



Prosurge PS series panel SPDs are ultra-Large surge capacity design for critical application with very high exposure to lightning. They are UL 1449 4th Type 1 / Type 2 tested for point-of-entry (Category C, D, E, IEEE C62.41) and sub-circuit (Category B) protection. With surge capacity up to 900kA 8/20μs, PS series can meet most critical challenge worldwide and ensure maintenance-free for its lifetime.

By employing Prosurge's patented SMTMOV/HSMTMOV, a thermally protected and arc extinguishing technology component, PS series has a significant advantage in abnormal over-voltage & high fault current safety and thus ensure industry's highest level of safety and performance. The parallel redundancy modules design makes PS series more robust and reliable.

The **Anticipatory Failure Monitoring (AFM) technology** allows users to replace SPD before the protected electrical equipment or systems are threatened by overloads and thus ensure **uninterrupted surge protection**. Three stages LED indication (Blue-Yellow-Red) can help users to understand the current protection status. When the blue LED indicator turns to yellow, it shows that the SPD is in potential failure status and a replacement of the SPD is recommended. If the SPD is not replaced, it still continue to provide limited protection yet further overloads may lead to the risk of surge damage.

3 stages of 'Anticipatory failure monitoring':



**Rating :**

- **MCOV (Vac): 150V~690V**
- **Surge capacity (8/20μs): 150~600kA per phase, built with SMTMOV(I<sub>max</sub>:50kA) modules**  
**225~900kA per phase, built with HSMTMOV(I<sub>max</sub>:75kA) modules**
- **Lightning capacity (10/350μs): 12.5~80kA per phase, EN/IEC 61643-1/11 Class I test**
- **Short circuit current rating (SCCR): 200kArms - tested without external CB or fuse**

**Features:**

- UL listed Type 1 (ANSI/UL1449 4th, CSA C22.2) SPDs
- UL listed Type 2 (ANSI/UL1449 4th, CSA C22.2) SPDs with sine wave tracking
- Prosurge patented SCCR 200kArms thermally protected MOV technology (SMTMOV/HSMTMOV) as key component
- Full modes protection & high surge energy capability with compact size
- Low voltage protection rating
- Degradation failure indication. Anticipatory Failure Monitoring (AFM) technology to ensure permanent surge protection
- Surge event counter optional
- Sine wave tracking function optional
- Floating changeover contact for remote alarm
- Threaded NPT
- NEMA 4 metal enclosure to resist dirt, dust and water
- Meet both standards of UL1449-4th and IEC61643-11:2011

**Typical Application:**

In high exposure location, be ideal for primary service or building entrances protection applications:

- All power circuit
- Telecommunication application (cell towers, base station, data center, transfer center etc.)
- Industrial
- Commercial
- Renewable energy
- Oil or mineral



Adopt SMTMOV/HSMTMOV as Key Component





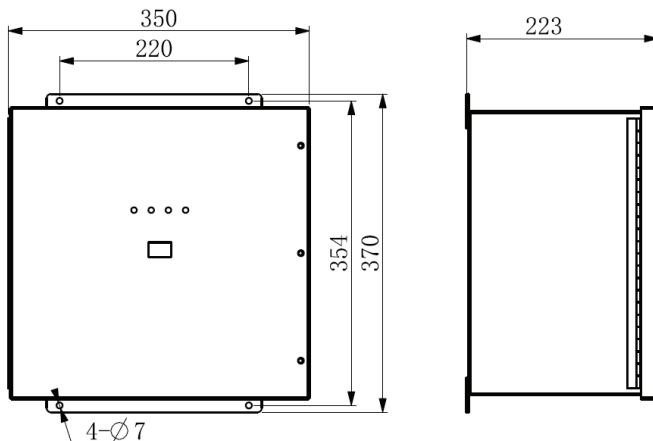
**Configuration & Ordering Information:**

PS	277Y	C	42	I	/ I1	CA
Model	Voltage and system configuration	Protection mode	Surge capacity	Gas tube optional	SPD Category	Additional function
<u>PS</u>	<u>120SP</u> : 120/240V split <u>240SP</u> : 240/480V split <u>120Y</u> : 120/208V WYE <u>277Y</u> : 277/480V WYE <u>120H</u> : 120/240V high-leg delta <u>240D</u> : 240V delta <u>120S</u> : 120V 1ph, 2W+G ...	<u>C</u> : Delete N-G protection mode  <u>G</u> : Only L/N (if needed) -G protection, delete L-N and L-L (if present ) protection  <u>N</u> : Only L-N & N-G protection, delete L-G protection  <u>N/A</u> : Full modes protection	31: 150 or 225 <sup>(1)</sup> kA /phase 41: 200 or 300 <sup>(1)</sup> kA /phase 51: 250 or 375 <sup>(1)</sup> kA /phase 61: 300 or 450 <sup>(1)</sup> kA /phase 32: 300 or 450 <sup>(1)</sup> kA /phase 42: 400 or 600 <sup>(1)</sup> kA /phase 52: 500 or 750 <sup>(1)</sup> kA /phase 62: 600 or 900 <sup>(1)</sup> kA /phase	<u>I</u> : Gas Tube used for N-G protection mode	<u>I1</u> : UL type 1 SPD  <u>I2F</u> : UL type 2 SPD with sine wave tracking	<u>C</u> : surge event counter  <u>A</u> : remote alarm

