Section 6

Surge Protective Devices (SPDs)

Commercial Applications

EMA Series SPDs

Retrofit

EBA Series SPDs

Surgelogic™ SurgeLoc

Residential & Light Commercial Applications

SDSA 3-Phase

HEPD80

QO/HOM SPDs

Whole House SPDs

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EMA Series SPDs

Externally Mounted Surge Protective Devices

Surgelogic™ EMA and EBA series SPDs offer a full range of externally mounted surge suppression solutions. These units are designed to provide surge suppression from service entrance panels to point-of-use equipment.
US and Canadian UL® Listed to the UL 1449 standard. Complies with requirements of NEC® Article 285 and CSA 22.2 No. 8-M1986 as appropriate. Complies with UL 96A 12th Edition Master Label requirements for Lightning Protection Systems.

- 10 year product warranty
- 10 modes of protection
- 200 kA SCCR
- EMI/RFI filtering
- Audible alarm with enable/disable switch, dry contacts and surge counter standard
- Indicator LEDs; normal (green) and fault condition (red) for each phase
- UL 1449 Type 1 to be used in both Type 1 and Type 2 applications

- **Standard**. UL 1449 Type 1 SPDs can be located at any point in the electrical system, on the line or load side of the equipment overcurrent device.
- **Remote Monitor**. This option displays the alarm status of the surge protective device up to 1000 feet from the unit.

New!

EMA Series SPDs

EMA SPD products feature a design based on individual phase modules for a flexible, cost effective way to achieve superior surge suppression at every level of the electrical distribution system. Modularity results in lower life cycle costs and fast, easy service or replacement.

EMA SPD Options:

- **Enhanced Filtering Module**. Sine wave tracking circuitry provides enhanced EMI/RFI filtering of -54 dB at 100 kHz and establishes the power surge clamping window relative to the sine wave voltage to increase performance at distribution and branch panel applications.
- **Disconnect Switch**. The integral switch provides a mechanical means to electrically isolate the entire surge suppressor before opening the enclosure door to facilitate servicing of the unit's components.

NOTE: Table 1.1 continues onto Page 1-3.

Table 6.1: EMA SPDs

Service Voltage	Peak Surge Current Rating per Phase (kA)	NEMA 1 Cat. No.	NEMA 4X Stainless Steel Cat. No.
120/240 V, 1-phase, 3-wire + ground *[1]*	120	SSP01EMA12( )	SSP01EMA12S( )
	160	SSP01EMA16( )	SSP01EMA16S( )
	240	SSP01EMA24( )	SSP01EMA24S( )
	320	SSP01EMA32( )	SSP01EMA32S( )
	480	SSP01EMA48( )	SSP01EMA48S( )
208Y/120 V, 3-phase, 4-wire + ground *[2] [3] [1]* Wye	120	SSP02EMA12( )	SSP02EMA12S( )
	160	SSP02EMA16( )	SSP02EMA16S( )
	240	SSP02EMA24( )	SSP02EMA24S( )
	320	SSP02EMA32( )	SSP02EMA32S( )
	480	SSP02EMA48( )	SSP02EMA48S( )
240/120 V, 3-phase, 4-wire + ground *[1]* High-leg Delta	120	SSP03EMA12( )	SSP03EMA12S( )
	160	SSP03EMA16( )	SSP03EMA16S( )
	240	SSP03EMA24( )	SSP03EMA24S( )
	320	SSP03EMA32( )	—
	480	SSP03EMA48( )	—
240 V, 3-phase, 3-wire + ground Delta	100	SSP06EMA10( )	SSP06EMA10S( )
	120	SSP06EMA12( )	SSP06EMA12S( )
	160	SSP06EMA16( )	SSP06EMA16S( )
	200	SSP06EMA20( )	SSP06EMA20S( )
	240	SSP06EMA24( )	SSP06EMA24S( )
	320	SSP06EMA32( )	SSP06EMA32S( )
	480	SSP06EMA48( )	SSP06EMA48S( )
480Y/277 V, 3-phase, 4-wire + ground *[3] [4] [1]* Wye	120	SSP04EMA12( )	SSP04EMA12S( )
	160	SSP04EMA16( )	SSP04EMA16S( )
	240	SSP04EMA24( )	SSP04EMA24S( )
	320	SSP04EMA32( )	SSP04EMA32S( )
	480	SSP04EMA48( )	SSP04EMA48S( )
480 V, 3-phase, 3-wire + ground *[5]* Delta	100	SSP05EMA10( )	SSP05EMA10S( )
	120	SSP05EMA12( )	SSP05EMA12S( )
	160	SSP05EMA16( )	SSP05EMA16S( )
	200	SSP05EMA20( )	SSP05EMA20S( )
	240	SSP05EMA24( )	SSP05EMA24S( )
	320	SSP05EMA32( )	SSP05EMA32S( )
	480	SSP05EMA48( )	SSP05EMA48S( )

