

PSP C series



PROSURGE® PSP C series panel SPDs are defined as high performance surge protection solution for most commercial and industrial environments with critical operations. They include Type 1 and Type 2 Surge Protective Devices (SPDs) that protect 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 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.

Type 2 – Permanently connected SPDs intended for installation on the load side of the service equipment overcurrent device; including SPDs located at the branch panel and Molded Case SPDs.

PSP C is constructed with Prosurge's patented PTMOVs, which has a thermally protected and arc extinguishing technology as the core of Prosurge's competency. PSP C has a significant advantage in abnormal over-voltage & high fault current safety and thus ensures industry's highest level of safety and performance. The parallel redundancy modules design makes the SPDs extremely robust and reliable and thus may handle great impulse current up to 300kA (8/20 μs) and multiple impulse current at its highest rated level.

The Prosurge PSP C series are tested and listed as UL1449 4th Type 1 and Type 2 SPD (with sine wave tracking function). Their front panels integrate functionality of SPD working status monitor and self-diagnosis to enhance the performance and usability. They feature with indicator and colored LEDs to demonstrate the power & protection status of each protected power phase. They are constructed with NEMA 4/4X enclosures to ensure that dirt, dust and water are resisted for either indoor or outdoor usage.

Outstanding PTMOV Technology

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

■ **Typical Applications:**

In high & medium exposure locations

- Commercial
- Industrial
- Communications
- Renewable energy
- Critical power (hospitals, data centers, etc)

■ **Features:**

- UL 1449 4th Type 1 SPDs with SCCR up to 200kArms without external fuse or CB
- UL1449 4th Type 2 SPDs with Sine Wave Tracking, SCCR 200kArms
- Prosurge Patented SCCR 200kArms thermally protected MOV technology(PTMOV) as core component
- Full modes protection
- High surge energy capability with compact size
- Low voltage protection rating
- Degradation failure indication.
- Surge event counter optional
- Sine wave tracking function optional (for UL Type 2 listed)
- Two type enclosure, NEMA 4X plastic and NEMA 4 metal enclosure to resist dirt, dust and water
- Audible alarm, beep while SPD fail
- Remote Alarm optional
- Threaded NPT

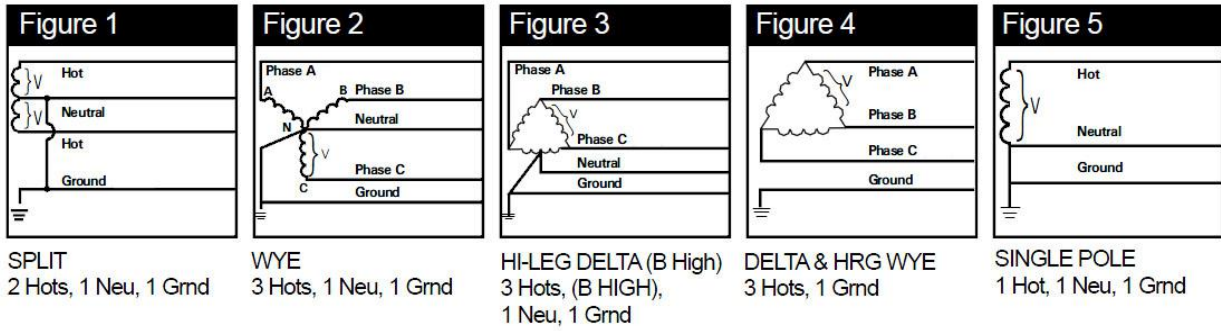
■ **Configure & Ordering Information:**

<u>PSP</u> Model series	<u>277Y</u> Voltage and system configuration	<u>C</u> Protection mode	<u>32</u> Surge capacity	<u>M</u> Enclosure	<u>/ T1</u> SPD Category	<u>CTA</u> Additional function
<u>PSP</u>	<u>277Y</u> : 277/480V WYE ...	<u>C</u> : Delete N-G protection mode	<u>32</u> :120kA per phase	<u>M</u> : metal enclosure (Only C2 type) *Part No. without <u>M</u> means plastic enclosure (C1 type)	<u>T1</u> : UL type 1 SPD	<u>C</u> : surge event counter

