

SPDEE Surge Protective Device



Features:

- UL 1449 Fourth Edition Listed
- 50kA 8 x 20 μ s
- All UL required OCP & Safety Coordination included inside
 - Type 1 SPDs intended for Line or Load Side of Main Disconnect
 - Type 2 SPDs intended for Load Side of Main Disconnect
- 200kA SCCR (most models)
- All UL-required OCP & Safety Coordination Included Inside
- 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

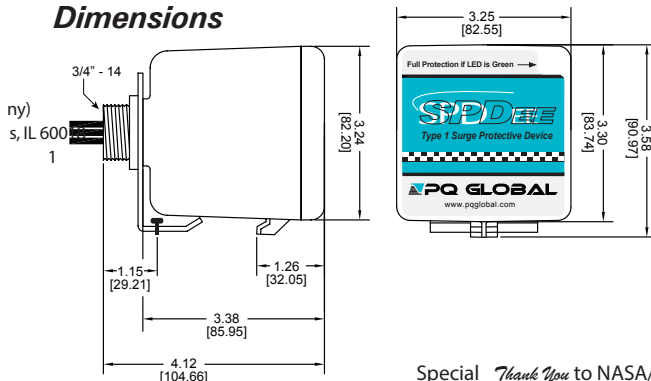
Performance Specifications

- 50kA 8 x 20 μ s Per Mode
- UL 1449 tested Inominal: 20kA (highest available) + 10kA
- UL 1449 tested SCCR: 200kA (most models)
- Large-Block, 34mm square, 50kA MOVs
- 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 20 μ s; 1000 - 10kA - 8 x 20 μ s
- Data table on backpage

Physical Specifications

- Relative Humidity Range: 0 - 95% non-condensing
- Operating Frequency: 47 - 63Hz
- Peak Operating Temperature: +85 °C (185 °F)
- Typical Operating Temperature: -40 °C (-40 °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 Type 2 Connection: #10 AWG to 30A breaker

Dimensions



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

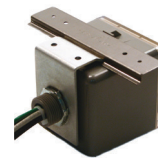
Green = Go Visual Diagnostic Monitoring

- Green LED = A-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

Options

- N-G protection
- Dry Contact & Audible Alarm
- Dry Contact connection leads exit through nipple via #18 AWG
- Other configurations available for OEM - Call

Quality, Standards & Validation

- 2 year warranty (longer optional)
- UL 1449 4th Edition file: VZCA.E321351 at www.UL.com, cUL
- Type 1: UL 1449 Fourth Edition, CSA 22.2 No. 269.1
- Type 2 (Opt.): UL 1449 Fourth Edition, CSA 22.2 No. 269.2
- ANSI/IEEE C62.41.1-2002, C62.41.2-2002, C62.45-2002, C62.62-2010 and C62.72-2007
- 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

SPD EE MODEL NUMBER CONFIGURATOR & OPTIONS

S **50** **A** **□□** **□□** **□□**

(Default)

Surge Current Rating	Voltage	System	Options
50 = 50kA/Phase	120V 127V 220V 240V 277V 347V 480V 600V	1P = One Pole, Single Phase 2P = Two Pole, Split Phase 3Y = Three Pole Wye 3D = Three Pole Delta 3H = Three Pole Hi-Leg Delta	N = N-G Protection D = Dry Contact & Audible Alarm 2 = Type 2 SPD, including CSA 22.2, No. 269.2

EXAMPLES:
S50A120V3Y
50kA, 120V, 3 pole (208Y/120V)
S50A277V3YN
50kA, 277V, 3 pole (480Y/277V) with N-G

