

DATA SHEET

3VA54 600A Frame Thermal-magnetic Trip Circuit Breakers

With global certifications including UL489, CSA22.2 and IEC 60947-2.
Find out more at **usa.siemens.com/3VA**

SIEMENS

Technical Information

Interrupting Ratings for 3VA54

Interrupting Class	Breaker Type	RMS Symmetrical Amperes (kA)									
		Volts AC (50/60 Hz)					Volts DC				
		240	480Y/ 277V	480	600Y/ 347V	600	250 (2P)	600 (3P)	750 (3P)	750 (4P)	1000 (4P)
M	MLAS	85	35	35	18	18	50	50	10	50	10
H	HLAS	100	65	65	25	25	85	85	10	85	10
C	CLAS	200	100	100	35	35	100	100	10	100	10



3VA54 600A 3-Pole

Trip Settings for 3VA54

TM230 - FTAM

I_n (A)	I_r(A)	I_i (A)					
450	450	2250	2700	3150	3600	4050	4500
500	500	2500	3000	3500	4000	4500	5000
600	600	3000	3600	4200	4800	5400	6000

TM240 - ATAM

I_n (A)	I_r(A) 90%	I_r(A) 80%	I_i (A)					
450	405	360	2250	2700	3150	3600	4050	4500
500	450	400	2500	3000	3500	4000	4500	5000
600	540	480	3000	3600	4200	4800	5400	6000

Connections for 75C wire for 3VA54

Type	Minimum cable size	Maximum cable size	Part Number (kit of 3 lugs)	Part Number (kit of 4 lugs)
Steel Wrap around (Cu cable only) single cable lugs	1/0	500 kcmil	**3VA9473-0JA13**	**3VA9474-0JA13**
Steel Wrap around (Cu cable only) single cable lugs with control wire tap	1/0	500 kcmil	**3VA9473-0JH13**	**3VA9474-0JH13**
Aluminum Body Lug (Cu/Al cable) single cable lugs	AWG 1	600 kcmil	**3VA9373-0JB13**	**3VA9374-0JB13**
Aluminum body lug with control wire tap (Cu/Al cable) single cable lugs	AWG 1	600 kcmil	**3VA9373-0JG13**	**3VA9374-0JG13**
Copper body lug (Cu cable only) single cable lugs	AWG 1	600 kcmil	**3VA9373-0JD13**⑦	**3VA9374-0JD13**⑦
Copper body lug (Cu cable only) with control wire tap single cable lugs	AWG 1	600 kcmil	**3VA9373-0JK13**	**3VA9374-0JK13**
Aluminum body lug, 2 cables (Cu/Al cable) with 1 extended terminal cover	2/0	600 kcmil	**3VA9473-0JJ23**⑥	**3VA9474-0JJ23**⑥
Aluminum body lug, 2 cables (Cu/Al cable) with 1 intermediate terminal cover	250 kcmil or 2× 250 kcmil	750 kcmil	**3VA9373-0JJ24**	**3VA9374-0JJ24**
Aluminum body lug, 2 cables (Cu/Al cable) with control wire tap and 1 extended terminal cover	2/0	600 kcmil	**3VA9473-0JC23**	**3VA9474-0JC23**
Aluminum body lug, 2 cables (Cu/Al cable) with control wire tap and 1 intermediate terminal cover	250 kcmil or 2× 250 kcmil	750 kcmil	**3VA9373-0JC24**	**3VA9374-0JC24**
Distribution lug, 6 Cables (Cu/Al cable) with 1 extended terminal cover	AWG 14	2 AWG	**3VA9373-0JF60**	**3VA9374-0JF60**
Copper body lug, 2 cables (Cu cable only) with 1 extended terminal cover	2/0	600 kcmil	**3VA9473-0JE23**	**3VA9474-0JE23**
Copper body lug, 2 cables (Cu cable only) with control wire tap and 1 extended terminal cover	2/0	600 kcmil	**3VA9473-0JL23**	**3VA9474-0JL23**

⑥ Standard lug installed at the factory when breaker ordered with a "6" in the 12th position.
⑦ Standard lug installed at the factory on 400A 100% rated breaker when ordered with a "6" in the 12th position.

Enclosures (3-pole only)

NEMA Type	Catalog Number
1 Surface	**3VAE6001S**
1 Flush	**3VAE6001F**
3R	**3VAE6003R**
12	**3VAE60012**
4X (304)	**3VAE6004X**
4X (316)	**3VAE6004X316**
Neutral	**HN656ACB**
200% Neutral	**HN678ACB**

Dimensions

Shipping Weight

Breaker	Poles	W in. (mm)	H in. (mm)	D in. (mm)	lbs.	kg
3VA54	3	5.4 (137)	9.8 (249)	5.4 (137)	11.5	5.2
3VA54	4	7.2 (183)	9.8 (249)	5.4 (137)	15.0	6.8

Applicable Standards:

