

# Eaton's SPD Series for mounting external to electrical distribution equipment



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*Powering Business Worldwide*

## Introduction

### Eaton's SPD Series surge protective devices

Eaton's SPD Series surge protective devices are the latest and most advanced UL® 1449 4th Edition certified surge protectors. Units are available integrated within Eaton electrical assemblies, including panelboards, switchboards, motor control centers, switchgear, and bus plugs. Sidemount versions of the SPD Series are also available for installation external to an electrical assembly. Application of SPD Series units throughout a facility will ensure that equipment is protected with the safest and most reliable surge protective devices available.

## Applications

SPD Series units are available in all common voltages and configurations and also in a variety of surge current capacity ratings from 50 kA through 400 kA. Four feature package options are also available to choose from. The breadth of the SPD Series' features, options, and configurations ensures that the correct unit is available for all electrical applications, including service entrances, distribution switchboards, panelboards, and point-of-use applications.

## Features

- Uses thermally protected metal oxide varistor (MOV) technology
- 20 kA nominal discharge current ( $I_n$ ) rating (maximum rating assigned by UL)
- 50 kA through 400 kA surge current capacity ratings
- Four feature package options
- 200 kA short-circuit current rating (SCCR)
- 10-year warranty

## Standards and certifications



- UL 1449 4th Edition listed device
- UL 1283 7th Edition listed device
- Canadian Standards Association® (CSA®)
- Can be used for UL 96A compliance
- Can be used for NFPA® 780 compliance ①
- Can be used for RoHS compliance
- PXSPD tested to UL 2900-1 cybersecurity standard
- Complete agency certifications can be found in **Table 42**

① Models must meet maximum allowable VPRs in NFPA Table 4.20.4.



SPD Series sidemount unit mounted externally to an Eaton panelboard

### Feature package options

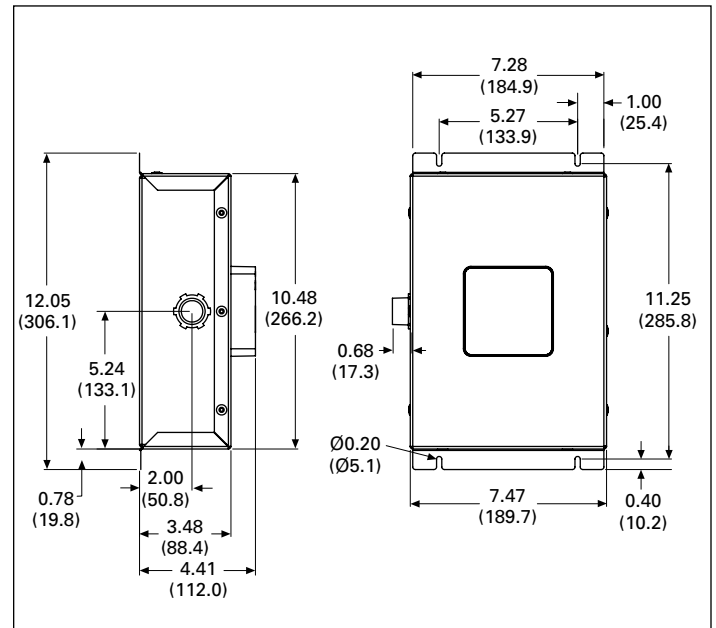
The SPD Series provides users with the option of selecting between four feature packages. These feature packages are the basic, standard, standard with surge counter, and Power Xpert® SPD. The proper feature package can be selected based on the requirements of the application or specification.

**Table 1. Feature package comparison**

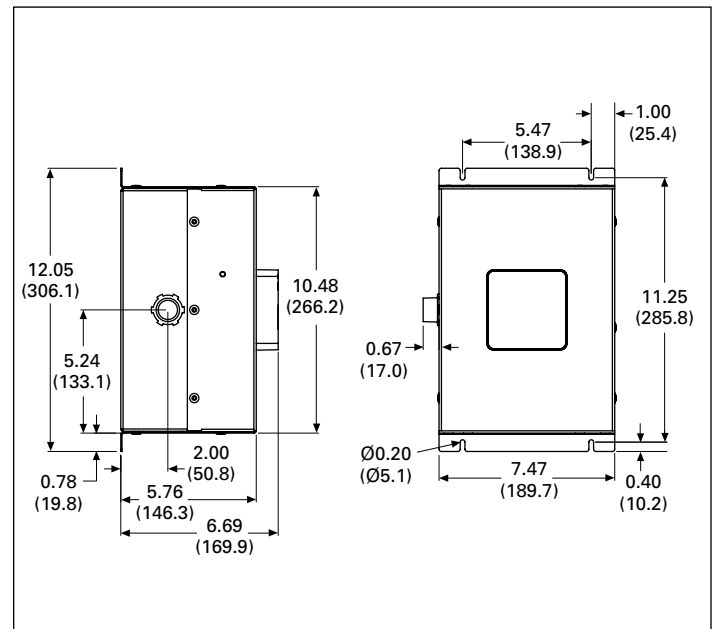
Feature	Basic	Standard	Standard with surge counter	Power Xpert SPD
Surge protection using thermally protected MOV technology	■	■	■	■
Dual-colored protection status indicators for each phase and the neutral-ground protection mode ①	■	■	■	
Audible alarm with silence button		■	■	■
Form C relay contact		■	■	■
EMI/RFI filtering, providing up to 50 dB of noise attenuation from 10 kHz to 100 MHz		■	■	■
Surge counter with reset			■	■
Tri-colored protection status indicators for each phase and the neutral-ground protection mode ①				■
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				■

① Neutral-ground protection mode available in applicable voltage configurations only.

### Enclosure options, dimensions, and weights



**Figure 1. 50–200 kA units in a NEMA® 1 rated enclosure, weight = 6.8 lb**



**Figure 2. 250–400 kA units in a NEMA 1 rated enclosure, weight = 13.5 lb**

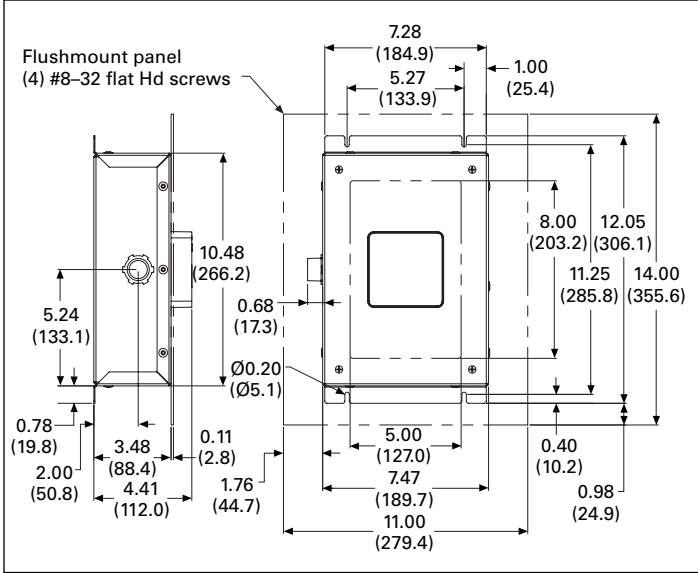


Figure 3. 50–200 kA units in a NEMA 1 rated flushmount enclosure, weight = 6.8 lb

