

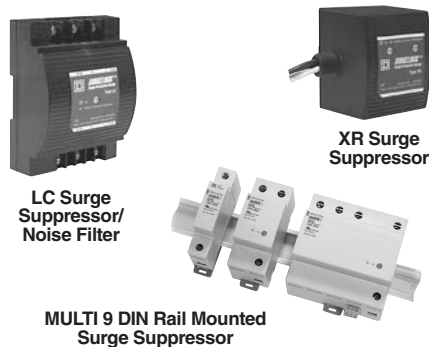
Commercial Applications



Residential & Light Commercial Applications



OEM Applications



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Surge Protective Devices

Transient Voltage Surge Suppressor (TVSS)



Modular and Non-Modular Devices

Suitable for use in service entrance locations: Meet requirements of CSA C22.2 No. 8, ANSI/IEEE C62.41 and C62.45, UL 1449 Second Edition, and UL Category Section 37.3 (25 kA test).

New!

- 10 year product warranty.
- Standard product protection modes L-N, L-G, L-L, and N-G
- Audible alarm with enable/disable switch and dry contacts
- Standard internal 200 kAIR surge rated fusing, 200k short circuit current rating
- EMA/EBA indicator LEDs; normal (green) and fault condition (red) for each phase
- HWA indicator LEDs; normal (ON); and fault condition (OFF) for each phase

Note: Refer to catalogue 1310CT0202 for details.

Service Voltage	Peak Surge Current Rating per Phase (kA)	NEMA 1/3R/12 (Outdoor)	Price	NEMA 4X Stainless Steel	Price
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EMA Series Modular Device (one replaceable module per phase)

Supplied with audible alarm, alarm enable/disable switch and dry contacts

120/240 1Ø3W +G	120	TVS1EMA12A()	TVS1EMA12S()
	160	TVS1EMA16A()	TVS1EMA16S()
	240	TVS1EMA24A()	TVS1EMA24S()
	320	TVS1EMA32A()	—
	480	TVS1EMA48A()	—
120/208 3Ø4W Wye +G ▲	120	TVS2EMA12A()	TVS2EMA12S()
	160	TVS2EMA16A()	TVS2EMA16S()
	240	TVS2EMA24A()	TVS2EMA24S()
	320	TVS2EMA32A()	—
	480	TVS2EMA48A()	—
120/240 3Ø4W High Leg Delta +G	120	TVS3EMA12A()	TVS3EMA12S()
	160	TVS3EMA16A()	TVS3EMA16S()
	240	TVS3EMA24A()	TVS3EMA24S()
	320	TVS3EMA32A()	—
	480	TVS3EMA48A()	—
277/480 3Ø4W Wye +G ▲	120	TVS4EMA12A()	TVS4EMA12S()
	160	TVS4EMA16A()	TVS4EMA16S()
	240	TVS4EMA24A()	TVS4EMA24S()
	320	TVS4EMA32A()	—
	480	TVS4EMA48A()	—
347/600 3Ø4W Wye +G ▲	120	TVS8EMA12A()	TVS8EMA12S()
	160	TVS8EMA16A()	TVS8EMA16S()
	240	TVS8EMA24A()	TVS8EMA24S()
	320	TVS8EMA32A()	—
	480	TVS8EMA48A()	—

EBA Series Non-Modular Device

Supplied with audible alarm, alarm enable/disable switch and dry contacts

120/240 1Ø3W +G	120	TVS1EBA12A()	TVS1EBA12S()
	160	TVS1EBA16A()	TVS1EBA16S()
	240	TVS1EBA24A()	TVS1EBA24S()
120/208 3Ø4W Wye +G ▲	120	TVS2EBA12A()	TVS2EBA12S()
	160	TVS2EBA16A()	TVS2EBA16S()
	240	TVS2EBA24A()	TVS2EBA24S()
120/240 3Ø4W High Leg Delta +G	120	TVS3EBA12A()	TVS3EBA12S()
	160	TVS3EBA16A()	TVS3EBA16S()
	240	TVS3EBA24A()	TVS3EBA24S()
277/480 3Ø4W Wye +G ▲	120	TVS4EBA12A()	TVS4EBA12S()
	160	TVS4EBA16A()	TVS4EBA16S()
	240	TVS4EBA24A()	TVS4EBA24S()
347/600 3Ø4W Wye +G ▲	120	TVS8EBA12A()	TVS8EBA12S()
	160	TVS8EBA16A()	TVS8EBA16S()
	240	TVS8EBA24A()	TVS8EBA24S()

