

Surge protective devices

Eaton SPD Max Series



Powering Business Worldwide

Eaton SPD Max surge protective devices



Eaton SPD Max

Eaton SPD Max Series side-mount surge protective devices (SPDs) offer maximum safety, flexibility and protection from the dangers of power transients.

Features and benefits

Maximum safety

Shield personnel from arc flash and shock hazards with the help of innovative safety features.

Maximum flexibility

Get the right protection for your environment and applications by selecting from a wide range of feature packages, component options, voltages, configurations and surge current capacity ratings.

Maximum protection

Protect sensitive equipment from abnormal electrical conditions with the aid of industry-leading nominal discharge current and short-circuit current ratings.

Maximum peace of mind

Enjoy long-term value and reliability thanks to a standard 15-year warranty and additional five years when registered.

Standards and certifications:

- UL® 1449 5th Edition
- UL 1283 7th Edition
- Built in an ISO® 9001 facility
- Can be used for UL 96A compliance
- Can be used for NFPA® 780 compliance
- Can be used for RoHS compliance

Designed and tested in accordance with:

- IEEE® C62.41.1
- IEEE C62.41.2
- IEEE C62.43-2005
- IEEE C62.45-2002
- IEEE C62.48-2005
- IEEE C62.62-2010



Maximum safety

Shield personnel from danger

- Innovative barriers that block access to harmful voltages
- Lockout provisions (on models with a circuit breaker option)
- Separate wireways for incoming power cables and surge module wiring
- Thermally protected metal oxide varistors (MOVs) that safely take themselves offline under fault conditions
- Fewer components that require periodic maintenance, such as replaceable fuses and batteries, so there's less need for servicing and fewer opportunities for maintenance-related injuries

Maximum flexibility

Enjoy the utmost in flexibility

- Support for all common voltages, configurations and wire sizes from #10 to 1/0
- Surge current capacity ratings from 100 kA through 800 kA
- Optional redundant surge modules
- Choice of terminal blocks or circuit breaker disconnects
- Top, bottom and side wire entry
- Compact design with smallest surface area per surge capacity rating in the industry
- Rotating front panel display that accommodates both left and right mounting
- Painted steel NEMA® 4 and stainless steel NEMA 4X enclosures, for mounting in indoor, outdoor and harsh environments
- Choose the right feature package for your needs
 - Basic: Provides cost-effective, safe and reliable surge protection
 - Standard with surge counter: Includes all basic package features plus a six-digit surge counter with reset button that functions without a backup battery you must periodically replace
 - Power Xpert® SPD: Includes all features of the standard with surge counter package, advanced monitoring and communication capabilities; remote monitoring is available via web UI, Modbus® TCP/IP or BACnet/IP protocols

Maximum protection

Ensure robust reliability

- 20 kA nominal discharge current (maximum rating assigned by UL)
- 200 kA short-circuit current rating (maximum UL rating)
- Ability to handle multiple large-magnitude surges over a short period of time and remain operational within tested parameters
- Small enough to be mounted in close proximity to electrical equipment, for better protection