- UL489 - Molded Case Circuit Breakers
- UL486A - Wire connectors and solderless lugs for use with copper
- UL486B- Wire connectors and solderless lugs for use with aluminum wire
- CSA-22.2 No. 5-13 - Molded Case Circuit Breakers, Molded case switches and circuit breaker enclosures
- EN 60947-1 AMD 2 - Molded case circuit breakers
- EN 60947-2 AMD 2 2013
- EN 50581 2012 - RoHS compliant
- All 3VA breakers are HACR rated per UL

Padlock Accessory

Description	Catalog Number
Padlocking Device for 3VA54 breaker	**3VA9338-0LB11**

Internal Accessories

Auxiliary and Alarm Switches (Form C –> 1 NO and 1 NC)

Switch Type	Width	AC 50/ 60 Hz	DC	Catalog Number
Auxiliary Switch (AUX) HQ	1 slot	24 … 300V	24 … 250V	**3VA9978-0AA12**
Leading Changeover Switch (LCS) HQ				**3VA9978-0AA22**
Trip/Bell Alarm Switch (TAS) HQ				**3VA9978-0AB12**
Auxiliary Switch (AUX) HP	2 slots	24 … 600V	24 … 250V	**3VA9978-0AA11**
Leading Changeover Switch (LCS) HP				**3VA9978-0AA21**
Trip/Bell Alarm Switch (TAS) HP				**3VA9978-0AB11**
Auxiliary Switch (AUX) HQ electronic	1 slot	24 … 300V	24 … 250V	**3VA9978-0AA13**
Leading Changeover Switch (LCS) HQ electronic				**3VA9978-0AA23**
Trip/Bell Alarm Switch (TAS) HQ electronic				**3VA9978-0AB13**

Shunt Trips

Type	VAC 50/60 Hz	VDC	Catalog Number (3 slots)
Shunt Trip Left (STL)	380 ... 600	—	**3VA9978-0BL20**
	—	12	**3VA9978-0BL10**
	24	24 ... 30	**3VA9978-0BL30**
	48 ... 60	48 ... 60	**3VA9978-0BL31**
	110 ... 127	110 ... 127	**3VA9978-0BL32**
	208 ... 277	220 ... 250	**3VA9978-0BL33**
Shunt Trip Flexible (STF)②	24	—	**3VA9978-0BA20**
	48 ... 60	—	**3VA9978-0BA21**
	110 ... 127	—	**3VA9978-0BA22**
	208 ... 277	—	**3VA9978-0BA23**
	380 ... 500	—	**3VA9978-0BA24**
	600	—	**3VA9978-0BA25**

Undervoltage Release

Undervoltage Release (UVR)	—	12	**3VA9978-0BB10**
	—	24	**3VA9978-0BB11**
	—	48	**3VA9978-0BB12**
	—	125 ... 127	**3VA9978-0BB14**
	—	250	**3VA9978-0BB16**
	24	—	**3VA9978-0BB20**
	120 ... 127	—	**3VA9978-0BB24**
	208 ... 230	—	**3VA9978-0BB25**
	440 ... 480	—	**3VA9978-0BB27**

Universal Release (Undervoltage and Shunt trip)

Universal Release (UNI)	—	12	**3VA9978-0BD11**
	—	24	**3VA9978-0BD12**
	—	48	**3VA9978-0BD13**

② Shunt trip flexible can be used in the left pocket of the 3VA5 breakers. They can be used in the left or right pocket of the 3VA6 breakers.

Internal accessories Optional equipment	Slot No.:	3VA5 & 3VA6 400/600 A 3-pole 25 24 23 22 21 600 A 11 12 13 14 15
Auxiliary switch	**Type**	
Auxiliary switch	AUX_HQ	x x x x x x x x x x x
	AUX_HQ_el	x x x x x x x x x x x
	AUX_HP	x x x x x x
Leading changeover switch	LCS_HQ	x
	LCS_HQ_el	x
	LCS_HP	x
Alarm switch	**Type**	
Trip alarm switch	TAS_HQ	x x x x
	TAS_HQ_el	x x x x
	TAS_HP	x x
Electrical alarm switch③	EAS_HQ	x
	EAS_HQ_el	x
Auxiliary release	**Type**	
Shunt trip flexible	STF	x x
Shunt trip left	STL	x
Undervoltage release	UVR	x
Universal release	UNI	x
ETU/communication③	**Type**	
Communication module Breaker data server	COM060	x
24 V module		x
Other		
Cylinder lock (type Ronis)		x

Time-delay Device for Undervoltage Release

Type	VAC 50/60 Hz	VDC	Delay Time	Catalog Number
Time-delay Device (mounted external to circuit breaker)	230	230	Fixed – 100ms minimum	**3VA9978-0BF22**
	—	24	Fixed – 100ms minimum	**3VA9978-0BF23**