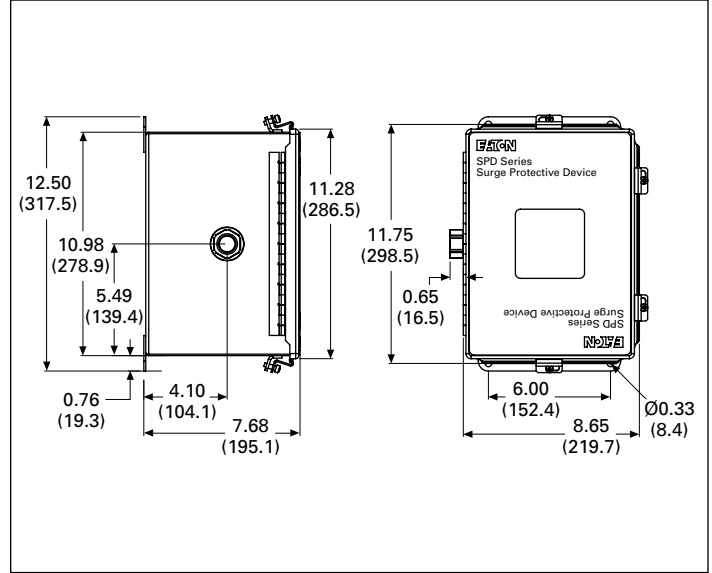


Figure 6. 250–400 kA units in a NEMA 4 or 4X rated enclosure, weight = 14.6 lb

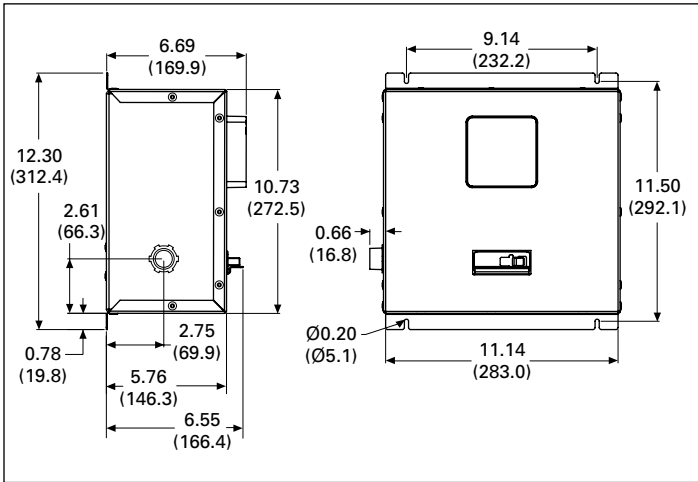


Figure 4. 50–400 kA units in a NEMA 1 rated enclosure with internal disconnect, weight = 14.7 lb

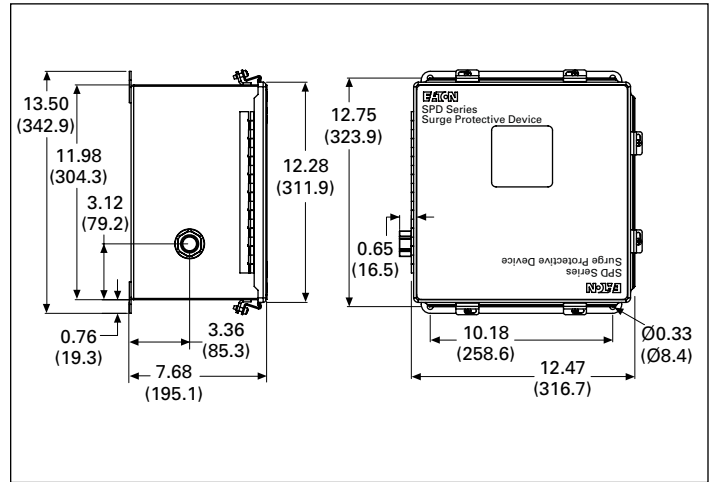


Figure 7. 50–400 kA units in a NEMA 4 or 4X rated enclosure with internal disconnect, weight = 27.5 lb

