

# Eaton SPC Series surge protection



## Contents

Description	Page
Introduction . . . . .	2
Applications . . . . .	2
Features . . . . .	2
Standards and certifications . . . . .	2
Configurable design . . . . .	3
Proprietary tri-colored LED protection status indicators . . . . .	3
Enclosure ratings, options, dimensions, and weights . . . . .	3
VPR performance data . . . . .	6
Specifications . . . . .	7
Voltage configuration per enclosure size . . . . .	8
Catalog number selection . . . . .	8
Technical support information . . . . .	8



Powering Business Worldwide

## Introduction

Eaton's SPC Series surge protective devices are UL® 1449 4th Edition-certified surge protectors. Application of SPC Series units throughout a facility will ensure that equipment is protected with the safest and most reliable surge protective devices available. The compact design and NEMA® 4X enclosure of the SPC Series allows for installation external to an electrical assembly in a variety of environments.

## Applications

SPC Series units are available in all common voltages and configurations, and in a variety of peak surge current capacity ratings from 50 through 200 kA per phase. Several feature package options, including filtering, audible alarm and Form C contacts, are available to choose from. A range of configurable options is available to customize the SPC Series features for most commercial and light industrial applications, including service entrances, distribution panelboards and point-of-use applications. The SPC Series belongs to Eaton's complete family of surge protection solutions, providing coverage for any application.



SPC Series surge protective device



Panelboard with side-mount SPC Series surge protective device

## Features

- Uses thermally-protected metal oxide varistor (MOV) technology
- Proprietary tri-colored LED protection status indicators showing results of continuous self-diagnostic testing, including neutral-ground mode
- 20 kA nominal discharge current ( $I_n$ ) rating (maximum rating in the UL 1449 4th Edition standard)
- 50 through 200 kA per phase peak surge current capacity ratings
- Configure to order with eight custom feature combinations
- Corrosion-resistant NEMA 4X enclosure with mounting feet
- 200 kA short-circuit current rating (SCCR)
- Factory prewired with 36-inches of 10 AWG wire
- No user-serviceable parts or items requiring periodic maintenance
- Five-year warranty can be extended to 10-year with product registration at [Eaton.com/spc](http://Eaton.com/spc)

## Standards and certifications

- UL 1449 4th Edition Type 1 and Type 2
- UL 1283 7th Edition
- Can be used for UL 96A compliance
- Can be used for NFPA 780 compliance
- Canadian Standards Association (CSA®) Type 1 and Type 2
- CSA C22.2 No. 269.1-14 for Type 1 SPD, CSA C22.2 No. 269.2-13 for Type 2 SPD, CSA C22.2 no. 8-13 for EMI filter

### Configurable design

The SPC Series allows for selecting and combining the options shown in **Table 1**. These are a combination of three features: filtering, audible alarm and Form C relay contacts. The SPC Series offers maximum flexibility through its configurable design.

**Table 1. Configurable features**

Feature	Standard	Available option
Surge protection using thermally protected MOV technology	■	
Tri-colored LED protection status indicators for each phase	■	
Tri-colored LED protection status indicators for the neutral-ground protection mode	■	
Audible alarm		■
Form C relay contact		■
EMI/RFI filtering, providing up to 40 dB of noise attenuation from 10 kHz to 100 MHz ①		■

① Available on Type 2 SPD units only.

### Proprietary tri-colored LED protection status indicators

Tri-colored protection status indicators show results of continuous self-diagnostic testing, including neutral-ground mode. The LED protection status indicators on the device have three LED color states, as shown in photos:

- Green—Fully protected
- Yellow—Loss of neutral-to-ground protection
- Red—Loss of protection



LED protection status indicators showing full protection and phase faults

### Enclosure ratings, options, dimensions, and weights

The SPC Series enclosure is NEMA 4X with the supplied mounting feet, which lends itself to installation in a variety of environments. There are two enclosure sizes, P1 and P2, dependent on the voltage code and surge rating configuration.