Product Selection

3VA54 600A, 2-Pole in 3-Pole Frame, Thermal-Magnetic Trip Unit

Cont. Ampere Rating	M-Interrupting Class (MLAS)	H-Interrupting Class (HLAS)	C-Interrupting Class (CLAS)
	Catalog Number	Catalog Number	Catalog Number
		TM230 FTAM	
450	3VA5445-5EC61-0AA0	3VA5445-6EC61-0AA0	3VA5445-7EC61-0AA0
500	3VA5450-5EC61-0AA0	3VA5450-6EC61-0AA0	3VA5450-7EC61-0AA0
600	3VA5460-5EC61-0AA0	3VA5460-6EC61-0AA0	3VA5460-7EC61-0AA0

3VA54 600A Frame, 3-Pole Frame, Thermal-Magnetic Trip Unit

Cont. Ampere Rating	M-Interrupting Class (MLAS)	H-Interrupting Class (HLAS)	C-Interrupting Class (CLAS)
	Catalog Number	Catalog Number	Catalog Number
		TM230 FTAM①	
450	3VA5445-5EC31-0AA0	3VA5445-6EC31-0AA0	3VA5445-7EC31-0AA0
500	3VA5450-5EC31-0AA0	3VA5450-6EC31-0AA0	3VA5450-7EC31-0AA0
600	3VA5460-5EC31-0AA0	3VA5460-6EC31-0AA0	3VA5460-7EC31-0AA0
		TM240 ATAM	
450	3VA5445-5EF31-0AA0	3VA5445-6EF31-0AA0	3VA5445-7EF31-0AA0
500	3VA5450-5EF31-0AA0	3VA5450-6EF31-0AA0	3VA5450-7EF31-0AA0
600	3VA5460-5EF31-0AA0	3VA5460-6EF31-0AA0	3VA5460-7EF31-0AA0

3VA54 600A Frame, 4-Pole Frame, Thermal-Magnetic Trip Unit

Cont. Ampere Rating	M-Interrupting Class (MLAS)	H-Interrupting Class (HLAS)	C-Interrupting Class (CLAS)
	Catalog Number	Catalog Number	Catalog Number
		TM230 FTAM Unprotected Neutral	
450	3VA5445-5EC41-0AA0	3VA5445-6EC41-0AA0	3VA5445-7EC41-0AA0
500	3VA5450-5EC41-0AA0	3VA5450-6EC41-0AA0	3VA5450-7EC41-0AA0
600	3VA5460-5EC41-0AA0	3VA5460-6EC41-0AA0	3VA5460-7EC41-0AA0
		TM240 ATAM Unprotected Neutral	
450	3VA5445-5EF41-0AA0	3VA5445-6EF41-0AA0	3VA5445-7EF41-0AA0
500	3VA5450-5EF41-0AA0	3VA5450-6EF41-0AA0	3VA5450-7EF41-0AA0
600	3VA5460-5EF41-0AA0	3VA5460-6EF41-0AA0	3VA5460-7EF41-0AA0
		TM230 FTAM 100% Neutral	
450	3VA5445-5GC41-0AA0	3VA5445-6GC41-0AA0	3VA5445-7GC41-0AA0
500	3VA5450-5GC41-0AA0	3VA5450-6GC41-0AA0	3VA5450-7GC41-0AA0
600	3VA5460-5GC41-0AA0	3VA5460-6GC41-0AA0	3VA5460-7GC41-0AA0
		TM240 ATAM 100% Neutral	
450	3VA5445-5GF41-0AA0	3VA5445-6GF41-0AA0	3VA5445-7GF41-0AA0
500	3VA5450-5GF41-0AA0	3VA5450-6GF41-0AA0	3VA5450-7GF41-0AA0
600	3VA5460-5GF41-0AA0	3VA5460-6GF41-0AA0	3VA5460-7GF41-0AA0

① Available with NAVAL/50C ratings.



3VA54 600A 3-Pole



3VA54 600A 4-Pole

Ordering Information

The catalog numbers listed here are for complete, non-interchangeable trip circuit breakers without lugs.

For factory installed nut keepers (3VA94730QA00), change the 12th digit of the catalog number to "2" (required to install a breaker in a panelboard or switchboard that has a provision). (For example, a 35KA @480VAC, 600A, 3-pole, 3VA54 with nut keepers would be catalog number 3VA5460-5EC3**2**-0AA0).

For factory installed standard line and load lugs, change the 12th digit to "6" (standard lugs are identified in the lug table and footnotes in this section of the SpeedFax). (For example, a 35KA @480VAC, 600A, 3-pole, 3VA54 with lugs would be catalog number 3VA5460-5EC3**6**-0AA0). Alternate connectors can be ordered separately for field installation.

Note: Factory installed nut keepers and lugs are only available for 3 Pole breakers.

For NAVAL-rated thermal-magnetic trip circuit breakers (3 pole only), change the 13th digit of the catalog number to the number "1". (For example, a 35KA @480VAC, 600A, 3-pole, NAVAL rated 3VA54 would be catalog number 3VA5460-5EC31-**1**AA0)

All 3VA54 thermal-magnetic trip circuit breakers are UL listed for reverse feed applications.

Notes

Legal Manufacturer

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