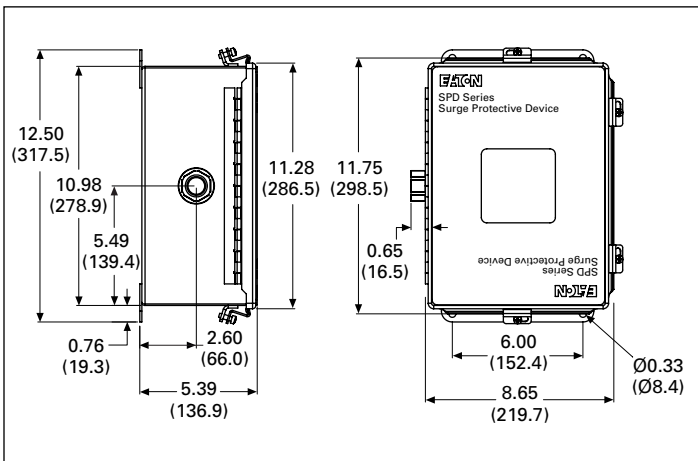


Figure 5. 50–200 kA units in a NEMA 4 or 4X rated enclosure, weight = 14.6 lb

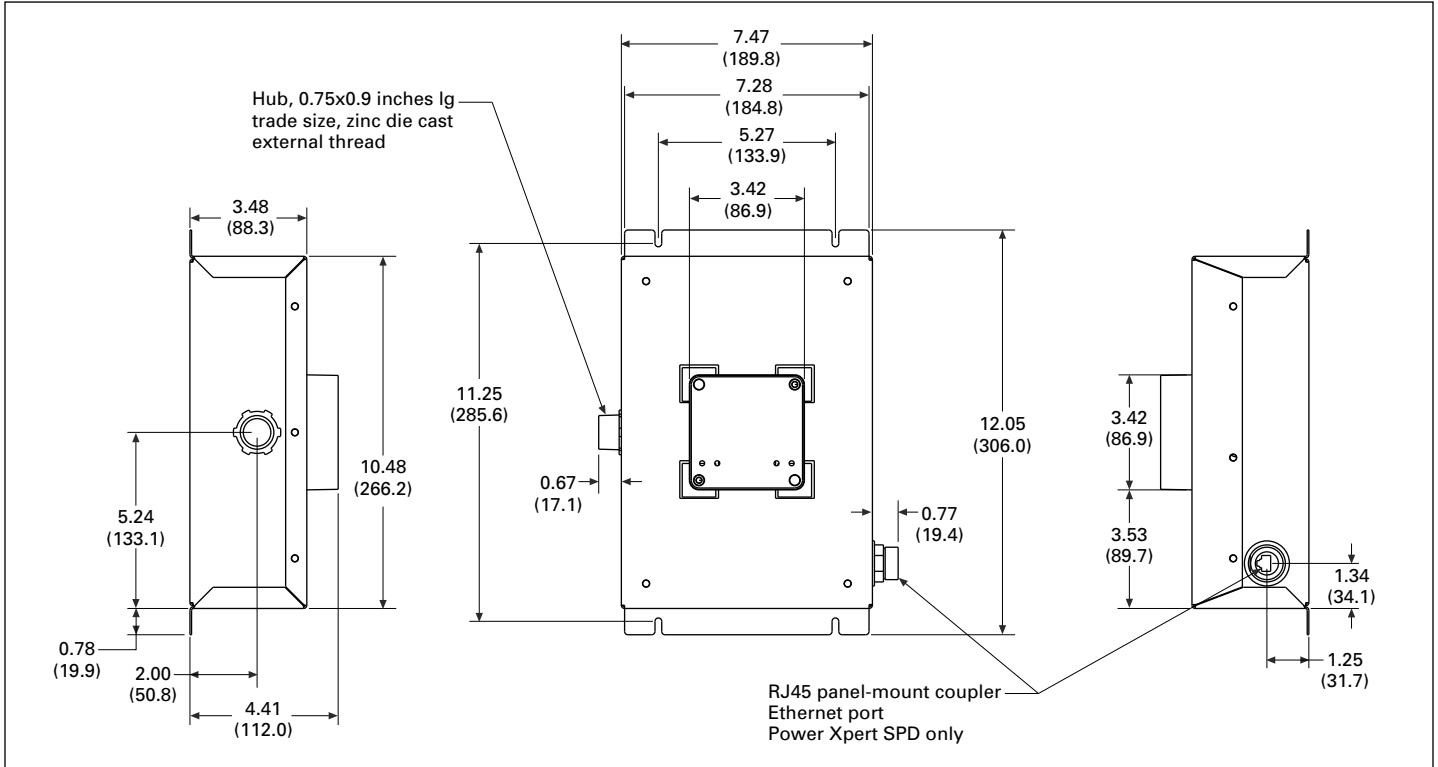


Figure 8. PXSPD 50–200 kA units in a NEMA 1 rated enclosure, weight = 6.8 lb

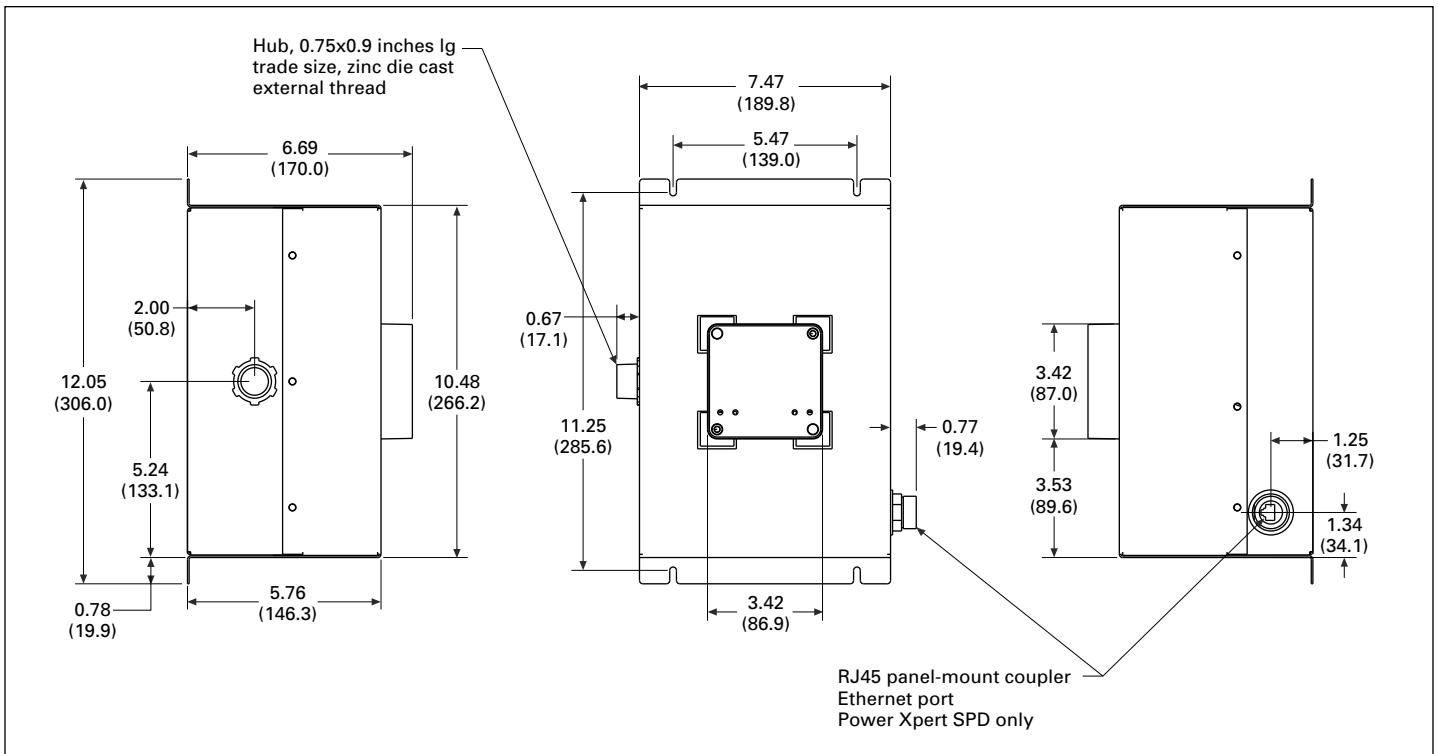


Figure 9. PXSPD 250–400 kA units in a NEMA 1 rated enclosure, weight = 13.5 lb

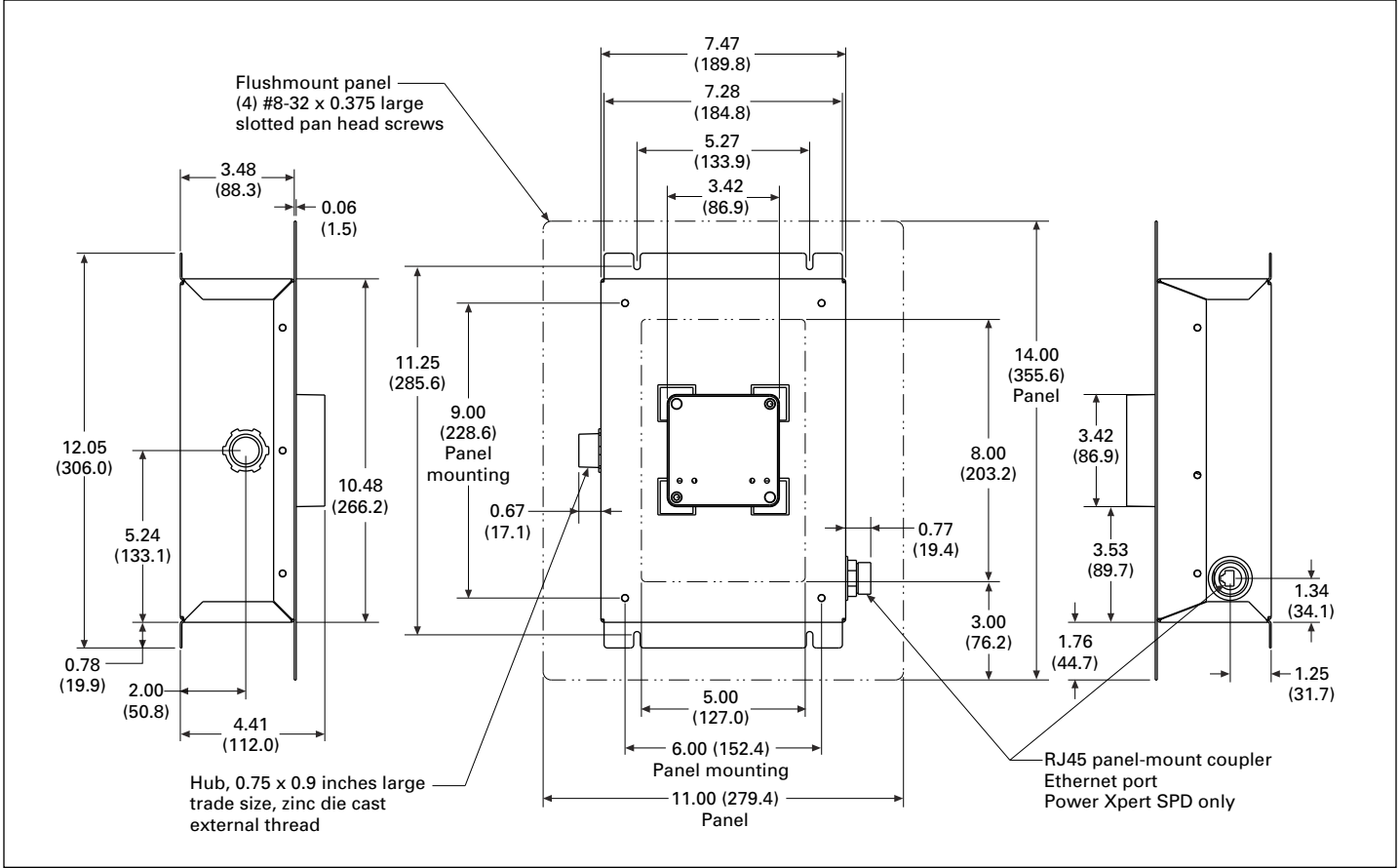


Figure 10. PXSPD 50-200 kA units in a NEMA 1 rated flushmount enclosure, weight = 6.8 lb