() For options, select and add the appropriate suffix(es) from the listing below:

Description	Price
(I) Integral Disconnect	
(C) Surge Counter	

HWA Series Non-Modular, Nipple Mounted Device

Supplied with audible alarm and dry contacts, but do not contain an alarm enable/disable switch

Service Voltage	Peak Surge Current Rating per Phase (kA)	NEMA 3R (Outdoor), 4X, 12	Price
120/240 1Ø3W +G	50	TVS1HWA50X	
	80	TVS1HWA80X	
	120	TVS1HWA12X	
120/208 3Ø4W Wye +G ▲	50	TVS2HWA50X	
	80	TVS2HWA80X	
	120	TVS2HWA12X	
120/240 3Ø4W High Leg Delta +G	50	TVS3HWA50X	
	80	TVS3HWA80X	
	120	TVS3HWA12X	
277/480 3Ø4W Wye +G ▲	50	TVS4HWA50X	
	80	TVS4HWA80X	
	120	TVS4HWA12X	

▲ Can be used on 4 wire or 3 wire grounded neutral system.

Option Description

Integral Disconnect

The integral disconnect provides a mechanical means to electrically isolate the entire surge suppressor before opening the enclosure door to facilitate servicing of the unit's components.

Surge Counter

The surge counter option displays the combined total number of transient voltage events detected from line to ground, line to line, line to neutral and neutral to ground since the counter was last reset.

Remote Monitor

This option will display the alarm status of the surge protective device up to 1000 feet from the unit.

Flush Mounting

Flush mounting collar can be used on 120–240 kA EMA and EBA series devices. Devices with integral disconnect require 20" flush mounting collar.

Description	Catalogue No.	Price
Remote Monitor	TVS12RMU	
12" Flush Mounting Collar	TVS12FMK	
20" Flush Mounting Collar	TVS20FMK	



I-LINE SURGELOGIC™
TVSS Unit



QMB SURGELOGIC
TVSS Unit



Busway SURGELOGIC
TVSS Unit



MCC SURGELOGIC
TVSS Unit



OEM Kit

Internally Mounted TVSS for I-LINE® and QMB Power Panelboards, Model 6 Motor Control Centers and I-LINE Busway

Suitable for use in service entrance locations.

Meets requirements of CSA C22.2 No. 8, ANSI/IEEE C62.41 and C62.45, UL 1283 and UL 1449 Second Edition.

- Standard product protection modes L-N, L-G, L-L and N-G
- Audible alarm with enable/disable switch and dry contact standard
- Standard internal 200 kAIR surge rated fusing
- Short circuit current rating 200 kA
- EMI/RFI filtering

Note: Refer to catalogue 1310CT0201 for details.

SURGELOGIC TVSS

Voltage	Surge Current Rating	I-LINE Branch Units ★				QMB Branch Units ▼		Busway Units		Model 6 MCC Units △	
		Catalogue No.	Price	Catalogue No.	Price	Catalogue No.	Price	Catalogue No.	Price	Catalogue No.	Price
120/240 V 1Ø3W	120 kA	FC1IMA12 ■		FI1IMA12 ■		QMB1IMA12 ■		—		—	
	160 kA	FC1IMA16 ■		FI1IMA16 ■		QMB1IMA16 ■		—		—	
	240 kA	FC1IMA24 ■		FI1IMA24 ■		QMB1IMA24 ■		—		—	
208Y/120 V 3Ø4W ▲	120 kA	FC2IMA12 ■		FI2IMA12 ■		QMB2IMA12 ■		—		MCC2IMA12 ■	
	160 kA	FC2IMA16 ■		FI2IMA16 ■		QMB2IMA16 ■		PIU2IMA16 ■		MCC2IMA16 ■	
	240 kA	FC2IMA24 ■		FI2IMA24 ■		QMB2IMA24 ■		PIU2IMA24 ■		MCC2IMA24 ■	
240/120 V 3Ø4W High Leg Delta	120 kA	FC3IMA12 ■		FI3IMA12 ■		QMB3IMA12 ■		—		MCC3IMA12 ■	
	160 kA	FC3IMA16 ■		FI3IMA16 ■		QMB3IMA16 ■		PIU3IMA16 ■		MCC3IMA16 ■	
	240 kA	FC3IMA24 ■		FI3IMA24 ■		QMB3IMA24 ■		PIU3IMA24 ■		MCC3IMA24 ■	
480Y/277 V 3Ø4W ▲	120 kA	FC4IMA12 ■		FI4IMA12 ■		QMB4IMA12 ■		—		MCC4IMA12 ■	
	160 kA	FC4IMA16 ■		FI4IMA16 ■		QMB4IMA16 ■		PIU4IMA16 ■		MCC4IMA16 ■	
	240 kA	FC4IMA24 ■		FI4IMA24 ■		QMB4IMA24 ■		PIU4IMA24 ■		MCC4IMA24 ■	
600Y/347 V 3Ø4W ▲	120 kA	—		FI8IMA12 ■		QMB8IMA12 ■		—		MCC8IMA12 ■	
	160 kA	—		FI8IMA16 ■		QMB8IMA16 ■		PIU8IMA16 ■		MCC8IMA16 ■	
	240 kA	—		FI8IMA24 ■		QMB8IMA24 ■		PIU8IMA24 ■		MCC8IMA24 ■	

