

## PSP E series

PROSURGE® PSP E series panel SPDs are extra compact UL Type 1 Surge Protective Devices (SPDs) designed to protect single phase and multi-phase electrical distribution systems against the harmful effects of transient surges. These surges are the result of:

- Direct and indirect lightning strikes
- Power company load switching
- Upstream load switching at other facilities

The PSP E is constructed with Prosurge’s patented PTMOV, which has a thermally protected and arc extinguishing technology as the core of Prosurge’s competency. PSP E has a significant advantage in abnormal over-voltage & high fault current safety and thus ensures industry’s highest level of safety and performance.



PSP E is tested and listed as Type 1 SPD in ANSI / UL 1449 4<sup>th</sup>, CSA C22.2. It is constructed in a NEMA 4X plastic enclosure, with a LED light to demonstrate the protection status of the SPD.

### The SPD Types Per ANSI / UL 1449 4th:

**Type 1** – Permanently connected SPDs intended for installation between the secondary of the service transformer and the line side of the service equipment overcurrent device, as well as the load side, including watt-hour meter socket enclosures and Molded Case SPDs intended to be installed without an external overcurrent protective device.

#### ■ Typical Applications:

- Outdoor/Indoor and commercial LED lighting
- Telecommunication equipment
- Medical electronics
- Security & Alarm equipment
- Manufacturing Facilities
- Other Critical Electronic Equipment

#### ■ Features:

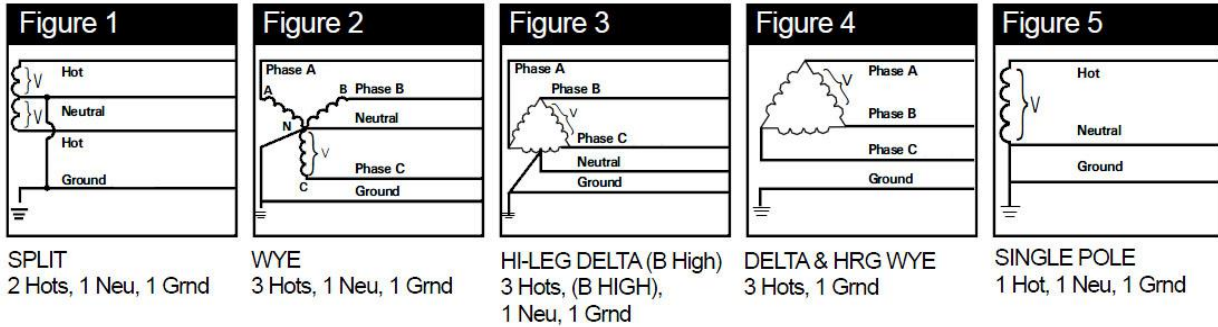
- UL 1449 4<sup>th</sup> Type 1 SPDs with SCCR up to 200kArms without external fuse or CB
- Prosurge Patented SCCR 200kArms thermally protected MOV technology(PTMOV) as key component
- Full modes protection
- High surge energy capability with compact size
- Low voltage protection rating
- NEMA 4X enclosure to resist dirt, dust and water
- Degradation failure indication.

**Outstanding PTMOV Technology**

Thermally Protected MOV technology.  
Fast and safely disconnect in the case  
of abnormal over-voltage or current  
fault conditions.

■ Voltage code for power distribution system

- 120SP, 240SP= 120/240V;240/480V-----Split-phase three-wire + ground (Figure1)
- 120S,127S,240S,277S,347S =120V,127V, 240V,277V, 347V-----Single-phase two-wire + ground (Figure5)
- 120Y, 127Y, 240Y, 277Y, 347Y = 208Y/120V,220Y/127V, 415Y/240V, 480Y/277V, 600Y/347V-----Three-phase wye (star) four-wire + ground (Figure2)
- 240D, 480D, 600D = 240V,480V,600V-----Three-phase delta three-wire + ground (Figure4)