SPD EE Performance Data

MODEL	System Voltage & Config	UL 1449 Fourth Edition Voltage Protection Rating VPR 3000A				I _n	SCCR	MCOV
		L-N	L-L	N-G*	L-G*			
S50A120V1P	120V	600		600*	1000*	20kA	200kA	150
S50A120V2P	120V/240V	600	1000	600*	1000*	20kA	200kA	150
S50A120V3Y	208Y/120V	600	1000	600*	1000*	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
S50A220V1P	220V-1 pole	1200		1000*	1800*	20kA	200kA	320
S50A220V3Y	380Y/220V	1200	2000	1000*	1800*	20kA	200kA	320
S50A240V3H	120/240V - Hi-Leg Delta	600 /1200	1000 /1500	600*	1000* /1500*	20kA	200kA	150 /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
S50A347V3Y	600Y/347V	1500	2500	1200*	2500*	20kA	200kA	420
S50A480V1P	480V-1 pole			1800	10kA	200kA	550	
S50A480V3D	480V Delta - 3 pole		3000		1800	10kA	200kA	550
S50A480V3H	240/480V - Hi-Leg Delta	1200/1800		2500		10kA	200kA	320/550
S50A600V3D	600V Delta - 3 pole		2500		2500	20kA	200kA	690
S100A120V2P	120/240V	600	1000	600	20kA	100kA	150	
S100A277V2P	240/480V	1000	1800	1000	20kA	100kA	320	

* with optional N-G protection

Optional 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)

SPD EE Application Guide

SYSTEM CONFIGURATION	INSTALLED AT OR NEAR SERVICE ENTRANCE OR TRANSFORMER	INSTALLED >10'(3m) FROM SERVICE ENTRANCE OR TRANSFORMER
1 Pole - Single	N-G Bonded - Does not require N-G protection	Downstream of N-G Bond - N-G protection suggested
<p>Hot (BLK) Neutral (WHT) Ground (GRN)</p> <p>Voltage</p> <p>V= 120V V= 127V V= 240V V= 277V V= 480V</p> <p>Model Number</p> <p>S50A120V1P S50A127V1P S50A240V1P S50A277V1P S50A480V1P (L-G, not L-N)</p> <p>Model Number</p> <p>S50A120V1PN S50A127V1PN S50A240V1PN S50A277V1PN N/A</p>		
2 Pole - Split Phase		
<p>Hot (BLK) Neutral (WHT) Hot (BLK) Ground (GRN)</p> <p>Voltage</p> <p>V= 120V (120/240V) V= 127V (127/254V) V= 240V (277/480 or 240/480V)</p> <p>Model Number</p> <p>S50A120V2P S50A127V2P S50A277V2P</p> <p>Model Number</p> <p>S50A120V2PN S50A127V2PN S50A277V2PN</p>		
Wye		
<p>Phase A (BLK) Phase B (BLK) Neutral (WHT) Hot (BLK) Ground (GRN)</p> <p>Voltage</p> <p>V= 120V (208Y/120V) V= 127V (220Y/127V) V= 220V (380Y/220V) V= 277V (480Y/277V) V= 347V (600Y/347V)</p> <p>Model Number</p> <p>S50A120V3Y S50A127V3Y S50A220V3Y S50A277V3Y S50A347V3Y</p> <p>Model Number</p> <p>S50A120V3YN S50A127V3YN S50A220V3YN S50A277V3YN S50A347V3YN</p>		
Hi-Leg		
<p>Phase A (BLK) Phase B (ORNG) Hot (BLK) Neutral (WHT) Ground (GRN)</p> <p>Voltage</p> <p>V= 120/240V Hi-Leg Delta V= 240/480V Hi-Leg Delta</p> <p>Model Number</p> <p>S50A240V3H S50A480V3H</p> <p>Model Number</p> <p>S50A240V3HN N/A</p>		
Delta		
<p>Phase A (BLK) Phase B (BLK) Phase C (BLK) Ground (GRN)</p> <p>Voltage</p> <p>V= 240V V= 480V V= 600V</p> <p>Model Number</p> <p>S50A240V3D S50A480V3D S50A600V3D</p>		

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