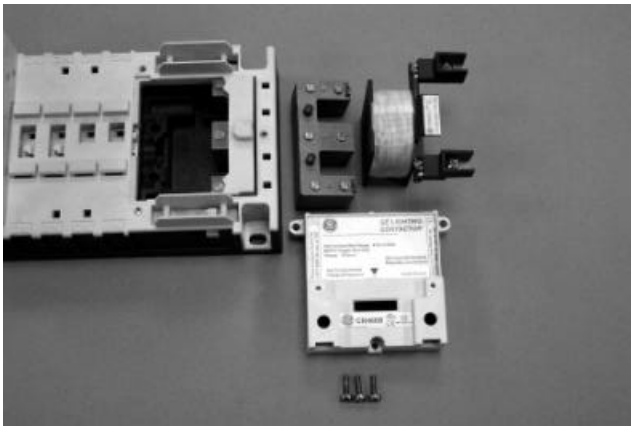


Figure – 7

Size	*Type*	*#14 AWG*		*#16 AWG*		*#18 AWG*	
		Solid	*Stranded*	*Solid*	*Stranded*	*Solid*	*Stranded*
#14 AWG	*Solid*	*X*	*X*	*X*	*X*	*X*	*X*
	Stranded		*X*	*X*	*X*	*X*	*X*
#16 AWG	*Solid*			*X*	*X*	*X*	*X*
	Stranded				*X*	*X*	*X*
#18 AWG	*Solid*					*X*	*X*
	Stranded						*X*

Table C

5.3 Wiring

Coil terminal can accept wires from #18 AWG to #14 AWG (either solid or stranded) as single or combination of two wires (Refer to Table C below for valid wire combination). Refer to Table D below for required torque.

Kit	Wire Size (AWG)	Wire Material	Wire Type	Temperature (C)	Torque (in-lbs)
Coil	*18-14*	*Copper*	*Solid or Stranded*	*60 or 75*	*15*
Power Pole	*14-8*	*Copper*	*Solid or Stranded**	*75*	*35*
Aux. Contact	*22-12*	*Copper*	*Solid or Stranded*	*60 or 75*	*7-12*
Control Module	*22-12*	*Copper*	*Solid or Stranded*	*60 or 75*	*7*

Table D

** #8 AWG is stranded only for the power pole.*

Ordering details

Coil Kits:

CR460XCC	24V 60Hz /20V 50Hz coil
CR460XCD	28V 60Hz / 24V 50Hz coil
CR460XCJ	115-120V 60Hz / 110V 50Hz coil
CR460XCL	200-208V 60Hz coil
CR460XCS	230-240V 60Hz / 220V 50Hz coil
CR460XCN	265- 277V 60Hz / 240V 50Hz coil
CR460XCT	347V 60Hz coil
CR460XCU	460-480V 60Hz / 440V 50Hz coil
CR460XCY	575-600V 60Hz / 550V 50 Hz

Control Module Kits:

CR460XMB	2 wire 24 Vac 60/50 Hz
CR460XMC	2 wire 110-120 Vac 60/50 Hz
CR460XMD	2 wire 200-277 Vac 60/50 Hz
CR460XME	2 wire 12-18 Vdc
CR460XMM	3 wire 24 Vac 60/50 Hz
CR460XMN	3 wire 110-120 Vac 60/50 Hz
CR460XMP	3 wire 200-277 Vac 60/50 Hz
CR460XMR	3 wire 12-18 Vdc

Power Pole Kits:

CR460XP31	Single Power Pole
CR460XP32	Double Power Pole

Auxiliary Contact Kits:

CR460XB1	1 NO/NC
CR460XB2	2 NO/NC

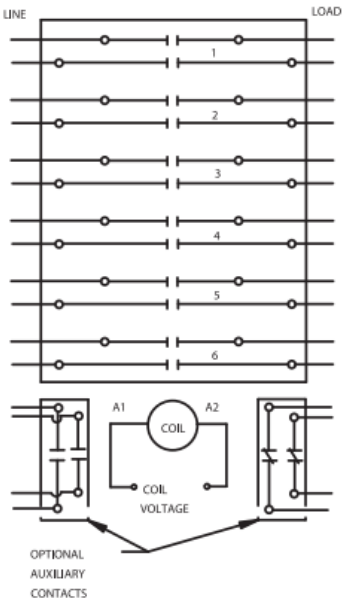
6 ENCLOSURE

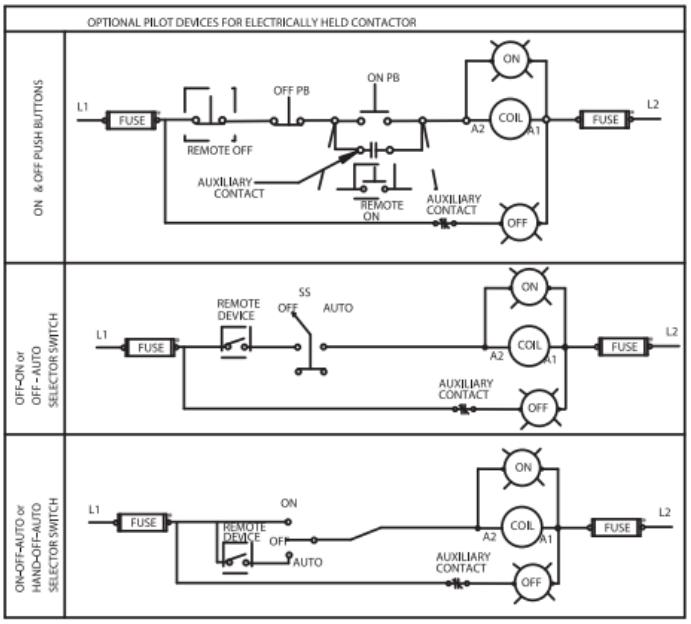
CR463 Series lighting contactors - are to be mounted in an enclosure of minimum size 10in x 10in x 4.62in or equivalent when used to support the LED driver / Electronic Ballast ratings of 277 VAC 3A or 120 VAC 10A

Note: These instructions do not purport to cover all details or variations in equipment nor to provide for every possible contingency to be met in connection with installation, operation, or maintenance. Should further information be desired or should particular problems arise which are not covered sufficiently for the Purchaser's purpose, the matter should be referred to the nearest ABB sales office.

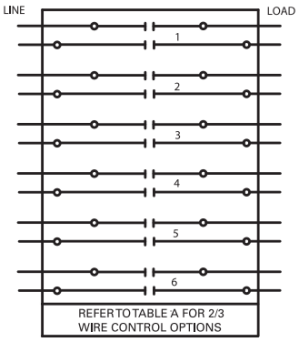
Wiring Diagrams

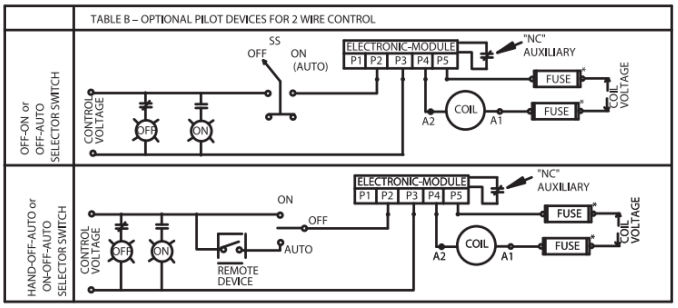
CR460L Electrically Held Contactor

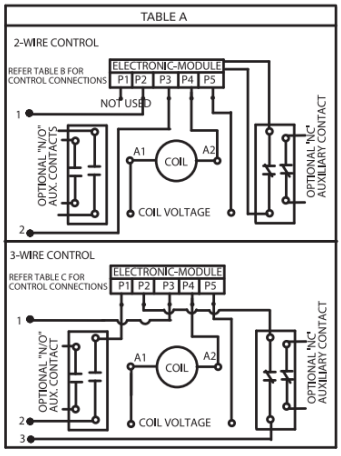




CR460M Mechanically Held Contactor







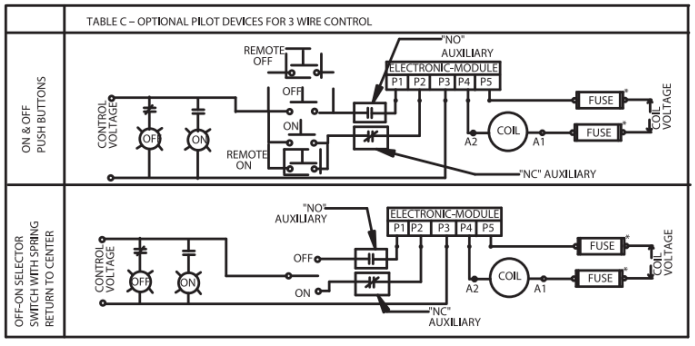


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