[1] Do not use on ungrounded systems. Systems must be solidly grounded.
[2] 208Y/120 series also applies to the following voltage 220Y/127.
[3] Can be used on 4-wire or 3-wire grounded wye systems with or without neutral.
[4] 480Y/277 series applies to the following voltages 380Y/220, 400Y/230, and 415Y/240.
[5] 480 V Delta series also applies to the following voltage 480Y/277V HRG.

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Table 6.1 EMA SPDs (cont'd.)

Service Voltage	Peak Surge Current Rating per Phase (kA)	NEMA 1 Cat. No.	NEMA 4X Stainless Steel Cat. No.
600Y/347 V, 3-phase, 4-wire + ground *[6] [7]* WYE	120	SSP08EMA12( )	SSP08EMA12S( )
	160	SSP08EMA16( )	SSP08EMA16S( )
	240	SSP08EMA24( )	SSP08EMA24S( )
	320	SSP08EMA32( )	SSP08EMA32S( )
	480	SSP08EMA48( )	SSP08EMA48S( )
600 V, 3-phase, 3-wire + ground *[8]* Delta	100	SSP09EMA10( )	SSP09EMA10S( )
	120	SSP09EMA12( )	SSP09EMA12S( )
	160	SSP09EMA16( )	SSP09EMA16S( )
	180	SSP09EMA18( )	SSP09EMA18S( )
	240	SSP09EMA20( )	SSP09EMA20S( )
	320	SSP09EMA24( )	SSP09EMA24S( )
		SSP09EMA32( )	SSP09EMA32S( )

External Modular Options ( )	
(D) *[9]*	Disconnect Switch
(F)	Enhanced Filtering Module (not applicable for Delta, HRG or HLD)
(DF) *[9]*	Disconnect Switch and Enhanced Filtering Module (not applicable for Delta, HRG or HLD)

Accessory Description	Cat. No.
Remote Monitor	TVS12RMU

Wye Replacement Module

Delta/HRG Replacement Module

Replacement Modules

All module assemblies are US and Canadian UL® Recognized to UL 1449 standards.

Complies with requirements of NEC® Article 285 and CSA C22.2 No. 8-M1986 as appropriate.

Table 6.2: EMA Replacement Modules

System Voltage	Peak Surge Current Rating (kA)	Catalog Numbers *[10]*		
		Phase A	Phase B	Phase C
120/240 V, 1-phase, 3-wire + ground	120	MA1IMA12	—	MA1IMA12
	160	MA1IMA16	—	MA1IMA16
	240	MA1IMA24	—	MA1IMA24
208Y/120 V, 3-phase, 4-wire + ground *[11]* Wye	120	MA1IMA12	MA1IMA12	MA1IMA12
	160	MA1IMA16	MA1IMA16	MA1IMA16
	240	MA1IMA24	MA1IMA24	MA1IMA24
240/120 V, 3-phase, 4-wire + ground *[12]* High-Leg Delta	120	MA1IMA12	MA3IMA12	MA1IMA12
	160	MA1IMA16	MA3IMA16	MA1IMA16
	240	MA1IMA24	MA3IMA24	MA1IMA24
240 V, 3-phase, 3-wire + ground Delta	100	MA6IMA10	MA6IMA10	MA6IMA10
	120	MA6IMA12	MA6IMA12	MA6IMA12
	160	MA6IMA16	MA6IMA16	MA6IMA16
	200	MA6IMA20	MA6IMA20	MA6IMA20
	240	MA6IMA24	MA6IMA24	MA6IMA24
480Y/277 V, 3-phase, 4-wire + ground *[13]* Wye	120	MA4IMA12	MA4IMA12	MA4IMA12
	160	MA4IMA16	MA4IMA16	MA4IMA16
	240	MA4IMA24	MA4IMA24	MA4IMA24
480 V, 3-phase, 3-wire + ground *[14]* Delta	100	MA5IMA10	MA5IMA10	MA5IMA10
	120	MA5IMA12	MA5IMA12	MA5IMA12
	160	MA5IMA16	MA5IMA16	MA5IMA16
	200	MA5IMA20	MA5IMA20	MA5IMA20
	240	MA5IMA24	MA5IMA24	MA5IMA24
600Y/347 V, 3-phase, 4-wire + ground Wye	120	MA8IMA12	MA8IMA12	MA8IMA12
	160	MA8IMA16	MA8IMA16	MA8IMA16
	240	MA8IMA24	MA8IMA24	MA8IMA24
600 V, 3-phase, 3-wire + ground *[8]* Delta	100	MA9IMA10	MA9IMA10	MA9IMA10
	120	MA9IMA12	MA9IMA12	MA9IMA12
	160	MA9IMA16	MA9IMA16	MA9IMA16
	180	MA9IMA18	MA9IMA18	MA9IMA18