Maximum peace of mind

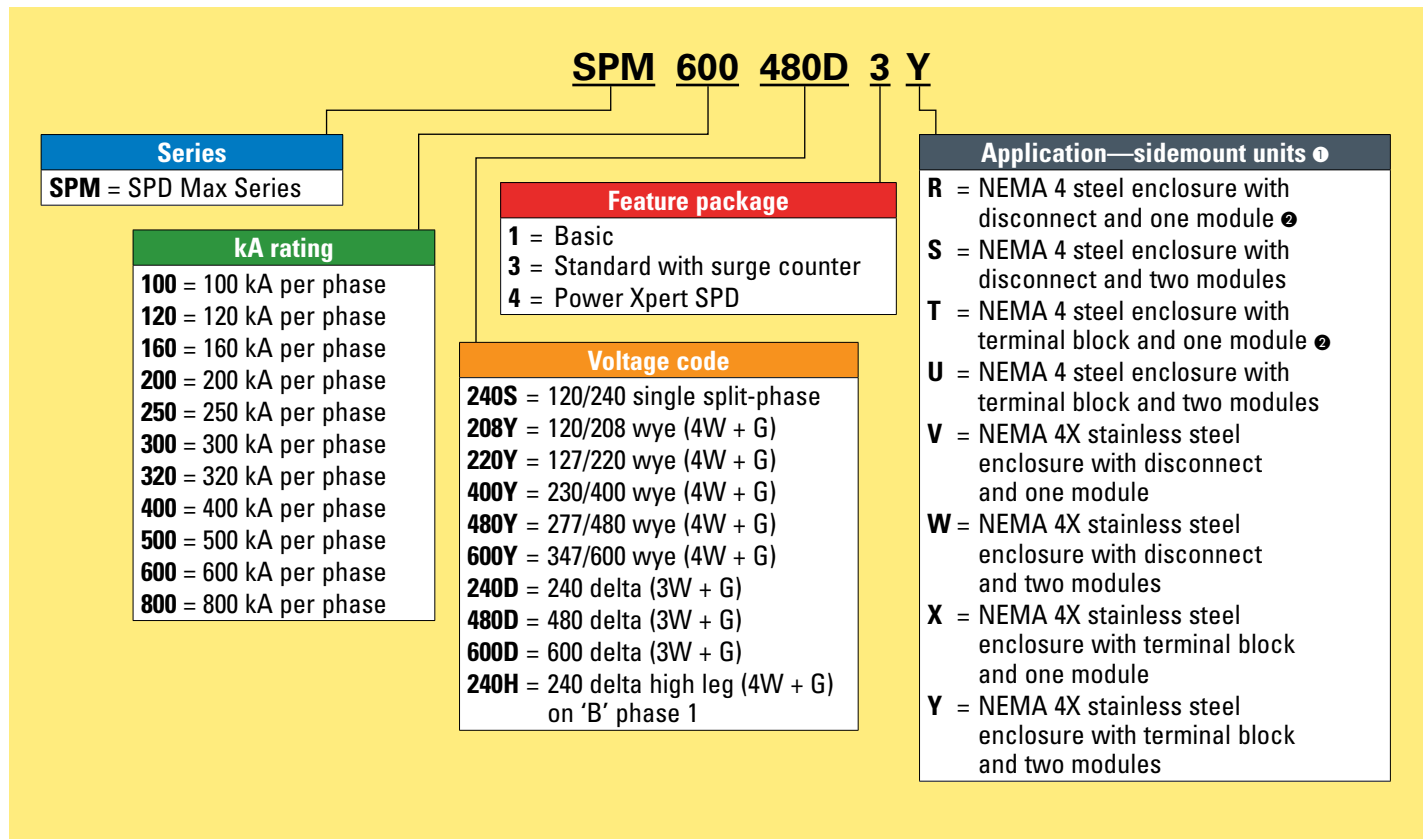
Simplify maintenance

- Dual- or tri-color LED lights that show protection status for the unit as a whole, or any of its phases on three-phase devices
- An additional dual- or tri-colored LED indicating the power and protection status of the neutral-ground connection in models that require a neutral wire
- LED lights indicating the status of the internal protection models, hence simplifying maintenance

Why you need surge protection?

Power surges can wreak havoc with microprocessors and other sensitive electronic equipment, causing hardware malfunctions, downtime and premature equipment failure. Using SPDs safeguards mission-critical hardware from such hazards, keeping mission-critical workloads continuously available.

SPD Max Series configuration guide



❶ See the table below for module and enclosure configurations.

❷ Available in Power Xpert SPD NEMA 1 enclosure.

Example shown above: SPD Max Series, 600 kA per phase, 480D voltage, standard feature package with surge counter, housed in NEMA 4X stainless steel enclosure and 2 modules.

Valid module and enclosure configurations per kA

kA per phase	Number of surge modules	Available enclosure options
100	Single module only	R, T, V, X enclosures
120	Single module only	R, T, V, X enclosures
160	Single module only	R, T, V, X enclosures
200	Single or dual module	All enclosures
250	Single module only	R, T, V, X enclosures
300	Single module only	R, T, V, X enclosures
320	Dual module only	S, U, W, Y enclosures
400	Single or dual module	All enclosures
500	Dual module only	S, U, W, Y enclosures
600	Dual module only	S, U, W, Y enclosures
800	Dual module only	S, U, W, Y enclosures

Features and benefits comparison

A side-by-side comparison of the SPD Max Series available feature packages.

Feature package comparison	Basic	Standard with surge counter	Power Xpert SPD
Surge protection using thermally protected MOV technology	■	■	■
Dual-colored protection status indicators for each phase	■	■	
Dual-colored protection status indicators for the N-G protection mode ❶	■	■	
Tri-colored protection status indicators for each phase and the neutral-ground protection mode ❶			■
Audible alarm with silence button		■	■
Form C relay contact		■	■
EMI/RFI filtering, providing up to 50 dB of noise attenuation from 10 kHz to 100 MHz		■	■
Surge counter with reset button		■	■
Percentage protection remaining status			■
RJ45 Ethernet port for LAN connection, Modbus TCP/IP or BACnet/IP			■
UI webpage and programmable settings			■
Time-and-date stamped surge log and surge categorization			■

❶ Neutral-ground protection mode available in applicable voltage configurations only.

Note: For more details on Power Xpert SPD, refer to product aid PA158017EN.



SPD Max with safety barriers and optional circuit breaker locked out



Safety barriers available on all models



Easy access for customer wiring

Technical specifications

Description	Ratings
Surge current capacity per phase	100, 120, 160, 200, 250, 300, 320, 400, 500, 600 and 800 kA ratings available
Nominal discharge current (I_n)	20 kA
Short-circuit current rating (SCCR)	200 kA
SPD type	Basic feature package—Type 1 (can also be used in Type 2 applications) Standard with surge counter and Power Xpert SPD feature packages = Type 2
Enclosure types	NEMA 4, NEMA 4X enclosure, Power Xpert SPD available in NEMA 1 enclosures
System voltages available (Vac)	
Single-phase	230
Single split-phase (three-wire plus ground)	120/240
Three-phase wye (four-wire plus ground)	120/208, 127/220, 230/400, 277/480, 347/600
Three-phase delta (three-wire plus ground)	240, 480, 600
Three-phase high-leg delta (four-wire plus ground)	120/240
Input power frequency	50/60 Hz, 60 Hz Power Xpert SPD
Protection modes	
Single-phase	L-N, L-G, N-G
Single split-phase	L-N, L-G, L-L, N-G
Three-phase wye	L-N, L-G, L-L, N-G
Three-phase delta	L-G, L-L
Three-phase high-leg delta	L-N, L-G, L-L, N-G
Operating temperature	–40 °C through +50 °C (–40 °F through +122 °F) Power Xpert LCD module –20 °C through +70 °C (–4 °F through +158 °F)
Operating humidity	5% through 95%, noncondensing
Agency certifications and approvals	UL 1449 5th Edition—Std for Surge Protective Devices UL 1283 7th Edition—Std for EMI Filters (Type 2 SPDs only) CSA® Electrical Notice No. 516 Edition 1—Surge/Transient Voltage Suppressor CSA 22.2 No. 8-13 Electromagnetic Interference (EMI) Filters—Edition 5 Issue Date 2013/11/01
Warranty years	15 years standard, 20 years with product registration

For more information, please visit:

Eaton.com/SPD
Eaton.com/PXSPD