**Table 2. Available optional equipment**

Available option	Catalog number
Flush-mount plate for P1 enclosure	FLUSHMNTPLATE13
Flush-mount plate for P2 enclosure	FLUSHMNTPLATE14



SPC with mounting feet

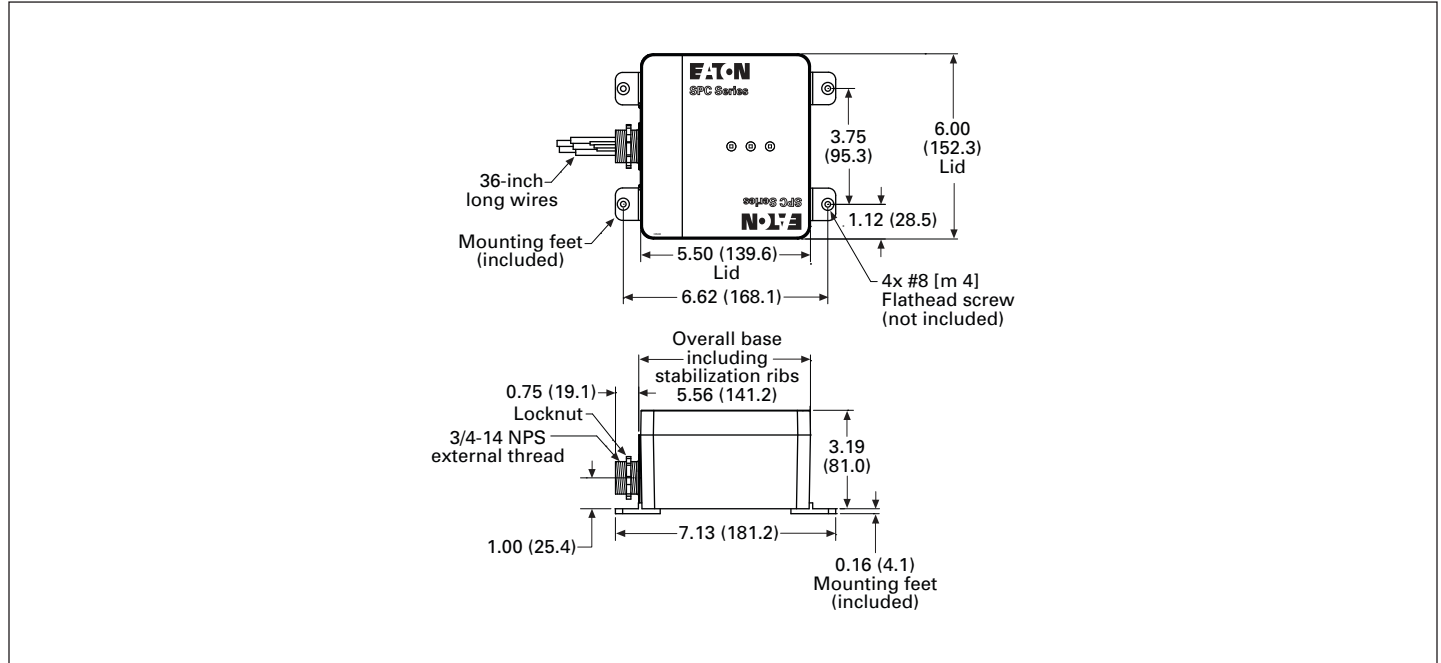


Figure 1. P1 enclosure, NEMA 4X with mounting feet dimensions, weight = 2.5 lb

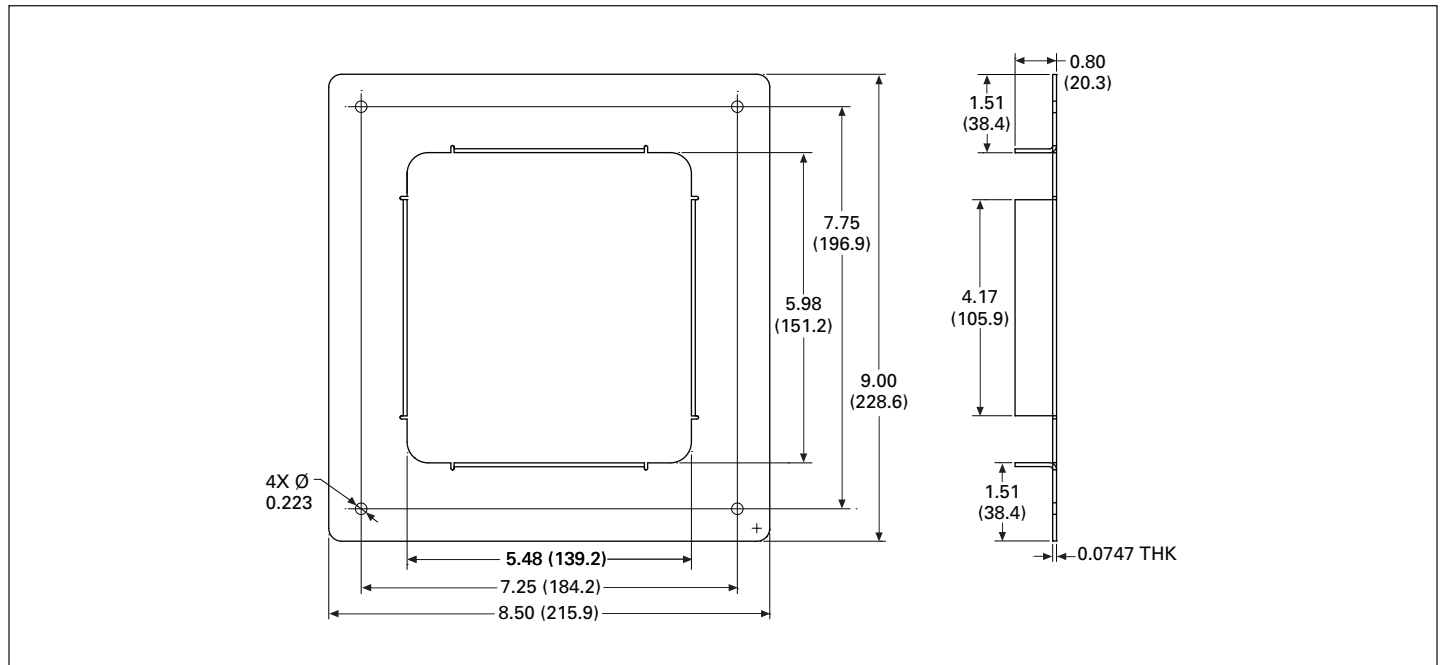


Figure 2. Optional flush-mount plate for P1 enclosure (catalog number FLUSHMNTPLATE13)