[6] Do not use on ungrounded systems. Systems must be solidly grounded.
[7] Can be used on 4-wire or 3-wire grounded wye systems with or without neutral.
[8] 600 V Delta series also applies to the following voltage 600Y/347V HRG.
[9] Not available in stainless steel for 320 and 480 kA.
[10] For UL 1449 Type 1 Modules, add suffix (1). Example: MA1IMA121
[11] 208Y/120 series also applies to the following voltage 220Y/127.
[12] High-leg delta (Phase B modules are different than Phase A and Phase C modules).
[13] 480Y/277 series applies to the following voltages 380Y/220, 400Y/230, and 415Y/240.
[14] 480 V Delta series also applies to the following voltage 480Y/277V HRG.

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EBA Series SPD

Remote Monitor

New!

EBA Series SPDs

EBA SPD products consist of a consolidation of phase modules into one solid brick casting and offered at a competitive price for those who want superior surge suppression on a limited budget. EBA series are nipple-mounted SPDs that allow installation flexibility and retain superior performance.

- 10 year product warranty
- 10 modes of protection
- 200 kA SCCR
- -45 dB EMI/RFI Filtering
- Audible alarm with enable/disable switch, dry contacts and surge counter standard
- Indicator LEDs; normal (green) and fault condition (red) for each phase
- NEMA 1 rated enclosure

Table 6.3: EBA SPDs

Service Voltage	Peak Surge Current Rating per Phase (kA)	NEMA 1 Cat. No.
120/240 V,1-phase, 3-wire + ground *[15]*	80	SSP01EBA08
	100	SSP01EBA10
	120	SSP01EBA12
	160	SSP01EBA16
	200	SSP01EBA20
	240	SSP01EBA24
208Y/120 V, 3-phase, 4-wire + ground *[16] [17] [15]* Wye	80	SSP02EBA08
	100	SSP02EBA10
	120	SSP02EBA12
	160	SSP02EBA16
	200	SSP02EBA20
	240	SSP02EBA24

Accessory Description	Cat. No.
Remote Monitor	TVS12RMU

Internally Mounted Surge Protective Devices

Internally mounted surge protective devices are installed integrally to systems for service entrance and branch panel surge suppression. Internally mounted SPDs installed next to the supply bus provides maximum performance inside Square D™ systems. Built-in performance is the best way to ensure cost effective power quality (especially important for critical power facilities).

US and Canadian UL® Recognized as a Type 2 (or 1 with optional suffix in catalog number) SPD Component Assembly to UL 1449 and UL 1283 standards. Complies with requirements of NEC® Article 285 and CSA C22.2 No. 8-M1986 as appropriate. Complies with UL 96A 12th Edition Master Label requirements for Lightning Protection Systems.

Internally Mounted—New Construction / Factory Assembled

Factory installed integral/internal Surgelogic™ SPD products make adding surge suppression to new construction projects easy. Refer to the sections listed below to identify the correct product for your application or contact Surgelogic™ TAG at 1-800-577-7353 for assistance.