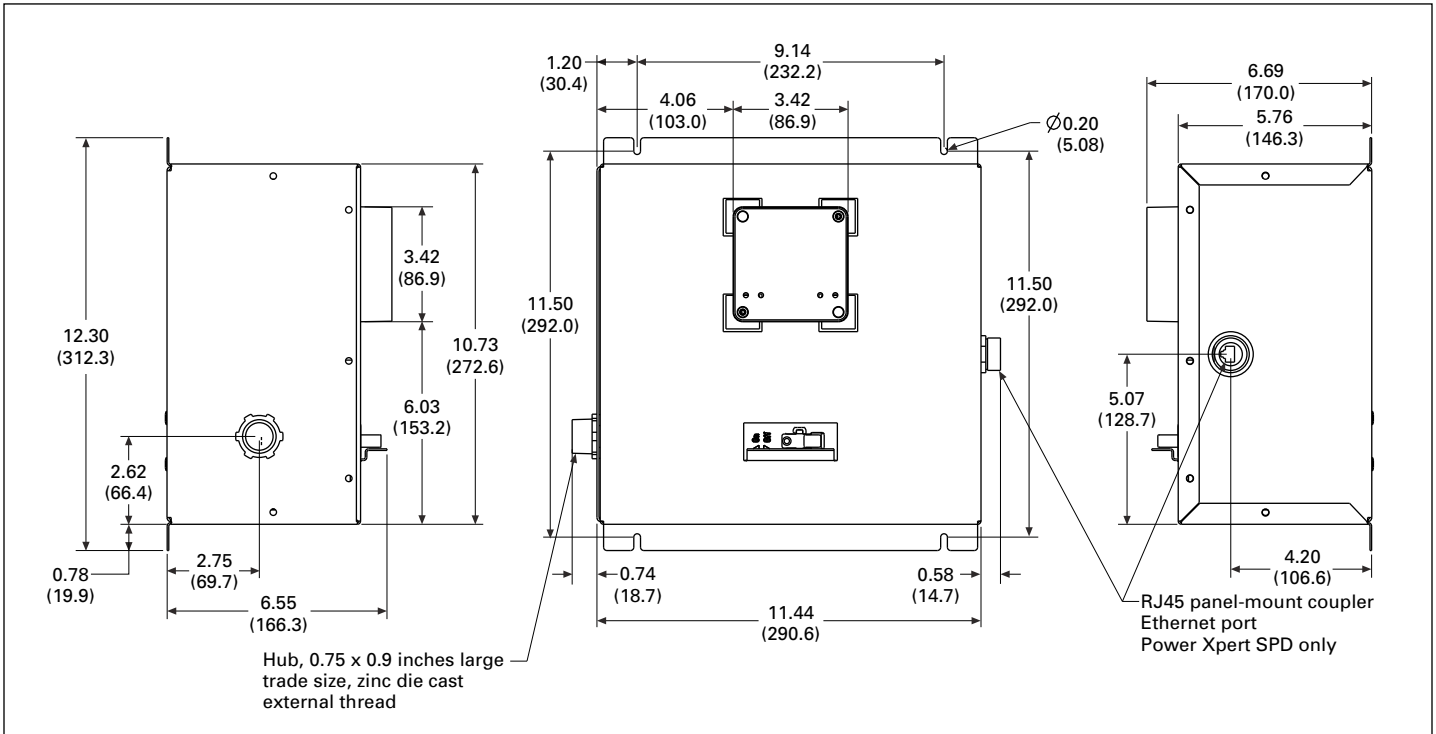


Figure 11. PXSPD 50-400 kA units in a NEMA 1 rated enclosure with internal disconnect, weight = 14.7 lb

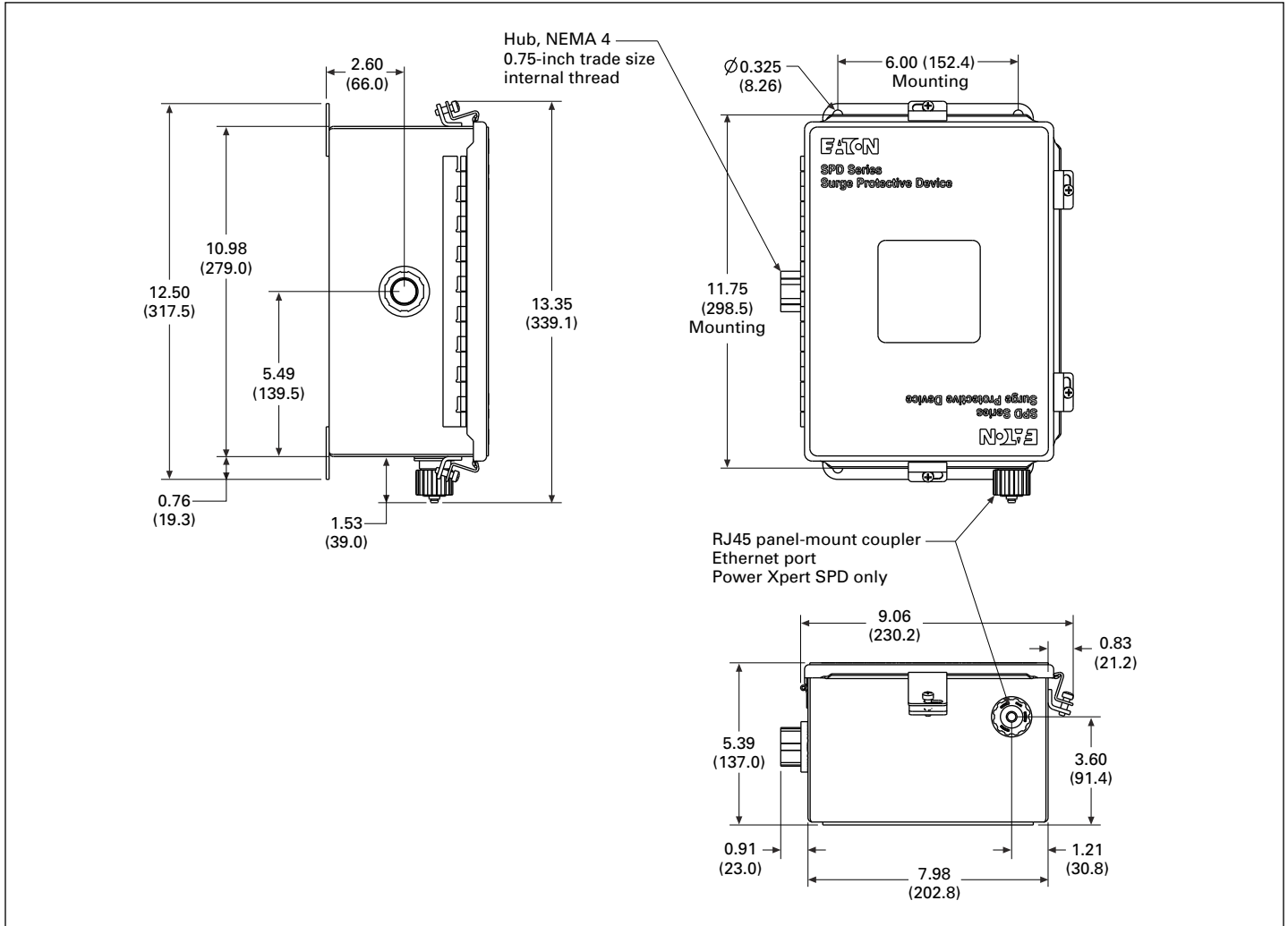


Figure 12. PXSPD 50–200 kA units in a NEMA 4 or 4X rated enclosure, weight = 14.6 lb