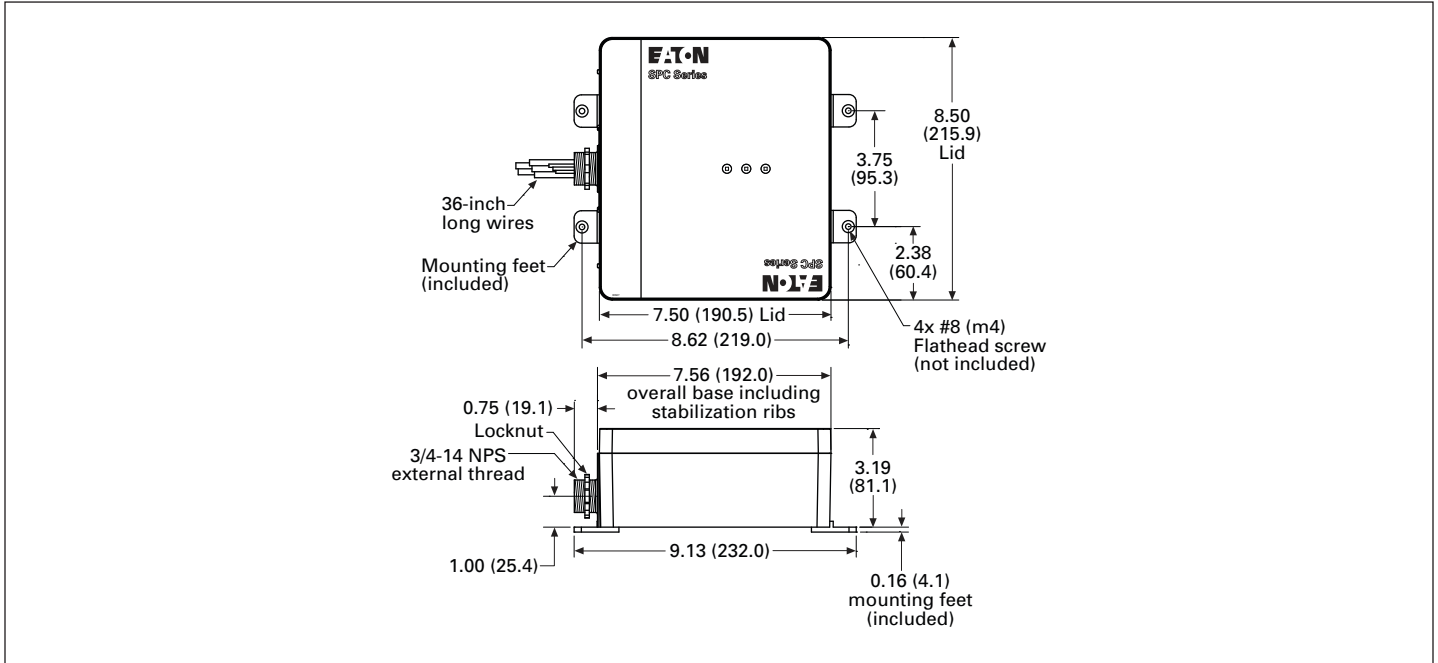


Figure 3. P2 enclosure, NEMA 4X with mounting feet dimensions, weight = 4 lb

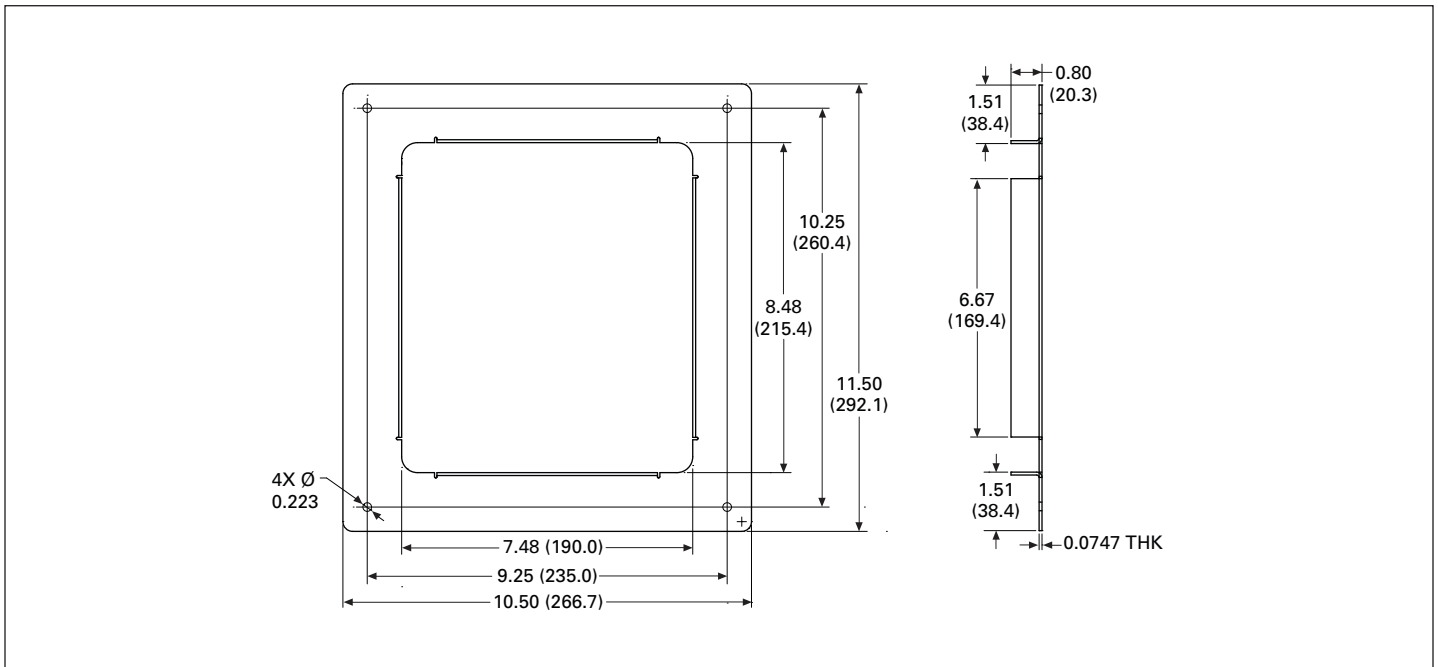


Figure 4. Optional flush-mount plate for P2 enclosure (catalog number FLUSHMNTPLATE14)

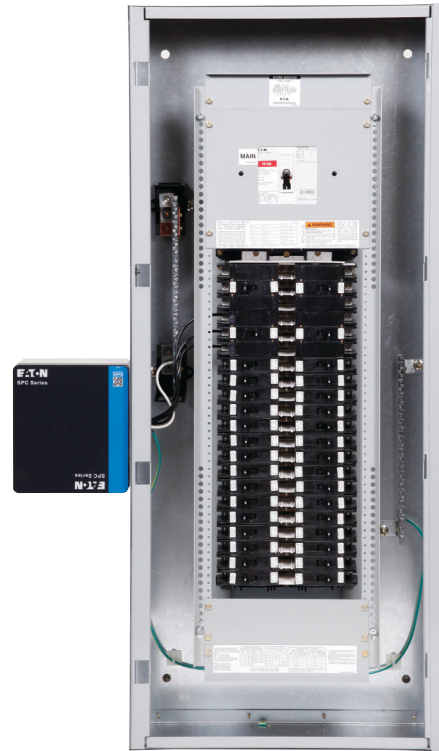
## VPR performance data

Table 3. ANSI/UL 1449 4th Edition voltage protection ratings (VPR)