Panelboards
Refer to Section 9

NF

NQ

Switchboards and Switchgear
Refer to Section 11

PZ4

QED

Motor Control Centers
Refer to Section 17

MCC

Integrated Power and Control Centers
Refer to Section 10

IPAC2

[15] Do not use on ungrounded systems. Systems must be solidly grounded.
[16] 208Y/120 series also applies to the following voltage 220Y/127.
[17] Can be used on 3-wire or 4-wire grounded wye systems with or without neutral.

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Internally Mounted—Retrofit/Ready to Install

To ensure high-performance surge suppression at critical power locations, a variety of Surgelogic™ products have been designed specifically for retrofitting into commonly used Square D™ systems. The QMB fusible switch, 6 in. MCC bucket, I-Line & Busway plug-on units and the new SurgeLoc for the NQ panelboards come read to install. Retrofitting SPD units into I-Line, QMB, MCC, Busway and NQ Panelborad applications is simple.

- Audible alarm with enable/disable switch, dry contacts and surge counter standard
- 200 kA SCCR
- Indicator LEDs
- EMI/RFI filtering

I-Line™ Surgelogic™ SPD Unit

QMB Surgelogic™ SPD Unit

Busway Surgelogic™ SPD Unit

MCC Surgelogic™ SPD Unit

Table 6.4: Internally Mounted—Retrofit / Ready To Install

Voltage	Surge Current Rating	I-Line Branch Units *[1]*		QMB Branch Units *[2]*	Busway Units	Model 6 MCC Units *[3]*
		Cat. No.	Cat. No.	Cat. No.	Cat. No. *[4]*	Cat. No. *[4]*
120/240 V, 1-phase, 3-wire + ground	120 kA	HL1IMA12C( )	HR1IMA12C	QMB1IMA12	—	—
	160 kA	HL1IMA16C( )	HR1IMA16C	QMB1IMA16	—	—
	240 kA	HL1IMA24C( )	HR1IMA24C	QMB1IMA24	—	—
208Y/120 V, 3-phase, 4-wire + ground *[5]* *[6]* Wye	120 kA	HL2IMA12C( )	HR2IMA12C	QMB2IMA12	—	MCC2IMA12
	160 kA	HL2IMA16C( )	HR2IMA16C	QMB2IMA16	PIU2IMA16	MCC2IMA16
	240 kA	HL2IMA24C( )	HR2IMA24C	QMB2IMA24	PIU2IMA24	MCC2IMA24
240/120 V, 3-phase, 4-wire + ground High-leg Delta	120 kA	HL3IMA12C( )	HR3IMA12C	QMB3IMA12	—	MCC3IMA12
	160 kA	HL3IMA16C( )	HR3IMA16C	QMB3IMA16	PIU3IMA16	MCC3IMA16
	240 kA	HL3IMA24C( )	HR3IMA24C	QMB3IMA24	PIU3IMA24	MCC3IMA24
240 V, 3-phase, 3-wire + ground, Delta	120 kA	HL6IMA12C( )	HR6IMA12C	—	—	—
	160 kA	HL6IMA16C( )	HR6IMA16C	—	—	—
	240 kA	HL6IMA24C( )	HR6IMA24C	—	—	—
480Y/277 V, 3-phase, 4-wire + ground *[5]* *[7]* Wye	120 kA	HL4IMA12C( )	HR4IMA12C	QMB4IMA12	—	MCC4IMA12
	160 kA	HL4IMA16C( )	HR4IMA16C	QMB4IMA16	PIU4IMA16	MCC4IMA16
	240 kA	HL4IMA24C( )	HR4IMA24C	QMB4IMA24	PIU4IMA24	MCC4IMA24
480 V, 3-phase, 3-wire + ground, Delta *[8]*	120 kA	HL5IMA12C( )	HR5IMA12C	—	—	—
	160 kA	HL5IMA16C( )	HR5IMA16C	—	—	—
	240 kA	HL5IMA24C( )	HR5IMA24C	—	—	—
600Y/347 V, 3-phase, 4-wire + ground *[5]* Wye	120 kA	—	HR8IMA12C	QMB8IMA12	—	MCC8IMA12
	160 kA	—	HR8IMA16C	QMB8IMA16	PIU8IMA16	MCC8IMA16
	240 kA	—	HR8IMA24C	QMB8IMA24	PIU8IMA24	MCC8IMA24
600V, 3-phase, 3-wire + ground, *[9]* Delta	120 kA	—	HR9IMA12C	—	—	—
	160 kA	—	HR9IMA16C	—	—	—
	180 kA	—	HR9IMA18C	—	—	—

( ) For a Type 1 SPD, add a "1" suffix to the catalog number.