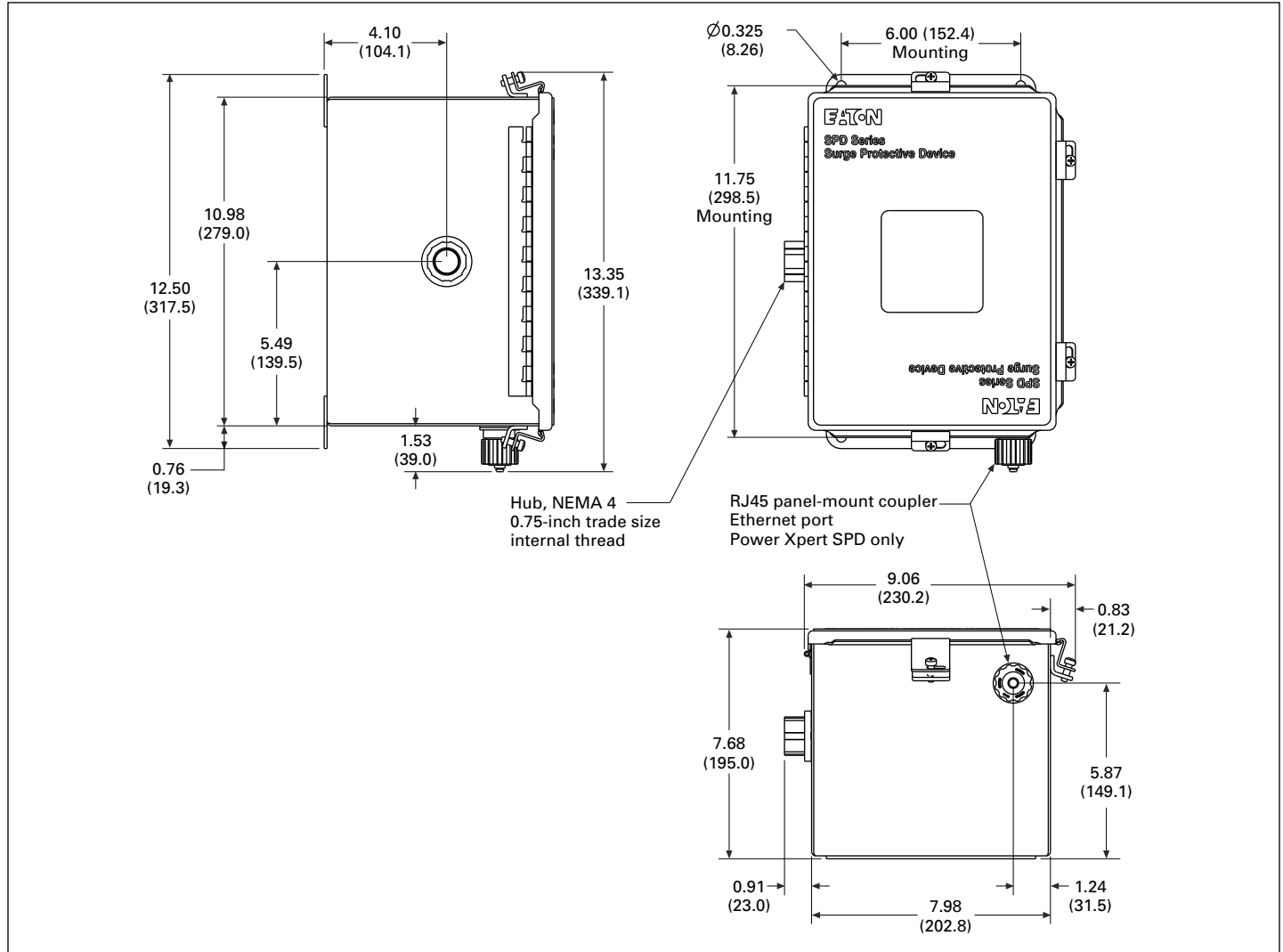


Figure 13. PXSPD 250–400 kA units in a NEMA 4 or 4X rated enclosure, weight = 21.0 lb



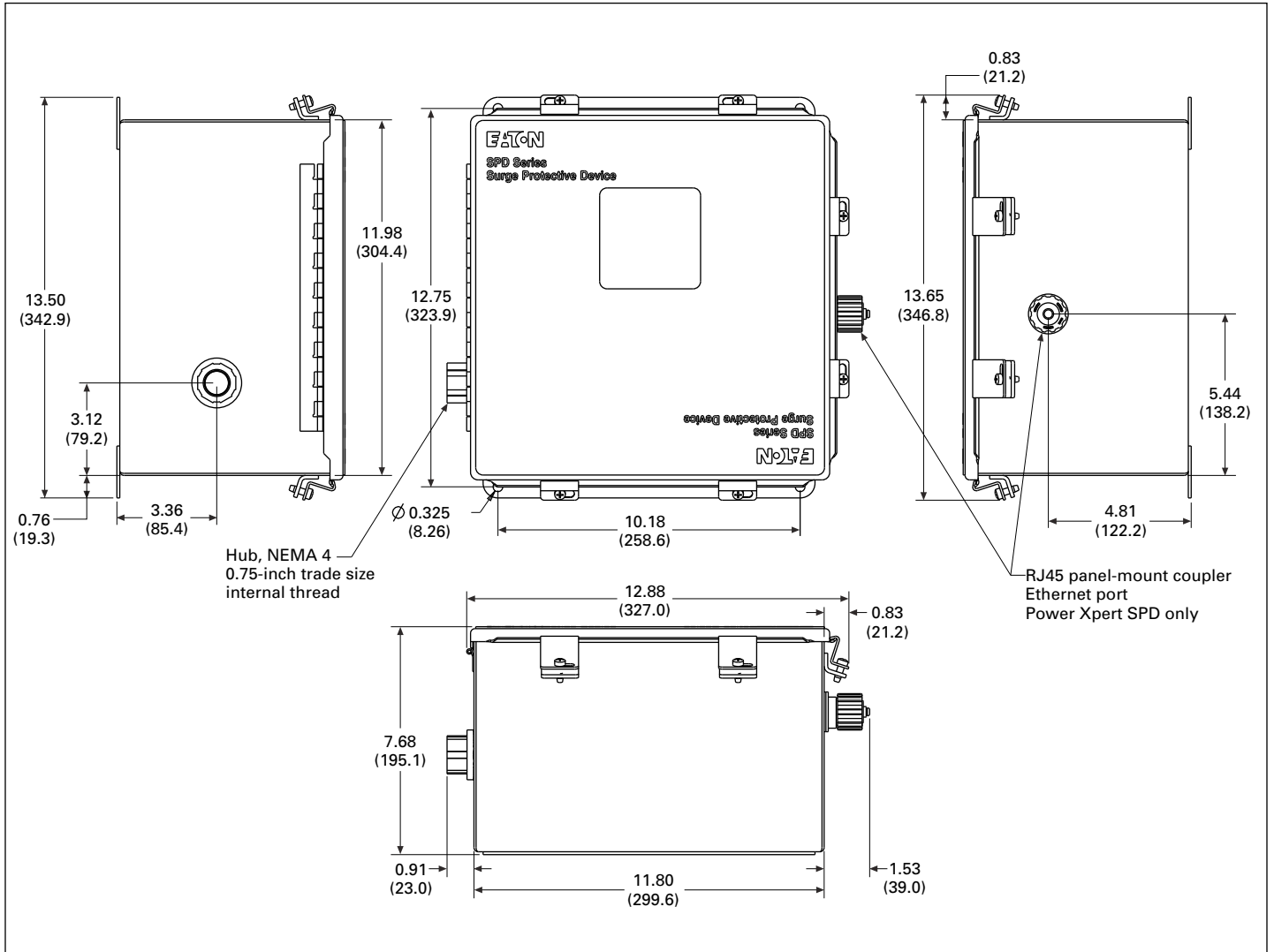


Figure 14. PXSPD 50–400 kA units in a NEMA 4 or 4X rated enclosure with internal disconnect, weight = 275 lb

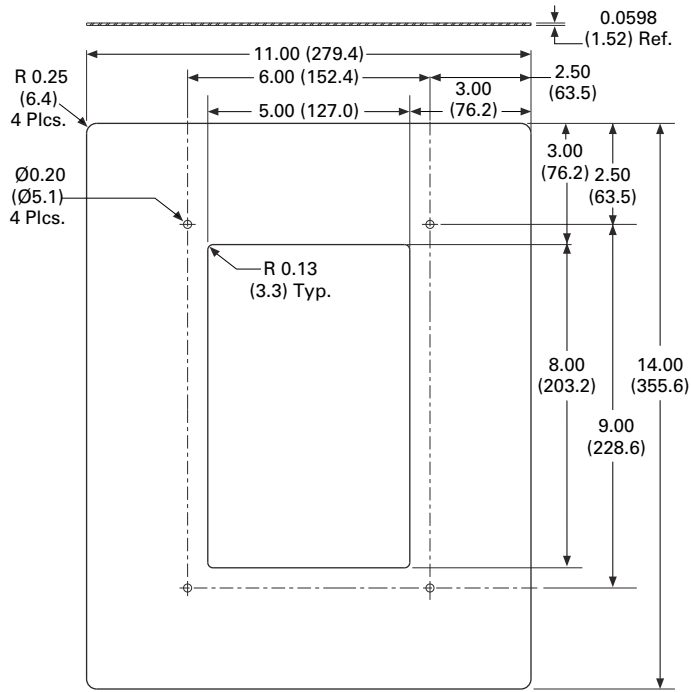


Figure 15. Flushmount plate, SPDGREYFLUSHMTKIT, for 50–200 kA units in a NEMA 1 rated enclosure

## Performance data

### ANSI/UL 1449 4th Edition voltage protection ratings

In the tables on the following pages, voltage protection rating (VPR) data is included for all sidemount units, but varies based upon the feature package and enclosure option. VPR values for units containing the basic feature package are found in **Table 2** through **Table 6**.