Voltage code	Protection mode			
	L-N	L-G	N-G	L-L
<b>120-200 kA unit VPR</b>				
120N	700	700	700	N/A
240N	1000	1200	1000	N/A
277N	1200	1200	1200	N/A
480N	1800	1800	1800	N/A
240S	700	700	700	1200
208Y	700	700	700	1200
415Y	1200	1200	1200	2000
480Y	1200	1200	1200	2000
600Y	1500	1500	1500	2500
240D	N/A	1000	N/A	1000
480D	N/A	1800	N/A	2000
600D	N/A	2500	N/A	2500
240H ①	700	700	700	1200
<b>80-100 kA unit VPR</b>				
120N	600	600	600	N/A
240N	1200	1200	1200	N/A
277N	1200	1200	1200	N/A
480N	1800	1800	1800	N/A
240S	600	600	600	1000
208Y	600	600	600	1000
415Y	1200	1200	1200	2000
480Y	1200	1200	1200	2000
600Y	1500	1500	1500	2500
240D	N/A	1000	N/A	1000
480D	N/A	2000	N/A	2500
600D	N/A	2500	N/A	2500
240H ①	600	600	600	1000
<b>50 kA unit VPR</b>				
120N	700	1200	700	N/A
240N	1200	2000	1500	N/A
277N	1200	2000	1500	N/A
480N	1800	1800	1800	N/A
240S	700	1200	700	1200
208Y	700	1200	700	1200
415Y	1200	2000	1500	2000
480Y	1200	2000	1500	2000
600Y	1500	1500	1500	2500
240D	N/A	1000	N/A	1000
480D	N/A	2000	N/A	2500
600D	N/A	2500	N/A	2500
240H ②	700	1200	700	1200

① Additional 240H VPRs: 2000 H-L, 1200 H-N, 1200 H-G

② Additional 240H VPRs: 2000 H-L, 1200 H-N, 2000 H-G



SPC device mounted to an Eaton panelboard

## Specifications

**Table 4. SPC Series specifications**

Description	Specification
Peak surge current capacity ratings available	50, 80, 100, 120, 150, 160, 200 kA per phase
Nominal discharge current (In)	20 kA
Short-circuit current rating (SCCR)	200 kA
Single phase voltages available (2W + G)	120, 240, 277, 480
Split phase voltages available (3W + G)	120/240
Three-phase wye system voltages available (4W + G)	120/208, 240/415, 277/480, 347/600
Three-phase delta system voltages available (3W + G)	240, 480, 600
Three-phase high leg delta system voltage available (4W + G)	240
Input power frequency	50/60 Hz
Protection modes	Single-phase L-N, N-G, L-G Split-phase L-N, N-G, L-G, L-L Wye L-N, N-G, L-G, L-L Delta L-G, L-L
Maximum continuous operating voltage (MCOV):	
120N	150 L-N, 150 L-G, 150 N-G
240N, 277N	320 L-N, 320 L-G, 320 N-G
480N	550 L-N, 550 L-G, 550 N-G
240S, 208Y	150 L-N, 150 L-G, 150 N-G, 300 L-L
240H	150 L-N, 150 L-G, 150 N-G, 300 L-L, 470 H-L, 320 H-N, 320 H-G
415Y, 480Y	320 L-N, 320 L-G, 320 N-G, 640 L-L
600Y	420 L-N, 420 L-G, 420 N-G, 840 L-L
240D	320 L-G, 300 L-L
480D	550 L-G, 640 L-L
600D	840 L-G, 840 L-L
Ports	1
Operating temperature	-40 °F to +140 °F (-40 °C to +60 °C)
Storage temperature	-40 °F to +140 °F (-40 °C to +60 °C)
Operating humidity	5% through 95%, noncondensing
Operating altitude	Up to 2000 m (6561 ft)
Agency certification/listing	UL 1449 4th Edition, UL 1283 7th Edition, CSA C22.2 No. 269.1-14 for Type 1 SPD, CSA C22.2 No. 269.2-13 for Type 2 SPD, CSA C22.2 no. 8-13 for EMI filter
Durability repetitive strike test	Passed 12,000 strikes to ANSI/IEEE® C62.41 (20 kV, 10 kA) Category C waveform
SPD type	UL 1449 4th Edition and CSA Type 1 and Type 2 SPD (dependent on feature options)
Enclosure dimensions and weights	Refer to <b>Figure 1</b> and <b>Figure 3</b> for enclosure dimensions and weights
Enclosure rating	NEMA 4X enclosure ①
Form C relay contact ratings	2 A at 30 Vdc or 250 Vac
Form C relay contact logic	Power ON, normal state—NO contact = open, NC contact = closed Power OFF or fault state—NO contact = closed, NC contact = open
EMI/RFI filtering attenuation	Up to 40 dB from 10 kHz to 100 MHz
RoHS compliant	Yes
Warranty	5 years standard, 10 years with product registration on <a href="http://www.eaton.com/spc">www.eaton.com/spc</a>

