

# Surge Protective Device



**Features:**

- UL 1449 Fourth Edition Listed
- 50kA 8 x 20µs
- All UL required OCP & Safety Coordination included inside
  - Type 1 SPDs intended for Line or Load Side of Main Disconnect
- 200kA SCCR (most models)
- Complies with UL 96A 12th Edition master label requirements for lightning protection systems
- Voltage Specific Design: Performs better than ‘one-size fits all’
- Tri-Mount Installation for more mounting flexibility:
  - Same unit mounts on Pipe Nipple, Bracket or DIN-Rail
- Visual Diagnostics: Easy to See; Easy to Understand
- 10-year limited warranty

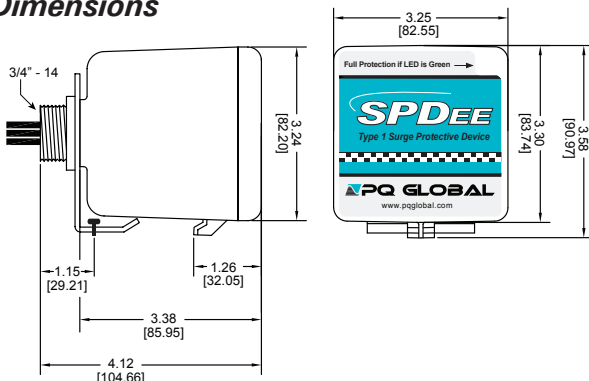
**Performance Specifications**

- 50kA 8 x 20µs Per Mode
- UL 1449 tested Inominal: 20kA (highest available)
- UL 1449 tested SCCR: 200kA (most models)
- Individually Fused & Thermally Protected MOVs
- UL 1449 Voltage Protection Ratings (VPRs):
  - 600V for 120V, 120/240, 208Y/120
  - 1000V for 277V, 480Y/277V
- Repetitive Impulse: 5000 - 3kA - 8 x 20µs; 1000 - 10kA - 8 x 20µs
- Data table on backpage
- N-G protection
- Dry Contact & Audible Alarm (Optional)
- Dry Contact connection leads exit through nipple via #18 AWG

**Physical Specifications**

- Relative Humidity Range: 0 - 95% non-condensing
- Operating Frequency: 47 - 63Hz
- Peak Operating Temperature: +85°C (185°F)
- Typical Operating Temperature: -25°C (-13°F) to +60°C (140°F)
- Response Time: < 1nanosecond
- Solid State Bi-directional Operation
- NEMA 4X Polycarbonate Enclosure—UL746C(f1), UL 94-5VA
- Pre-wired with 3’ (1m) of #10 AWG conductor
- Typical Connection: #10 AWG to 30A breaker

**Dimensions**



Special Thank You to NASA/SATOP for design assistance & validation

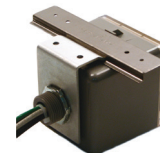
**Green = Go Visual Diagnostic Monitoring**

- Green LED = OK, Out = replace
- LED Visible from Multiple Sides & Angles - Better Viewing
- Every MOV is Monitored as opposed to ‘power is present’

**Tri-Mount Installation**



Std. 3/4"-14 Nipple



DIN-Rail Mount (rail not incl.)



Bracket Mount for flat surfaces

**Quality, Standards & Validation**

- 10 year warranty (longer optional)
- UL 1449 4<sup>th</sup> Edition file: VZCA.E321351 at [www.UL.com](http://www.UL.com), cUL
- Type 1: UL 1449 Fourth Edition, CSA 22.2 No. 269.1
- ANSI/IEEE C62.41.1-2002, C62.41.2-2002, C62.45-2002, C62.62-2010 and C62.72-2016
- NEMA LS-1
- IEC 61643, CE
- Burn-In tested prior to shipment
- ISO 9001:2008 Certified Quality Management System
- ISO 17025:2005 Certified Test Lab
- RoHS-compliant

## SPDEE MODEL NUMBER CONFIGURATOR & OPTIONS

**S** **50** **A** **□□□□** **N** **□** **Q**  
(Default)

Surge Current Rating	Voltage	System	Option
50 = 50kA/Phase	120V 127V 220V 240V 277V 347V 480V 600V	1P = One Pole, Single Phase 2P = Two Pole, Split Phase Wye 3Y = Three Pole 3D = Three Pole Delta 3H = Three Pole Hi-Leg Delta	D = Dry Contact & Audible Alarm