### VPR data for units in a NEMA 1 enclosure without an internal disconnect (catalog number ends with K or L)

**Table 2. 50 kA unit VPR (Cat. No. ends with 1K or 1L)**

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	2000	1200	N/A
240S	700	1200	700	1200
208Y and 220Y	700	1200	700	1200
400Y and 480Y	1200	2000	1200	2000
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	2000	N/A	2500
600D	N/A	2500	N/A	2500
240H	700	1200	700	1200

**Table 5. 250–300 kA unit VPR (Cat. No. ends with 1K or 1L)**

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1200	N/A
240S	700	700	700	1000
208Y and 220Y	700	700	700	1000
400Y and 480Y	1200	1200	1200	1800
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	1800	N/A	2000
600D	N/A	2500	N/A	2500
240H	700	700	700	1000

**Table 3. 80–100 kA unit VPR (Cat. No. ends with 1K or 1L)**

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1200	N/A
240S	700	700	700	1200
208Y and 220Y	700	700	700	1200
400Y and 480Y	1200	1200	1200	2000
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	2000	N/A	2500
600D	N/A	2500	N/A	2500
240H	700	700	700	1200

**Table 6. 400 kA unit VPR (Cat. No. ends with 1K or 1L)**

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1200	N/A
240S	700	700	700	1000
208Y and 220Y	700	700	700	1000
400Y and 480Y	1200	1200	1200	1800
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	1800	N/A	2000
600D	N/A	2500	N/A	2500
240H	700	700	700	1000

**Table 4. 120–200 kA unit VPR (Cat. No. ends with 1K or 1L)**

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1200	N/A
240S	700	700	700	1200
208Y and 220Y	700	700	700	1200
400Y and 480Y	1200	1200	1200	2000
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	2000	N/A	2500
600D	N/A	2500	N/A	2500
240H	700	700	700	1200

Table 7 through Table 11 contain VPR values for units containing the standard, standard with surge counter, or Power Xpert SPD feature package.

**Table 7. 50 kA unit VPR (Cat. No. ends with 2K, 2L, 3K, 3L, 4K, 4L)**

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	2000	1200	N/A
240S	700	1200	700	1200
208Y and 220Y	700	1200	700	1200
400Y and 480Y	1200	2000	1200	2500
600Y	1500	1500	1500	2500
240D	N/A	1000	N/A	1000
480D	N/A	2500	N/A	2500
600D	N/A	3000	N/A	2500
240H	700	1200	700	1200

**Table 8. 80–100 kA unit VPR (Cat. No. ends with 2K, 2L, 3K, 3L, 4K, 4L)**

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1200	N/A
240S	700	800	700	1200
208Y and 220Y	700	800	700	1200
400Y and 480Y	1200	1200	1200	2500
600Y	1500	1500	1500	2500
240D	N/A	1000	N/A	1000
480D	N/A	2500	N/A	2500
600D	N/A	3000	N/A	2500
240H	700	800	700	1200

**Table 9. 120–200 kA unit VPR (Cat. No. ends with 2K, 2L, 3K, 3L, 4K, 4L)**

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1200	N/A
240S	600	800	600	1000
208Y and 220Y	600	800	600	1000
400Y and 480Y	1200	1200	1200	1800
600Y	1500	1500	1500	2500
240D	N/A	1000	N/A	1000
480D	N/A	2500	N/A	2500
600D	N/A	2500	N/A	2500
240H	700	800	700	1200

**Table 10. 250–300 kA unit VPR (Cat. No. ends with 2K, 2L, 3K, 3L, 4K, 4L)**

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1000	1200	1000	N/A
240S	600	800	600	1000
208Y and 220Y	600	800	600	1000
400Y and 480Y	1000	1200	1000	1800
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	1800	N/A	2000
600D	N/A	2500	N/A	2500
240H	600	800	600	1000

**Table 11. 400 kA unit VPR (Cat. No. ends with 2K, 2L, 3K, 3L, 4K, 4L)**

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1000	1200	1000	N/A
240S	600	700	600	1000
208Y and 220Y	600	700	600	1000
400Y and 480Y	1000	1200	1000	1800
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	1800	N/A	2000
600D	N/A	2500	N/A	2500
240H	600	800	600	1000

**VPR data for units in a NEMA 1 enclosure with an internal disconnect (catalog number ends with M)**

VPR values for units containing the basic feature package are found in **Table 12** through **Table 16**.

**Table 12. 50 kA unit VPR (Cat. No. ends with 1M)**

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1500	2500	1200	N/A
240S	800	1200	700	1500
208Y and 220Y	800	1200	700	1500
400Y and 480Y	1500	2500	1200	2500
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	2000	N/A	2500
600D	N/A	2500	N/A	2500
240H	800	1200	700	1500

**Table 15. 250–300 kA unit VPR (Cat. No. ends with 1M)**

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1200	N/A
240S	800	800	700	1500
208Y and 220Y	800	800	700	1500
400Y and 480Y	1200	1200	1200	2000
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	1800	N/A	2000
600D	N/A	2500	N/A	2500
240H	800	800	700	1500

**Table 13. 80–100 kA unit VPR (Cat. No. ends with 1M)**

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1500	1500	1200	N/A
240S	800	800	700	1500
208Y and 220Y	800	800	700	1500
400Y and 480Y	1500	1500	1200	2500
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	2000	N/A	2500
600D	N/A	2500	N/A	2500
240H	800	800	700	1500

**Table 16. 400 kA unit VPR (Cat. No. ends with 1M)**

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1200	N/A
240S	800	800	700	1500
208Y and 220Y	800	800	700	1500
400Y and 480Y	1200	1200	1200	2000
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	1800	N/A	2000
600D	N/A	2500	N/A	2500
240H	800	800	700	1500

**Table 14. 120–200 kA unit VPR (Cat. No. ends with 1M)**

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1500	1500	1200	N/A
240S	800	800	700	1500
208Y and 220Y	800	800	700	1500
400Y and 480Y	1500	1500	1200	2500
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	2000	N/A	2500
600D	N/A	2500	N/A	2500
240H	800	800	700	1500

Table 17 through Table 21 contain VPR values for units containing the standard, standard with surge counter, or Power Xpert SPD feature package.

**Table 17. 50 kA unit VPR (Cat. No. ends with 2M, 3M, or 4M)**

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	2500	1200	N/A
240S	800	1200	700	1500
208Y and 220Y	800	1200	700	1500
400Y and 480Y	1200	2000	1200	2500
600Y	1500	1500	1500	2500
240D	N/A	1000	N/A	1000
480D	N/A	2500	N/A	2500
600D	N/A	3000	N/A	2500
240H	800	1200	700	1500

**Table 20. 250–300 kA unit VPR (Cat. No. ends with 2M, 3M, or 4M)**

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1000	N/A
240S	700	900	700	1200
208Y and 220Y	700	900	700	1200
400Y and 480Y	1200	1200	1000	2000
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	1800	N/A	2000
600D	N/A	2500	N/A	2500
240H	700	900	700	1200

**Table 18. 80–100 kA unit VPR (Cat. No. ends with 2M, 3M, or 4M)**

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1200	N/A
240S	800	900	700	1200
208Y and 220Y	800	900	700	1200
400Y and 480Y	1200	1200	1200	2500
600Y	1500	1500	1500	2500
240D	N/A	1000	N/A	1000
480D	N/A	2500	N/A	2500
600D	N/A	3000	N/A	2500
240H	800	900	700	1200

**Table 21. 400 kA unit VPR (Cat. No. ends with 2M, 3M, or 4M)**

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1000	N/A
240S	700	900	700	1200
208Y and 220Y	700	900	700	1200
400Y and 480Y	1200	1200	1000	2000
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	1800	N/A	2000
600D	N/A	2500	N/A	2500
240H	700	900	700	1200

**Table 19. 120–200 kA unit VPR (Cat. No. ends with 2M, 3M, or 4M)**

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1200	N/A
240S	800	900	700	1200
208Y and 220Y	800	900	700	1200
400Y and 480Y	1200	1200	1200	2500
600Y	1500	1500	1500	2500
240D	N/A	1000	N/A	1000
480D	N/A	2500	N/A	2500
600D	N/A	2500	N/A	2500
240H	800	900	700	1200

**VPR data for units in a NEMA 4 or 4X enclosure without an internal disconnect (catalog number ends with N or P)**

VPR values for units containing the basic feature package are found in **Table 22** through **Table 26**.