▲ Can be used on 4 wire or 3 wire grounded neutral system.

■ For surge counter option, add suffix C to the catalogue number.

★ Requires 13.5" mounting height.

▼ Requires 9" mounting height.

△ Requires 6" mounting height.

If required, order remote monitor from page DE7-2.

I-Line Device Types, Interrupting Ratings, and Continuous Current Ratings

Device Type	Interrupting Rating			Continuous Current Rating
	@ 240 Vac	@ 480 Vac	@ 600Y/347 Vac	
FC	100 kA	65 A	—	60 A
FI	200 kA	200 kA	100 kA	60 A

Surgeologic OEM/Assembler Kit

New!

Kits allow manufacturers to add industry leading surge protection capability directly to customized equipment. OEMs benefit from being able to keep wire lengths to a minimum. This optimizes the effect of clamping voltage of the TVSS. Kits are UL1449 recognized assemblies and come with a backplane mounted TVSS, mounting hardware and diagnostic display with 36" cables. Audible alarm, silence switch and remote monitoring contacts standard.

Note: Refer to catalogue 1310CT0301 for details.

Service Voltage	Peak Surge Current Rating per Phase (kA)	Catalogue No.	Price
120/240 Vac 1Ø3W+G	120	TVS11MA12O ◆	
	160	TVS11MA16O ◆	
	240	TVS11MA24O ◆	
120/208 Vac 3Ø4W+G Wye ▲	120	TVS21MA12O ◆	
	160	TVS21MA16O ◆	
	240	TVS21MA24O ◆	
120/240 Vac 3Ø4W+G Wye High Leg Delta	120	TVS31MA12O ◆	
	160	TVS31MA16O ◆	
	240	TVS31MA24O ◆	
277/480 Vac 3Ø4W+G Wye ▲	120	TVS41MA12O ◆	
	160	TVS41MA16O ◆	
	240	TVS41MA24O ◆	
347/600 Vac 3Ø4W+G Wye ▲	120	TVS81MA12O ◆	
	160	TVS81MA16O ◆	
	240	TVS81MA24O ◆	

▲ Can be used on 4 wire or 3 wire grounded neutral system.

◆ For surge counter option, add suffix C to the catalogue number.

Note: The last character of the catalogue number is the letter O, not a zero.

Surge Protective Devices

Transient Voltage Surge Suppressor (TVSS)



SDSB1175C



QO2175SB



SDSA1175



SDSA3650

SURGEBREAKER® PLUS Transient Voltage Surge Suppressor

Suitable for use in service entrance locations; meets requirements of CSA C22.2 No. 8, UL 1449, 2nd Edition, ANSI/IEEE C62.41, and cULus Listed.

- AC line protection
- Four line telephone protection
- Two line coaxial protection
- Suitable for indoor applications only
- Flush or surface mounting
- LED status indicator
- Modular design with optional accessories
- Warranty up to 5 years (refer to catalogue 6671CT9701 for details).

Single Phase Three Wire—120/240 Vac

Description	Catalogue Number	Price
SURGEBREAKER PLUS	SDSB1175C	

SURGEBREAKER Secondary Surge Arrester

Suitable for use in service entrance locations.

- Meets CSA C22.2 No. 8, CSA C233.1, ANSI/IEEE C62.11
- QO2175SB for QO® load centers and combination devices, NQOD panelboards
- Plug-on design requires two pole spaces
- LED indicates operational status

Note: Refer to catalogue 6671CT9701 for details.

Description	Catalogue Number	Price
QO SURGEBREAKER cULus Listed Secondary Surge Arrester 150 Vac line-to-ground maximum.	QO2175SB	

Hard-Wired Secondary Surge Arrester

Suitable for use in service entrance locations.