New! Surgelogic™ SurgeLoc for NQ Panelboards

Surgelogic™ SurgeLoc is the industries first Field Installable Internally Mounted SPD in NQ panelboards - fully installed in aprox. 2 minutes. Surgelogic (TM) SurgeLoc can be ordered as factory assembled in NQ Panelboards or can be ordered from your local Schneider Electric distributor for retrofit opportunities for NQ panelboards.

US and Canadian UL® Recognized to UL 1449 and UL 1283 standards. Complies with requirements of NEC® Article 285 and CSA 22.2 No. 8-M1986 as appropriate. Complies with UL 96A 12th Edition Master Label requirements for Lightning Protection Systems.

Surgelogic™ SurgeLoc

- Retrofit into existing NQ Panelboards
- 10 year product warranty
- 10 modes of protection
- 200 kA SCCR
- Audible alarm with enable/disable switch, dry contacts and surge counter standard
- Indicator LEDs; normal (green) and fault condition (red) for each phase

**** FOR SURGELOC PART NUMBERS, PLEASE REFERENCE Table 6.5 Internally Mounted—Retrofit / Ready to Install, page 6-6.**

[1] Requires 13.5-inch mounting height.
[2] Requires 9-inch mounting height.
[3] Requires 6-inch mounting height.
[4] PE7 Discount Schedule.
[5] Can be used on 4-wire or 3-wire grounded wye systems with or without neutral.
[6] 208Y/120 series also applies to the following voltage 220Y/127.
[7] 480Y/277 series applies to the following voltages 380Y/220, 400Y/230, and 415Y/240.
[8] 480 V Delta series also applies to the following voltage: 480Y/277V HRG.
[9] 600 V Delta series also applies to the following voltage: 600Y/347V HRG.

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Table 6.5: Internally Mounted—Retrofit / Ready to Install

Voltage	Surge Current Rating	NQ Panelboard Units—SurgLoc *[10]*
		Cat. No.
120/240 V, 1-phase, 3-wire + ground	80 kA	SSP01BIA08PBQ1
	100 kA	SSP01BIA10PBQ1
	120 kA	SSP01BIA12PBQ1
	160 kA	SSP01BIA16PBQ1
	200 kA	SSP01BIA20PBQ1
	240 kA	SSP01BIA24PBQ1
208Y/120 V, 3-phase, 4-wire + ground *[11] [12]* Wye	80 kA	SSP02BIA08PBQ1
	100 kA	SSP02BIA10PBQ1
	120 kA	SSP02BIA12PBQ1
	160 kA	SSP02BIA16PBQ1
	200 kA	SSP02BIA20PBQ1
	240 kA	SSP02BIA24PBQ1
240Y/120 V, 3-phase, 4-wire + ground High-leg Delta	80 kA	SSP03BIA08PBQ1
	100 kA	SSP03BIA10PBQ1
	120 kA	SSP03BIA12PBQ1
	160 kA	SSP03BIA16PBQ1
	200 kA	SSP03BIA20PBQ1
	240 kA	SSP03BIA24PBQ1

OEM/Assembler Kits

Surgelogic™ OEM/assembler kits allow manufacturers to add industry-leading surge suppression directly to customized equipment. Manufacturers benefit from shorter wire lengths that optimize the clamping voltage of the SPD. Products come with a backplane-mounted SPD, mounting hardware and diagnostic display with 36-inch cables. Audible alarm, silence switch, remote monitoring contacts, and surge counter are standard. Available as UL 1449 Type 2 (or 1 with optional suffix in catalog number).

US and Canadian UL® Recognized to UL 1449 and UL 1283 standards. Complies with requirements of NEC® Article 285 and CSA 22.2 No. 8-M1986 as appropriate. Complies with UL 96A 12th Edition Master Label requirements for Lightning Protection Systems.