1. Voltage code for power distribution system

- 120SP ,240SP= 120/240V;240/480V-----Split-phase three-wire + ground (Figure1)
- 120Y, 127Y, 240Y, 277Y, 347Y = 208Y/120V,220Y/127V, 415Y/240V, 480Y/277V, 600Y/347V-----Three-phase wye (star) four-wire + ground (Figure2)
- 120H, 240H = 120/240V, 240V/480V-----Three-phase high leg delta (Figure3)
- 240D, 480D, 600D = 240V, 480V, 600V-----Three-phase delta three-wire + ground (Figure4)
- 120S, 127S, 240S, 277S, 347S =120V, 127V, 240V, 277V, 347V-----single-phase two-wire + ground (Figure5)

One-port Panel SPDs



2.M: Metal enclosure (without "M": plastic enclosure)



PSP C1 (NEMA 4X plastic enclosure)

3.: SPD Type per UL1449 4th edition

- T1= UL Type 1 SPD

4.#: Additional function

- C = Surge Counter
- T=Failure Test
- A=Remote Alarm



■ Basic circuit diagram

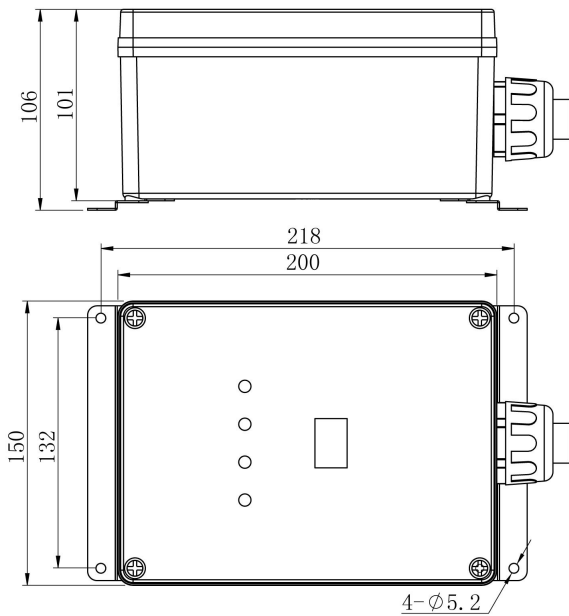
Note: x means 1 to 6 (Surge capacity 50kA~300kA)

Un/ Power system (50/60 HZ)	Basic circuit diagram of surge protection circuit	
	Power System has Neutral Line	
120/208 VAC WYE 127/220 VAC WYE 220/380 VAC WYE 230/400 VAC WYE 240/415VAC WYE 277/480 VAC WYE 347/600 VAC WYE ...	PSP...Yx2...(4W+G)	

■ Dimensions (unit: mm)

PSP series can be fixed with bolts. The dimension of the devices and bolt holes as below diagrams.

■ Typical for PSP C1 series



■ General Specification:

PSP category	C1
Certification	ANSI/UL1449 4 th edition, Type1/ 2
Connection Type	Parallel Connected
Surge Capacity	120kA per Phase
SCCR	200kArms
Sine wave tracking	Optional for UL Type 2 listed
Lightning counter Current	≥ 200A (with Reset button)
Failure pre-test	Press 2S (test button)
Power Status Indication	Normal=Blue LED ON
Working Status Indication	Normal= Blue LED ON; Fail= Blue LED turn to Red Buzzer inside, beep while SPD fail
Power Connecting	10AWG, 762mm (30") length, (L1=black; L2=red; L3=blue; N=white; PE=green)
Signal cable	16AWG, 762mm (30") length,(C=red; NC=blue; NO=brown)
Working environments	Temperature -40℃~+75℃, Humidity relative 5~95% (25℃) , Altitude≤3km
Dimensions (W x D x H)	200 x 150 x 100 mm
Threaded NPT	3/4"NPT
Enclosure	Plastic enclosure, NEMA 4X
Net Weight (typical value)	1.59 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		
PSP277Y32/T1CTA	480Y/277V; 400Y/230V Three-phase wye	20	✓	✓	✓	✓	1200	1200	1200	2000	120kA/phase, 60kA/mode	320

(end)