- cULus Listed
- Meets CSA C233.1, ANSI/IEEE C62.11
- Suitable for indoor and outdoor applications
- LED indicates operational status

Description	Catalogue Number	Price
SECONDARY SURGE ARRESTER For 1Ø3W systems. 150 Vac phase-to-ground maximum.	SDSA1175 ▲	
SECONDARY SURGE ARRESTER For 3Ø systems. 600 Vac phase-to-ground maximum. ■	SDSA3650	

▲ See page 1-10 for QOSAMK mounting kit for installation in QO load centers.

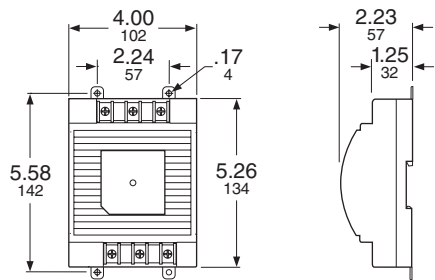
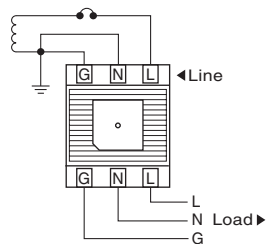
■ Do not use on ungrounded systems. Systems must be solidly grounded.

For additional information, reference Catalogue #6671CT9701.

Transient Voltage Surge Suppressor (TVSS)



Type LC



Series Design Combination Suppressor and Noise Filter

Provides high quality surge suppression and electrical noise filtration for any microprocessor based load, PLCs, motion control, computer or analyzer.

- Up to -75 db noise attenuation
- UL 1449 330 V clamping rated
- 40 kA surge rating
- Short circuit current rating 22,000 A maximum
- Optional Form C dry contact status output
- DIN rail or direct panel mounting
- LED status indication
- UL, cUL and CE recognized

Note: Refer to catalogue 1311CT0101 for details.

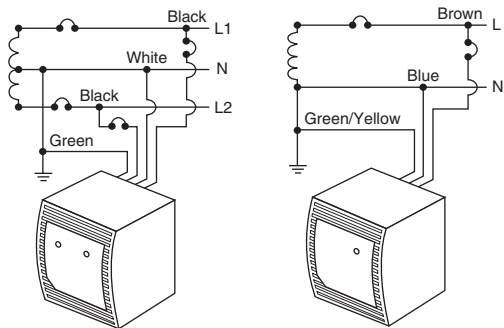
LC Series In-Line Transient Voltage Surge Protector/Noise Filter

Service Voltage	Rated Load Current	Catalogue Number ▲	Price
120 V Single Phase	5 A	TVS120LC5	
	10 A	TVS120LC10	
	15 A	TVS120LC15	
	20 A	TVS120LC20	
230 V Single Phase	5 A	TVS230LC5	
	10 A	TVS230LC10	
	15 A	TVS230LC15	
	20 A	TVS230LC20	

▲ Optional Form C Dry Contact—Add “C” suffix to catalogue number, e.g. TVS120LC5C.



Type XR



Single Phase 3 Wire (+GND)
120/240 Vac

Single Phase 2 Wire (+GND)
230 Vac

Nipple Mounted Transient Voltage Surge Suppressor

Designed to provide protection at service entrance location in panels, control cabinets and instrument enclosures.

- 40 kA surge rating
- Short circuit current rating 22,000 A maximum
- NEMA 4X housing suitable for indoor or outdoor application
- Audible alarm standard
- Convenient back or side nipple mounting locations available
- UL, cUL Listed

Note: Refer to catalogue 1311CT0101 for details.

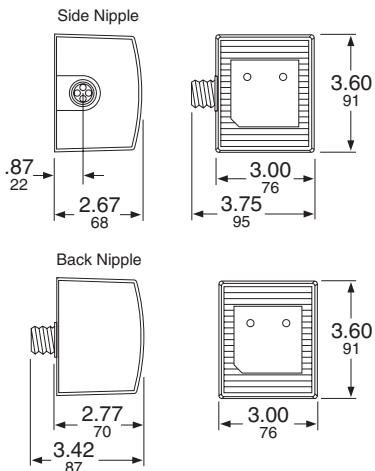
XR Series Transient Voltage Surge Suppressor

Service Voltage	Mounting Method	Catalogue Number	Price
120/240 Vac Single Phase 3 Wire + G	Back Nipple	TVS120XR40B	
	Side Nipple	TVS120XR40S	
120 Vac Single Phase 2 Wire + G	Back Nipple	TVS120XRB	
	Side Nipple	TVS120XRS	
230 Vac Single Phase 2 Wire + G	Back Nipple	TVS230XR40B	
	Side Nipple	TVS230XR40S	

New!