**Table 22. 50 kA unit VPR (Cat. No. ends with 1N or 1P)**

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	2000	1000	N/A
240S	700	1200	700	1200
208Y and 220Y	700	1200	700	1200
400Y and 480Y	1200	2000	1000	2000
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	2000	N/A	2500
600D	N/A	2500	N/A	2500
240H	700	1200	700	1200

**Table 25. 50–300 kA unit VPR (Cat. No. ends with 1N or 1P)**

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1200	N/A
240S	700	800	700	1200
208Y and 220Y	700	800	700	1200
400Y and 480Y	1200	1200	1200	2000
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	1800	N/A	2000
600D	N/A	2500	N/A	2500
240H	700	800	700	1200

**Table 23. 80–100 kA unit VPR (Cat. No. ends with 1N or 1P)**

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1000	N/A
240S	700	800	700	1200
208Y and 220Y	700	800	700	1200
400Y and 480Y	1200	1200	1000	2000
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	2000	N/A	2500
600D	N/A	2500	N/A	2500
240H	700	800	700	1200

**Table 26. 400 kA unit VPR (Cat. No. ends with 1N or 1P)**

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1200	N/A
240S	700	800	700	1200
208Y and 220Y	700	800	700	1200
400Y and 480Y	1200	1200	1200	2000
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	1800	N/A	2000
600D	N/A	2500	N/A	2500
240H	700	800	700	1200

**Table 24. 120–200 kA unit VPR (Cat. No. ends with 1N or 1P)**

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1000	N/A
240S	700	800	700	1200
208Y and 220Y	700	800	700	1200
400Y and 480Y	1200	1200	1000	2000
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	2000	N/A	2500
600D	N/A	2500	N/A	2500
240H	700	800	700	1200

Table 27 through Table 31 contain VPR values for units containing the standard, standard with surge counter, or Power Xpert SPD feature package.

**Table 27. 50 kA unit VPR (Cat. No. ends with 2N, 2P, 3N, 3P, or 4N)**

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	2500	1000	N/A
240S	900	1500	700	1500
208Y and 220Y	900	1500	700	1500
400Y and 480Y	1200	2000	1000	2500
600Y	1500	1500	1500	2500
240D	N/A	1000	N/A	1000
480D	N/A	2500	N/A	2500
600D	N/A	3000	N/A	2500
240H	900	1500	700	1500

**Table 30. 250–300 kA unit VPR (Cat. No. ends with 2N, 2P, 3N, 3P, or 4N)**

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1000	N/A
240S	800	900	700	1500
208Y and 220Y	800	900	700	1500
400Y and 480Y	1200	1200	1000	2000
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	2000	N/A	2000
600D	N/A	2500	N/A	2500
240H	800	900	700	1500

**Table 28. 80–100 kA unit VPR (Cat. No. ends with 2N, 2P, 3N, 3P, or 4N)**

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1000	N/A
240S	900	900	700	1500
208Y and 220Y	900	900	700	1500
400Y and 480Y	1200	1200	1000	2500
600Y	1500	1500	1500	2500
240D	N/A	1000	N/A	1000
480D	N/A	2500	N/A	2500
600D	N/A	3000	N/A	2500
240H	900	900	700	1500

**Table 31. 400 kA unit VPR (Cat. No. ends with 2N, 2P, 3N, 3P, or 4N)**

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1000	N/A
240S	800	900	700	1500
208Y and 220Y	800	900	700	1500
400Y and 480Y	1200	1200	1000	2000
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	2000	N/A	2000
600D	N/A	2500	N/A	2500
240H	800	900	700	1500

**Table 29. 120–200 kA unit VPR (Cat. No. ends with 2N, 2P, 3N, 3P, or 4N)**

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1000	N/A
240S	900	900	700	1500
208Y and 220Y	900	900	700	1500
400Y and 480Y	1200	1200	1000	2500
600Y	1500	1500	1500	2500
240D	N/A	1000	N/A	1000
480D	N/A	2500	N/A	2500
600D	N/A	2500	N/A	2500
240H	900	900	700	1500



**VPR data for units in a NEMA 4 or 4X enclosure with an internal disconnect (catalog number ends with O or Q)**

VPR values for units containing the basic feature package are found in **Table 32** through **Table 36**.

**Table 32. 50 kA unit VPR (Cat. No. ends with 1O or 1Q)**

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	2000	1000	N/A
240S	800	1200	700	1500
208Y and 220Y	800	1200	700	1500
400Y and 480Y	1200	2000	1000	2000
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	2000	N/A	2500
600D	N/A	2500	N/A	2500
240H	800	1200	700	1500

**Table 35. 250–300 kA unit VPR (Cat. No. ends with 1O or 1Q)**

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1500	1200	N/A
240S	800	900	700	1500
208Y and 220Y	800	900	700	1500
400Y and 480Y	1200	1500	1200	2000
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	1800	N/A	2000
600D	N/A	2500	N/A	2500
240H	800	900	700	1500

**Table 33. 80–100 kA unit VPR (Cat. No. ends with 1O or 1Q)**

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1000	N/A
240S	800	900	700	1500
208Y and 220Y	800	900	700	1500
400Y and 480Y	1200	1200	1000	2000
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	2000	N/A	2500
600D	N/A	2500	N/A	2500
240H	800	900	700	1500

**Table 36. 400 kA unit VPR (Cat. No. ends with 1O or 1Q)**

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1500	1200	N/A
240S	800	900	700	1500
208Y and 220Y	800	900	700	1500
400Y and 480Y	1200	1500	1200	2000
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	1800	N/A	2000
600D	N/A	2500	N/A	2500
240H	800	900	700	1500

**Table 34. 120–200 kA unit VPR (Cat. No. ends with 1O or 1Q)**

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1000	N/A
240S	800	900	700	1500
208Y and 220Y	800	900	700	1500
400Y and 480Y	1200	1200	1000	2000
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	2000	N/A	2500
600D	N/A	2500	N/A	2500
240H	800	900	700	1500

Table 37 through Table 41 contain VPR values for units containing the standard, standard with surge counter, or Power Xpert SPD feature package.

**Table 37. 50 kA unit VPR (Cat. No. ends with 20, 2Q, 30, 3Q, or 40)**

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	2500	1000	N/A
240S	900	1500	700	1500
208Y and 220Y	900	1500	700	1500
400Y and 480Y	1200	2000	1000	2500
600Y	1500	1500	1500	2500
240D	N/A	1000	N/A	1000
480D	N/A	2500	N/A	2500
600D	N/A	2500	N/A	2500
240H	900	1500	700	1500

**Table 40. 250–300 kA unit VPR (Cat. No. ends with 20, 2Q, 30, 3Q, or 40)**

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1000	N/A
240S	800	900	700	1500
208Y and 220Y	800	900	700	1500
400Y and 480Y	1200	1200	1000	2000
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	2000	N/A	2000
600D	N/A	2500	N/A	2500
240H	800	900	700	1500

**Table 38. 80–100 kA unit VPR (Cat. No. ends with 20, 2Q, 30, 3Q, or 40)**

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1000	N/A
240S	900	900	700	1500
208Y and 220Y	900	900	700	1500
400Y and 480Y	1200	1200	1000	2500
600Y	1500	1500	1500	2500
240D	N/A	1000	N/A	1000
480D	N/A	2500	N/A	2500
600D	N/A	2500	N/A	2500
240H	900	900	700	1500

**Table 41. 400 kA unit VPR (Cat. No. ends with 20, 2Q, 30, 3Q, or 40)**

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1000	N/A
240S	800	900	700	1500
208Y and 220Y	800	900	700	1500
400Y and 480Y	1200	1200	1000	2000
600Y	1500	1500	1200	2500
240D	N/A	1000	N/A	1000
480D	N/A	2000	N/A	2000
600D	N/A	2500	N/A	2500
240H	800	900	700	1500

**Table 39. 120–200 kA unit VPR (Cat. No. ends with 20, 2Q, 30, 3Q, or 40)**

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
230L	1200	1200	1000	N/A
240S	900	900	700	1500
208Y and 220Y	900	900	700	1500
400Y and 480Y	1200	1200	1000	1800
600Y	1500	1500	1500	2500
240D	N/A	1000	N/A	1000
480D	N/A	2500	N/A	2500
600D	N/A	2500	N/A	2500
240H	900	900	700	1500