OEM Kit

Table 6.6: OEM/Assembler Kits

Service Voltage	Peak Surge Current Rating per Phase (kA)	Cat. No. *[13]*
120/240 V, 1-phase, 3-wire + ground	120	TVS1IMA12O( )
	160	TVS1IMA16O( )
	240	TVS1IMA24O( )
208Y/120 V, 3-phase, 4-wire + ground *[14] [15]* Wye	120	TVS2IMA12O( )
	160	TVS2IMA16O( )
	240	TVS2IMA24O( )
240/120 V, 3-phase, 4-wire + ground High-leg Delta	120	TVS3IMA12O( )
	160	TVS3IMA16O( )
	240	TVS3IMA24O( )
240 V, 3-phase, 3-wire + ground *[14] [16]* Delta	120	TVS6IMA12O( )
	160	TVS6IMA16O( )
	240	TVS6IMA24O( )
480Y/277 V, 3-phase, 4-wire + ground *[14] [16]* Wye	120	TVS4IMA12O( )
	160	TVS4IMA16O( )
	240	TVS4IMA24O( )
480 V, 3-phase, 3-wire + ground *[17]* Delta	120	TVS5IMA12O( )
	160	TVS5IMA16O( )
	240	TVS5IMA24O( )
600Y/347 V, 3-phase, 4-wire + ground *[14]* Wye	120	TVS8IMA12O( )
	160	TVS8IMA16O( )
	240	TVS8IMA24O( )
600 V, 3-phase, 3-wire + ground *[18]* Delta	120	TVS9IMA12O( )
	160	TVS9IMA16O( )
	180	TVS9IMA18O( )

( ) For a Type 1 SPD, add a “1” suffix to the catalog number.

[10] Requires 12 circuit positions (6 adjacent mounting spaces per side).
[11] Can be used on 4-wire or 3-wire grounded neutral system.
[12] 208/120 series also applies to the following voltage 220Y/127.
[13] Note the last character of the catalog number is the letter “O”, not a zero.
[14] Can be used on 4-wire or 3-wire grounded wye systems with or without neutral.
[15] 208Y/120 series also applies to the following voltage 220Y/127.
[16] 480Y/277 series applies to the following voltages 380Y/220, 400Y/230, and 415Y/240.
[17] 480 V Delta series also applies to the following voltage: 480Y/277V HRG.
[18] 600 V Delta series also applies to the following voltage: 600Y/347V HRG.

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HWA Series

HWA Surge Protective Devices

Surgelogic™ HWA surge protective devices are compact, nipple-mounted parallel-connected surge suppressors that come in a variety of voltage configurations, including Delta. A surge suppression path is provided for each mode, and the product is rated NEMA Type 4X. Internal diagnostics continuously monitor the device status.

US and Canadian UL® Listed as a Type 2 SPD to UL 1449 and UL 1283 standards. Complies with requirements of NEC® Article 285 and CSA C22.2 No. 8-M1986 as appropriate. Complies with UL 96A 12th Edition Master Label requirements for Lightning Protection Systems.

- LEDs indicate operational status
- Short circuit current rating 200 kA
- Suitable for indoor and outdoor applications (NEMA Type 4X rated)
- Convenient side-nipple mounting
- Compact design provides easy mounting inside or outside the equipment cabinets
- -54 dB EMI/RFI filtering
- Sine wave tracking
- Audible alarm indicates loss of suppression (does not contain alarm enable/disable switch)
- Dry contacts
- Optional flush-mount kit TVSHWAFMK

Table 6.7: HWA Surge Protective Devices

Service Voltage	Peak Surge Current Rating per Phase (kA)	NEMA 4X Cat. No.
120/240 V, 1-phase, 3-wire + ground *[1]*	50	TVS1HWA50X
	80	TVS1HWA80X
	100	TVS1HWA10X
208Y/120 V, 3-phase, 4-wire + ground *[2] [3] [1]*	50	TVS2HWA50X
	80	TVS2HWA80X
	100	TVS2HWA10X
240/120 V, 3-phase, 4-wire + ground *[1]* High-leg Delta	50	TVS3HWA50X
	80	TVS3HWA80X
	100	TVS3HWA10X
240 V, 3-phase, 3-wire + ground Delta	50	TVS6HWA50X
	80	TVS6HWA80X
	100	TVS6HWA10X
480Y/277 V, 3-phase, 4-wire + ground *[2] [4] [1]*	50	TVS4HWA50X
	80	TVS4HWA80X
	100	TVS4HWA10X
480 V, 3-phase, 3-wire + ground Delta	50	TVS5HWA50X
	80	TVS5HWA80X
	100	TVS5HWA10X
600Y/347 V, 3-phase, 4-wire + ground *[1]*	50	TVS8HWA50X
	80	TVS8HWA80X
	100	TVS8HWA10X
600 V, 3-phase, 3-wire + ground Delta	50	TVS9HWA50X
	80	TVS9HWA80X
	100	TVS9HWA10X