Mounting Bracket for Nipple Mounted Suppressor or Arrester

Catalogue Number	Description	Price
QOSAMK	Mounts to QO® Load Center	



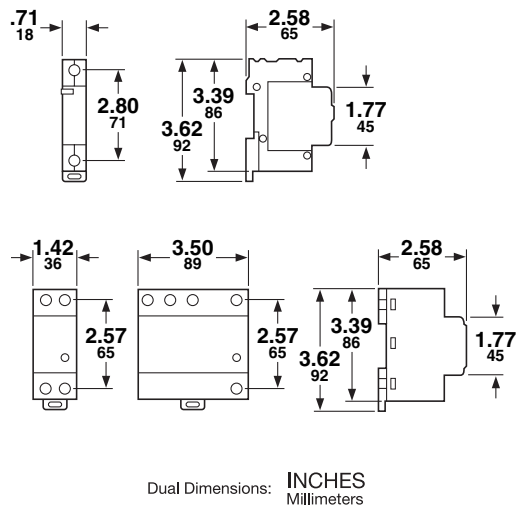
QOSAMK

Surge Protective Devices

DIN Rail Mounted MULTI 9™ SPD



Dimensions



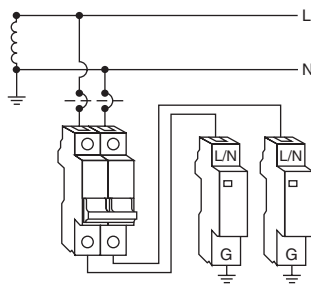
SPD Surge Protective Devices

- Designed for OEMs to protect electronic equipment from damaging surges
- DIN rail mounting and compression terminals simplify installation
- 1, 2 and 4-poles with up to 80 kA surge current rating; 120 to 400 V
- Status indication LED on all models
- Thermally fused for added protection
- Optional Form C dry contacts for remote monitoring
- UL, cUL, and IEC (CE Mark) listings to meet international requirements

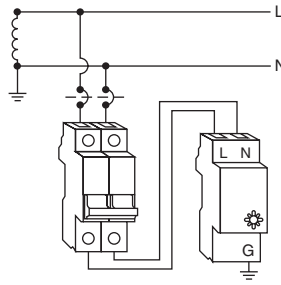
Note: Refer to catalogue 1312CT0101 for details.

Service Voltage	Number of Poles	Peak Surge Current	Dry Contacts	Catalogue No.	Price
120 V, Single Phase	1	20 kA	No	12710	
		45 kA	No Yes	12713 12714	
		65 kA	No Yes	12719 12720	
120/240 V, 1Ø3W	2	20 kA	N/A	12725	
		45 kA	N/A	12727	
208Y/120 V, 3Ø4W	3	20 kA	No Yes	12729 12730	
		45 kA	No Yes	12733 12734	
		80 kA	No Yes	12737 12738	
230 V, Single Phase	1	20 kA	No	12711	
		45 kA	No Yes	12715 12716	
		65 kA	No Yes	12721 12722	
	2	20 kA	No	12726	
45 kA		No	12728		
400 V, Single Phase	1	20 kA	No	12712	
		45 kA	No Yes	12717 12718	
		65 kA	No Yes	12723 12724	
400Y/230 V, 3Ø4W	3	20 kA	No Yes	12731 12732	
		45 kA	No Yes	12735 12736	
		80 kA	No Yes	12739 12740	

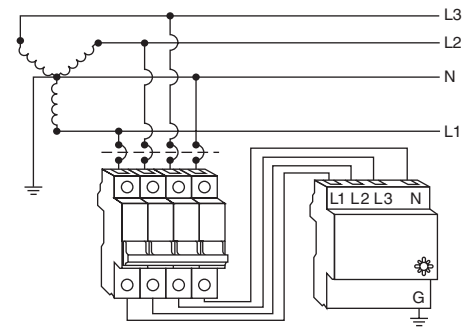
Wiring Diagrams



Single Phase 2-Wire 120 Vac, 230 Vac or 400 Vac using a 1-Pole SPD



Single Phase 2-Wire 120 Vac or 230 Vac using a 2-Pole SPD



Three Phase 4-Wire 208Y/120 Vac or 400Y/230 Vac using a 4-Pole SPD