① Mounting feet required to achieve NEMA 4X rating.



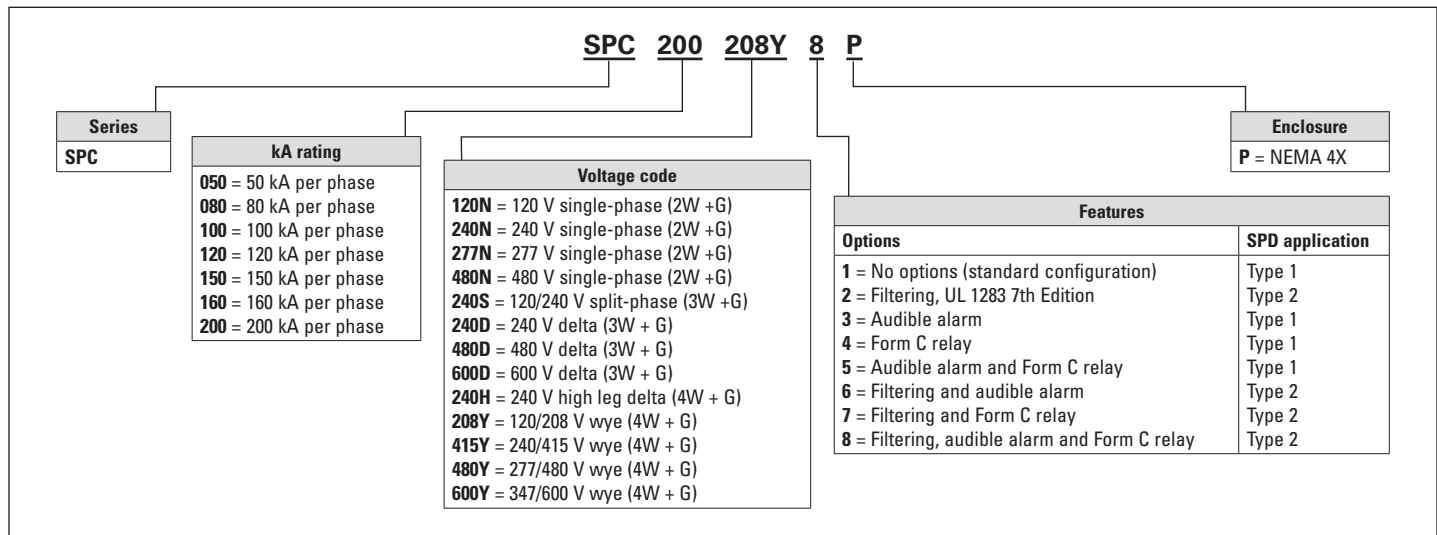
## Voltage configurations per enclosure size

Table 5. SPC voltage configurations per enclosure size

P1 enclosure		P2 enclosure	
120N/240N/277N/480N	50–200 kA	240S	120–200 kA
240S	50–100 kA	208Y/415Y/480Y/600Y	120–200 kA
208Y/415Y/480Y/600Y	50–100 kA	240D/480D	120–200 kA
240D/480D	50–100 kA	600D	50–200 kA
240H	50–100 kA	240H	120–200 kA

## Catalog number selection

Table 6. SPC Series catalog number configuration



### Technical support information

If you have any questions or need additional information, please contact the Eaton Technical Resource Center at **1-800-809-2772**, option 4, option 2.

You may submit inquiries via email to [spd@eaton.com](mailto:spd@eaton.com) and you can find more information at [Eaton.com/spc](http://Eaton.com/spc)

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