**EXAMPLE:**  
**S50A277V3YND**  
 50kA, 277V, 3 pole (480Y/277V) with N-G protection, dry contacts and audible alarm

## SPDEE Performance Data

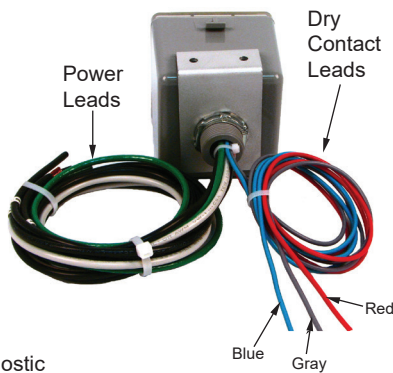
MODEL	System Voltage & Config	UL 1449 Fourth Edition Voltage Protection Rating VPR 3000A				I <sub>n</sub>	SCCR	MCOV
		L-N	L-L	N-G	L-G			
S50A120V1P	120V	700		600	1200	20kA	200kA	150
S50A120V2P	120V/240V	700	1200	600	1200	20kA	200kA	150
S50A120V3Y	208Y/120V	700	1200	600	1200	20kA	200kA	150
S50A127V1P	127V	700		600	1200	20kA	100kA	180
S50A127V2P	127/254V	700	1200	600	1200	20kA	100kA	180
S50A127V3Y	220Y/127V	700	1200	600	1200	20kA	100kA	180
S50A220V3Y	380Y/220V	1200	2000	1000	1800	20kA	200kA	320
S50A240V1P	240V-1 pole	1200		1000	1800	20kA	200kA	320
S50A240V3D	240V Delta - 3 pole		1500		1200	20kA	200kA	320
S50A277V1P	277V	1200		1000	1800	20kA	200kA	320
S50A277V2P	240/480V	1200	2000	1000	1800	20kA	200kA	320
S50A277V3Y	480Y/277V	1200	2000	1000	1800	20kA	200kA	320
S50A480V3D	480V Delta - 3 pole		3000		1800	20kA	200kA	550

## Form C Dry Contact and Audible Alarm

### Form C Dry Contact:

Three (3) #18 wires exit the pipe nipple  
 Gray is Common, Red is Normally Open, Blue is Normally Closed

- Normally Open: Use Gray & Blue
- Normally Closed: Use Gray & Red



### Audible Alarm:

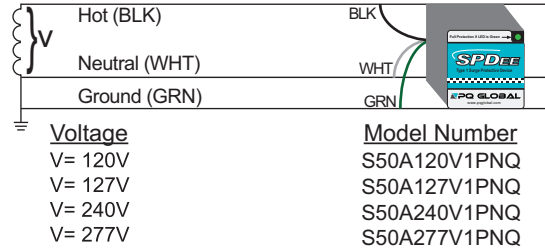
Alarm sounds when any protection is lost (If diagnostic LED extinguishes (i.e. problem), alarm will sound)

## SPDEE Application Guide

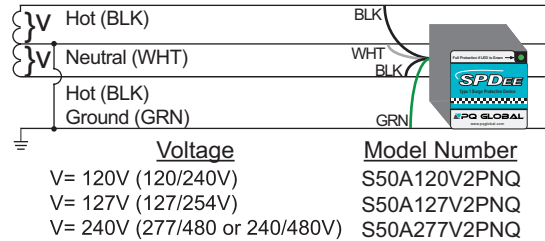
### SYSTEM CONFIGURATION

INSTALLED >10'(3m) FROM SERVICE ENTRANCE OR TRANSFORMER  
**Downstream of N-G Bond - N-G protection suggested**

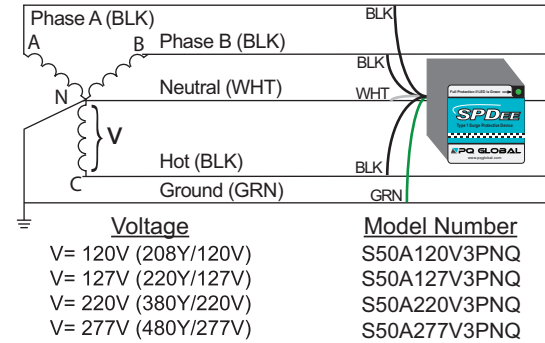
#### 1 Pole - Single



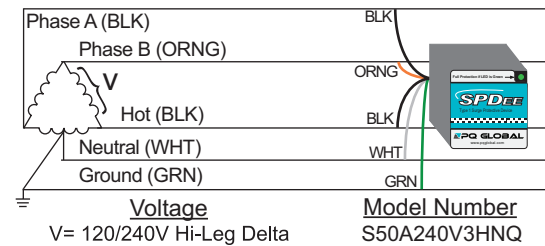
#### 2 Pole - Split Phase



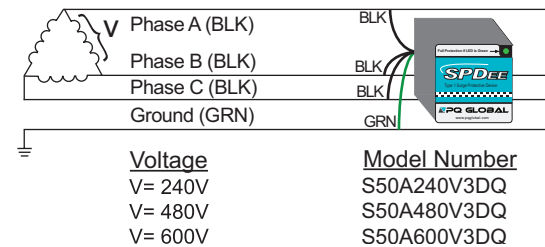
#### Wye



#### Hi-Leg



#### Delta



### Corner Grounded Delta?

Use same models & connect one SPD black & green to ground (diagnostics will function correctly)