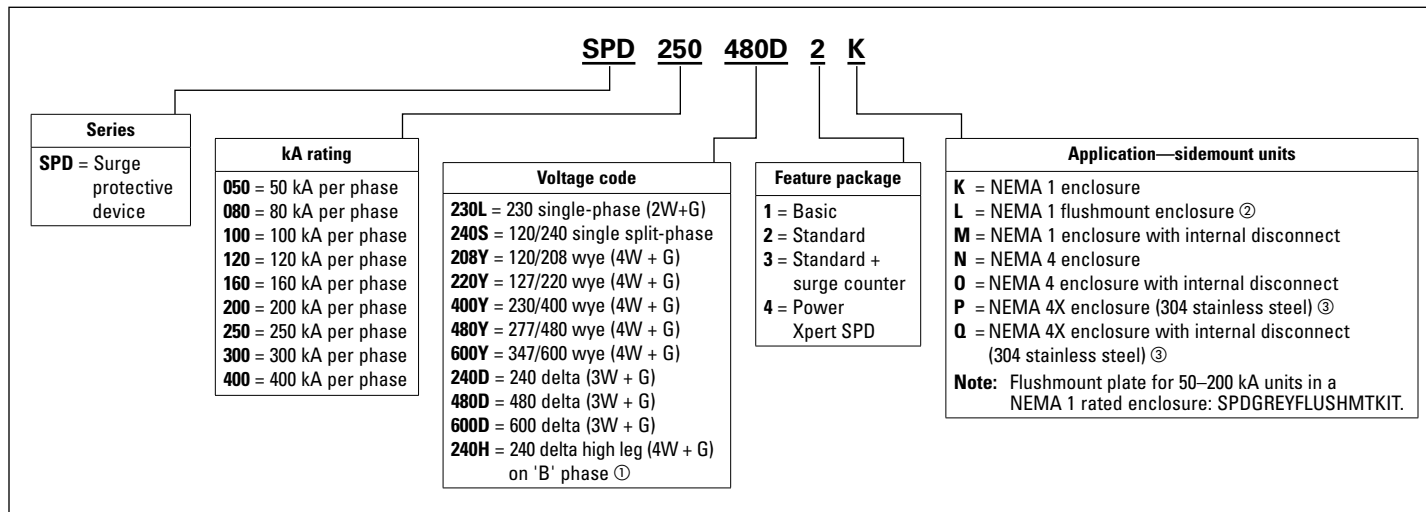
## Specifications

**Table 42. SPD Series specifications**

Description	Specification
Surge current capacity per phase	50, 80, 100, 120, 160, 200, 250, 300, 400 kA ratings available
Nominal discharge current (I <sub>n</sub> )	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, standard with surge counter, and Power Xpert SPD feature packages = Type 2
Enclosure types	NEMA 1, NEMA 4, NEMA 4X (304 SST) (Power Xpert SPD not available in NEMA 4X)
Standard split phase voltages available	120/240
Single-phase	230
Three-phase wye system voltages available	120/208, 127/220, 230/400, 277/480, 347/600
Three-phase delta system voltages	240, 480, 600
Three-phase high-leg delta system voltages	120/240
Phase wire length	48 inches of 10 AWG extend beyond the conduit hub
Relay wire length (optional)	48 inches of 10 AWG extend beyond the conduit hub
RoHS compliant	Yes
Internal disconnect (optional)	Eaton 30 A FDC circuit breaker, type MCCB
Input power frequency	50/60 Hz, Power Xpert SPD tested to 60 Hz only
Power consumption (basic units): 208Y, 220Y, 230L, 240S, 240D, and 240H voltage codes 400Y and 480Y and 480D voltage codes 600Y and 600D voltage codes	0.5 W 1.1 W 1.3 W
Power consumption (standard and standard with surge counter units): 208Y, 220Y, 230L, 240S, 240D, and 240H voltage codes 400Y, 480Y, and 480D basic voltage codes 600Y and 600D voltage codes	0.6 W 1.7 W 2.1 W
Power consumption (Power Xpert SPD units): 208Y, 220Y, 240S, 240D, and 240H voltage codes 400Y, 480Y, and 480D basic voltage codes 600Y and 600D voltage codes	4 W 4 W 4 W
Phase protection: 208Y, 220Y, 230L, 240S, 240D, and 240H voltage codes 400Y, 480Y, and 480D voltage codes 600Y and 600D voltage codes	Single split-phase . . . . . L-N, L-G, N-G, L-L Single-phase . . . . . L-N, L-G, N-G Three-phase delta . . . . . L-G, L-L Three-phase wye . . . . . L-N, L-G, N-G, L-L Three-phase high-leg delta . . . . . L-N, L-G, N-G, L-L, H-N, H-G, H-L
Maximum continuous operating voltage (MCOV): 208Y, 220Y, 240S voltage codes 230L 240H 400Y and 480Y voltage codes 600Y voltage code 240D voltage code 480D voltage code 600D voltage code	150 L-N, 300 L-G, 150 N-G, 300 L-L 320 L-N, 640 L-G, 320 N-G 150 L-N, 300 L-G, 150 N-G, 300 L-L, 320 H-N, 470 H-G, 470 H-L 320 L-N, 640 L-G, 320 N-G, 640 L-L 420 L-N, 420 L-G, 420 N-G, 840 L-L 300 L-G, 300 L-L 640 L-G, 640 L-L 840 L-G, 840 L-L
Ports	1
Operating temperature	-40 °F to +122 °F (-40 °C to +50 °C), Power Xpert SPD surge protection (-40 °C to +50 °C) Power Xpert LCD module (-20 °C through +70 °C)
Operating humidity	5% through 95%, noncondensing
Operating altitude	Up to 16,000 ft (5000 m), (Power Xpert SPD up to 6561 ft (2000 m))
Weight	Reference Figures 1 through 14, on pages 3 through 9
Form C relay contact ratings	150 Vac at 0.46 A or 30 Vdc at 1A, terminal block rated 300 V, 16 A suitable for use with 30–12 AWG solid or stranded copper wire. Torque 5–7 lb-in
Form C relay contact logic	Power on, normal state–NO contact = OPEN, NC contact = CLOSED Power off, fault state–NO contact = CLOSED, NC contact = OPEN
Real-time clock accuracy, Power Xpert SPD	Synchronized when connected to a network via an Ethernet cable, ± 2 min/month at 25 °C when not connected to a network
EMI/RFI filtering attenuation (standard and standard with surge counter and Power Xpert SPD)	Up to 50 dB from 10 kHz to 100 MHz
Ethernet port	Data rate 10/100 Mbps, wire type: equal or exceed 5 UTP category 5, use of STP (shielded twisted pair) will improve EMI performance. Connector type: RJ45 modular, ground metal shield
Agency certifications and approvals Feature packages 1, 2, and 3	UL 1449 4th Edition listed, CSA (excludes 230L voltage code), UL 1283 7th Edition (type 2 SPDs only) IEC 61643-11/EN 61643-11, Part 11: Test Class II
Agency certifications and approvals Feature package 4 (Power Xpert SPD)	cULus certified, UL 1449 4th Edition listed, UL 1283 7th Edition IEC 61643-11/EN 61643-11, Part 11: Test Class II
Warranty	10 years, 15 years if you register on <a href="http://www.eaton.com/spd">www.eaton.com/spd</a> and then click the warranty registration icon
ROHS compliant	Yes
Wire length and AWG	Factory prewired with 48 inches of #10 AWG wire

### Catalog number selection

Table 43. SPD Series catalog number configuration for units mounted external to electrical distribution equipment



**Example:** SPD250480D2K = SPD Series, 250 kA per phase, 480D voltage, standard feature package, housed in NEMA 1 enclosure

① Please consult the factory for 240 delta high leg (4W + G) applications with high leg on 'C' phase.

② NEMA 1 flushmount units are available in 50–200 kA ratings only.

③ PXSPD, feature package 4, not available in NEMA 4X enclosures.

**Note:** Please be aware that the Power Xpert SPD will not work in corner grounded Delta systems. The PXSPD needs voltage on each phase in order to operate properly.

If you have any questions or need additional information, please contact the Eaton Technical Resource Center at [Eaton.com/SPD](https://Eaton.com/SPD) or call **1-800-809-2772**. You may also submit inquiries via email: [SPD@eaton.com](mailto:SPD@eaton.com)

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