■ Basic circuit diagram

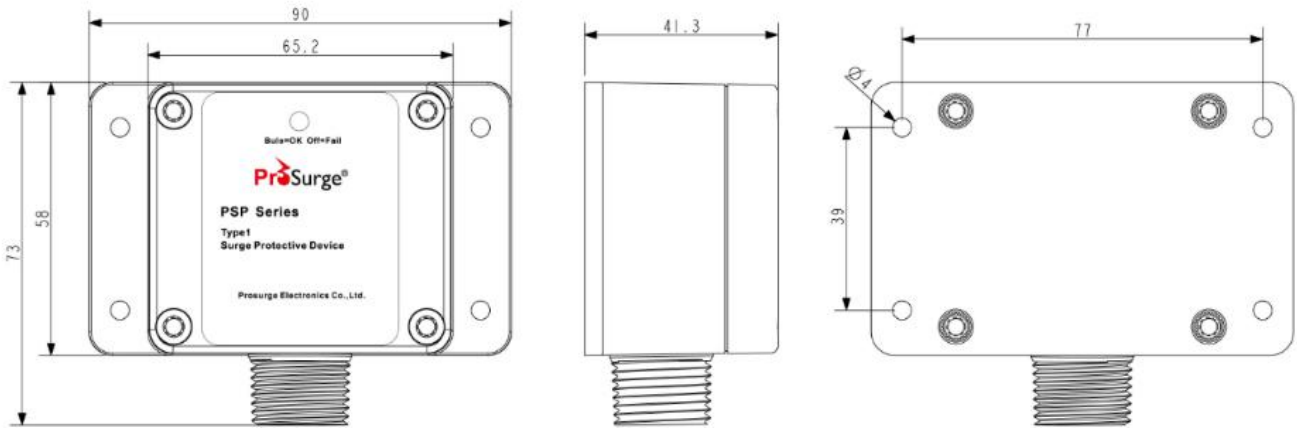
PSPE...	Un/ Power system (50/60 HZ)	Basic circuit diagram of surge protection circuit
(20)PSPE... <b>SP11</b> ...	120/240 VAC Split phase 240/480 VAC Split phase ...	
(20)PSPE... <b>SPN11</b> ...	120/240 VAC Split phase 240/480 VAC Split phase ...	
(20)PSPE... <b>SP12</b> ...	120/240 VAC Split phase 240/480 VAC Split phase ...	
(20)PSPE... <b>SPN12</b> ...	120/240 VAC Split phase 240/480 VAC Split phase ...	

One-port Panel SPDs

<p>(20)PSPE...<b>S11</b>...</p>	<p>120 VAC single phase                  127 VAC single phase                  220 VAC single phase                  230 VAC single phase                  240 VAC single phase                  277 VAC single phase                  347 VAC single phase                  ...</p>	
<p>(20)PSPE...<b>S12</b>...</p>	<p>120 VAC single phase                  127 VAC single phase                  220 VAC single phase                  230 VAC single phase                  240 VAC single phase                  277 VAC single phase                  347 VAC single phase                  ...</p>	
<p>(20)PSPE...<b>SPNG11</b>                  ...</p>	<p>120/240 VAC Split phase                  240/480 VAC Split phase                  ...</p>	
<p>(20)PSPE...<b>D11</b>...</p>	<p>240 VAC 3-phase Delta                  480 VAC 3-phase Delta                  6000 VAC 3-phase Delta</p>	
<p>(20)PSPE...<b>YC11</b>...</p>	<p>120/208 VAC 3-phase WYE                  127/220 VAC 3-phase WYE                  240/415 VAC 3-phase WYE                  277/480 VAC 3-phase WYE                  347/600 VAC 3-phase WYE                  ...</p>	

■ Dimensions (unit: mm)

PSPE series can be fixed with bolts. The dimension of the devices and bolt holes as below diagram:



■ General Specification:

PSP Category	20PSPE
Certification	ANSI / UL1449 4 <sup>th</sup> , CSA C22.2, Type 1 (some models pending)
Connection Type	Parallel Connected
Surge Capacity	50-100kA per Phase
Nominal discharge current In	20kA
SCCR	200kArms
Power Status Indication	Normal= LED ON
Working Status Indication	Fail= LED OFF
Power Connecting	12AWG, 762mm (30") length
Working environments	Temperature -40°C ~ +80°C, Humidity relative 5~95% (25°C), Altitudes ≤ 3km
Dimensions (W x D x H)	90 x 58 x 41 mm
Enclosure	Plastic enclosure, NEMA 4X
Threaded NPT	1/2"NPT
Net Weight (typical value)	0.18 kg



■ Technical Data:

Model No.	System Voltage(50/60Hz)	In (kA)	protected mode				Voltage Protection Ratings (VPR @6KV/ 3kA)				Surge Capability	MCOV (Vac)
			L-N	L-G	N-G	L-L	L-N	L-G	N-G	L-L		
20PSPE120SP11/T1	120/240V split-phase	20	x	✓	x	✓	-	700	-	1500	50kA/phase	150/300*
20PSPE120SP12/T1			x	✓	x	✓	-	700	-	1200	<b>100kA/phase</b>	150/320*
20PSPE120SPN11/T1	120/240V split-phase	20	✓	x	x	✓	700	-	-	1500	50kA/phase	150/300*
20PSPE120SPN12/T1			✓	x	x	✓	700	-	-	1200	<b>100kA/phase</b>	150/320*
20PSPE240SP11/T1	240/480V split-phase	20	x	✓	x	✓	-	1200	-	2500	50kA/phase	320/640*
20PSPE240SPN11/T1	240/480V split-phase	20	✓	x	x	✓	1200	-	-	2500	50kA/phase	320/640*
20PSPE120SPNG11/T1	120/240V split-phase	20	✓	✓	✓	✓	700	1500	700	1500	50kA/phase	150/300*
20PSPE240SPNG11/T1	240/480V split-phase	20	✓	✓	✓	✓	1200	2500	1200	2500	50kA/phase	320/640*
20PSPE240D11/T1	240V 3P Delta	20	x	✓	x	✓	-	1200	-	2500	50kA/phase	320
20PSPE120YC11/T1	120/208Y 3P WYE 3W+G	20	x	✓	x	✓	-	700	-	1500	50kA/phase	150
20PSPE127YC11/T1	127/220Y 3P WYE 3W+G	20	x	✓	x	✓	-	700	-	1500	50kA/phase	150
20PSPE240YC11/T1	240/415Y 3P WYE 3W+G	20	x	✓	x	✓	-	1200	-	2500	50kA/phase	320
20PSPE277YC11/T1	277/480Y 3P WYE 3W+G	20	x	✓	x	✓	-	1200	-	2500	50kA/phase	320
20PSPE120YN11/T1	120/208Y 3P WYE 3W+G	20	✓	x	x	✓	700	-	-	1500	50kA/phase	150
20PSPE127YN11/T1	127/220Y 3P WYE 3W+G	20	✓	x	x	✓	700	-	-	1500	50kA/phase	150
20PSPE240YN11/T1	240/415Y 3P WYE 3W+G	20	✓	x	x	✓	1200	-	-	2500	50kA/phase	320
20PSPE277YN11/T1	277/480Y 3P WYE 3W+G	20	✓	x	x	✓	1200	-	-	2500	50kA/phase	320
20PSPE127S11/T1	127V Single-phase	20	✓	✓	✓	x	1500	700	700	-	50kA/phase	150
20PSPE127S12/T1			✓	✓	✓	x	700	700	700	-	<b>100kA/phase</b>	150
20PSPE277S11/T1	277V Single-phase	20	✓	✓	✓	x	2500	1200	1200	-	50kA/phase	320
20PSPE277S12/T1			✓	✓	✓	x	1200	1200	1200	-	<b>100kA/phase</b>	320

Note:

1. “\* “ MCOV for L1-L2
2. The Models in yellow mark are certified by UL lab on going.

(end)