XR Series

XR Surge Protective Devices

The XR SPD provides high-quality surge suppression in a compact and versatile package. This product is ideal for panel builders as well as manufacturers and integrators of instrumentation cabinets for industrial, commercial, and residential applications for single-phase power systems.

US and Canadian UL® Listed as Type 1 SPD to the UL 1449 standard. Complies with requirements of NEC® Article 285, CSA 233.1-87, and CSA C22.2 No. 8-M1986 as appropriate.

- LEDs indicate operational status
- Short circuit current rating 25 kA
- Convenient side nipple mounting
- Suitable for indoor and outdoor applications (NEMA Type 4X rated)
- Optional flush mount kit TVSXRFMK

Table 6.8: XR Nipple-Mounted Surge Protective Devices

System Voltage	Peak Surge Current Rating per Phase (kA)	Cat. No.
120/240 V, 1-phase, 3-wire + ground	50	TVS120XR50S
	80	TVS120XR80S

[1] Do not use on ungrounded systems. Systems must be solidly grounded.
[2] Can be used on 4-wire or 3-wire grounded wye systems with or without neutral.
[3] 208Y/120 series also applies to the following voltage 220Y/127.
[4] 480Y/277 series applies to the following voltages 380Y/220, 400Y/230, and 415Y/240.

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QOSAMK

Mounting Brackets and Flush Mount Kits

The nipple products shown in this catalog provide a convenient means of incorporating surge suppression within a new or existing cabinet. The mounting bracket and flush-mount kits are designed for easy mounting of nipple products.

Table 6.9: Mounting Bracket for Enclosures

Description	Cat. No.
Mounting bracket for SDSA1175 or SDSA1175T	QOSAMK
Flush-mount kif for HWA SPDs	TVSHWAFMK

SDSA1175

SDSA 3-Phase

New! SDSA1175 and SDSA 3-Phase Surge Protective Devices

SDSA1175 are designed and listed for indoor or outdoor installation and surge suppression for single-phase three-wire 120/240 Vac or two-wire 120 Vac 60 Hz electrical services. This product is ideal for panel builders as well as manufacturers and integrators of instrumentation cabinets for industrial, commercial, and residential applications for single-phase power systems. Two SDSA1175 surge protection devices can be installed to provide suppression for 208Y/120 Vac three-phase four-wire services.

SDSA 3-Phase SPDs are designed and listed for indoor or outdoor installation and surge suppression for three-phase electrical services up to 600 Vac. The SDSA 3-Phase series is used extensively in service entrance panels to provide an efficient and economical means of surge suppression and also ideal for point of use applications for that added level of protection.

US and Canadian UL® Listed as Type 1 SPD to the UL 1449 standard. Complies with requirements of NEC® Article 285, CSA 233.1-87, and CSA C22.2 No. 8-M1986 as appropriate.

- LED indicates operational status
- Short circuit current rating 25 kA (SDSA1175), 200 kA (SDSA 3-Phase)
- Suitable for indoor and outdoor applications (NEMA Type 4X rated)
- Convenient back-nipple mounting

Table 6.10: SDSA1175 and SDSA 3-Phase Surge Protective Devices

System Voltage	Peak Surge Current Rating per Phase (kA)	Cat. No.	
SDSA1175			
120/240 V, 1-phase, 3-wire	36	SDSA1175	
120 V, 1-phase, 2-wire	36	SDSA1175T	
SDSA 3-Phase			
208Y/120 V, 3-phase, 4-wire *[5] [6]*	40	New!	SDSA2040
240 V Delta, 3-phase, 3-wire *[7]*	40	New!	SDSA2040D
480Y/277 V, 3-phase, 4-wire *[8] [5]*	40	New!	SDSA4040
480 V Delta, 3-phase, 3-wire	40	New!	SDSA4040D
600Y/347 V, 3-phase, 4-wire *[5]*	40	SDSA3650	
600 V Delta, 3-phase, 3-wire	40	SDSA3650D	

[5] Do not use on ungrounded systems. Systems must be solidly grounded.
[6] Applicable voltages: 220Y/127V, 208Y/120V.
[7] Applicable voltages: 240V Delta, 240/120V High-Leg Delta.
[8] Applicable voltages: 480Y/277V, 415Y/240V, 400Y/230V, 380Y/220V.

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SDSB80111

Surgebreaker Plus Whole House Surge Protective Device

The Surgebreaker Plus Whole House device is designed to deliver surge suppression that addresses the entire home. AC modules are connected to the circuit breaker load center and provide suppression for all equipment connected to the power system. This Whole House system incorporates AC modules as well as modules for other metallic lines coming into the home including telephone/DSL and coaxial video/data.

US and Canadian UL® Listed as Type 2 SPD to the UL 1449 standard. Complies with requirements of NEC® Article 285, CSA 233.1-87, and CSA C22.2 No. 8-M1986 as appropriate. Telephone and coaxial video modules US and Canadian UL® Recognized to UL 497A 4th Edition and UL 497B 4th Edition.

- 120/240 Vac, 80 kA/phase AC surge suppression
- LED status indicators for AC surge suppression
- Telephone surge suppression module supports one RJ45 cable up to four lines.
- Coaxial surge suppression module supports one line of video/data
- Network suppression module supports one RJ45 modem/fax/DSL

Table 6.11: Whole House Surge Protective Devices

Description	Included Modules	Cat. No.
Whole House NEMA 1	AC, Telephone, Coax, Network	SDSB80111

Table 6.12: SDSB80111 Replacement Modules

Description	Cat. No.
Telephone Suppression Module	PTEL2R
Video Suppression Module	PVR
Network Suppression Module	PNETR6
Home Electronics Protective Device	HEPD80

** To purchase Telephone, Video or Network Replacement Modules - go online to: http://www.apc.com/products/family/index.cfm?id=219

Surgebreaker Plus Whole House Accessories

Add additional surge suppression or replace existing modules in Whole House products.

Coaxial, telephone and network modules: US and Canadian UL® Recognized to UL 497A 4th Edition and UL 497B 4th Edition.

HEPD80

HEPD80MKF

HEPD80 Whole House Surge Protective Device

HEPD80 Whole House devices are designed to deliver superior AC surge protection for the entire AC power system in a home. HEPDs are compact in size and are designed to protect AC wires in the home from surges that could affect home electronics and appliances not connected to surge strips.

cULus Listed to the latest UL 1449 standard, UL Type 1 SPD, CSA C22.2 No. *-M1986, C233.1-87.

- 120/240 Vac, 80 kA/phase AC surge suppression
- NEMA 4X rate for indoor or outdoor applications
- LED status indicators
- Compatible with all brands of load centers
- Flush Mount Kit - HEPD80MKF sold separately

Table 6.13: HEPD80 Whole House Surge Protective Devices

Description	Cat. No.
Home Electronics Protective Device	HEPD80
Flush Mount Kit for HEPD80	HEPD80MKF

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QO217SB

HOM217SB

QO™, NQ, and Homeline™ Load Center Surge Protective Devices

Square D™ load center surge protective devices are easy to install plug-in units that install as quickly as a standard circuit breaker. The surge suppressors use two pole spaces in a QO™ or Homeline™ load center, or NQ panelboard.

US and Canadian UL® Listed as Type 2 SPD to the UL 1449 standard. Complies with requirements of NEC® Article 285, CSA 233.1-87, and CSA C22.2 No. 8-M1986 as appropriate.

- QO2175SB for QO™ load centers, combination devices, and NQ panelboards
- HOM2175SB for Homeline™ load centers and combination devices
- Plug-on design requires two pole spaces
- LED indicates operational status
- 22.5 kA per phase

Table 6.14: QO™, NQ, and Homeline™ Load Center Surge Protective Devices

Description	Cat. No.
QO™ Surgebreaker for QO and NQ	QO2175SB
Homeline™ Surgebreaker	HOM2175SB

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