<sup>(1)</sup> The models with higher surge capacity are built with HSMTMOV (Uc range: 150~320)

PS Category	D
Certification	ANSI / UL 1449 4th, CSA C22.2, Type 1, Type 2
Connection Type	Parallel Connected
Surge Capacity	150~900kA 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	Three stage (Normal= Blue LED ON; Need replace= Yellow; Fail= turn to Red)
Power Connecting	8 AWG (L1=black; L2=red; L3=blue; N=white; PE=green)
Signal Cable	16 AWG (C=red; NC=blue; NO=brown)
Working Environment	Temperature: -40°C~+85°C; Humidity relative 5~95% (25°C); Altitude: ≤3km
Dimensions, W x D x H	350 x 370 x 223 mm
Threaded NPT	1" NPT
Enclosure	Metal enclosure, NEMA 4
Net Weight (Typical Value)	10.6 kg

• Dimension drawing





**PS series - Technical Data**

Note: % means 3 to 6 (Surge capacity 150kA~450kA per mode)

<sup>(2)</sup> lightning capacity of NPE mode is 100kA 10/350µs

Model No.	System Voltage (50/60Hz)	In (kA)	Protected Mode				Voltage Protection Ratings (VPR @6kV/ 3kA)				Surge Capacity per phase (8/20µs)	Lightning Capacity per phase (10/350µs)	MCOV (Vac)
			L-N	L-G	N-G	L-L	L-N	L-G	N-G	L-L			
PS120SP%2/*CA	120/240V Split-phase	20	✓	✓	✓	✗	700	700	700	1200	300~900kA	25~80kA	150
PS120SPC%1/*CA			✗	✓	✗	✗	-	700	-	1200	150~450kA	12.5~40kA	150
PS120SPN%1T/*CA			✓	✗	✓	✗	700	1500	1500	1200	150~450kA	12.5~40kA <sup>(2)</sup>	150
PS240SP%2/*CA	240/480V Split-phase	20	✓	✓	✓	✗	1200	1200	1200	2000	300~900kA	25~80kA	320
PS240SPC%1/*CA			✗	✓	✗	✗	-	1200	-	2000	150~450kA	12.5~40kA	320
PS240SPN%1T/*CA			✓	✗	✓	✗	1200	2000	1500	2000	150~450kA	12.5~40kA <sup>(2)</sup>	320
PS120Y%2/*CA	208Y120V Three-phase wye	20	✓	✓	✓	✗	700	700	700	1200	300~900kA	25~80kA	150
PS120YN%1T/*CA			✓	✗	✓	✗	700	1500	1500	1200	150~450kA	12.5~40kA <sup>(2)</sup>	150
PS120YN%1/*CA			✓	✗	✓	✗	700	1200	700	1200	150~450kA	12.5~40kA	150
PS120YG%1/*CA			✗	✓	✓	✗	1200	700	700	1200	150~450kA	12.5~40kA	150
PS120YC%1/*CA			✗	✓	✗	✗	-	700	-	1200	150~450kA	12.5~40kA	150
PS127Y%2/*CA	220Y127V Three-phase wye	20	✓	✓	✓	✗	700	700	700	1200	300~900kA	25~80kA	150
PS127YN%1T/*CA			✓	✗	✓	✗	700	1500	1500	1200	150~450kA	12.5~40kA <sup>(2)</sup>	150
PS127YN%1/*CA			✓	✗	✓	✗	700	1200	700	1200	150~450kA	12.5~40kA	150
PS127YG%1/*CA			✗	✓	✓	✗	1200	700	700	1200	150~450kA	12.5~40kA	150
PS127YC%1/*CA			✗	✓	✗	✗	-	700	-	1200	150~450kA	12.5~40kA	150
PS230Y%2/*CA	400Y230V Three-phase wye	20	✓	✓	✓	✗	1200	1200	1200	2000	300~900kA	25~80kA	320
PS230YN%1T/*CA			✓	✗	✓	✗	1200	1500	1500	2000	150~450kA	12.5~40kA <sup>(2)</sup>	320
PS230YN%1/*CA			✓	✗	✓	✗	1200	2000	1200	2000	150~450kA	12.5~40kA	320
PS230YG%1/*CA			✗	✓	✓	✗	2000	1200	1200	2000	150~450kA	12.5~40kA	320
PS230YC%1/*CA			✗	✓	✗	✗	-	1200	-	2000	150~450kA	12.5~40kA	320
PS240Y%2/*CA	415Y240V Three-phase wye	20	✓	✓	✓	✗	1200	1200	1200	2000	300~900kA	25~80kA	320
PS240YN%1T/*CA			✓	✗	✓	✗	1200	1500	1500	2000	150~450kA	12.5~40kA <sup>(2)</sup>	320
PS240YN%1/*CA			✓	✗	✓	✗	1200	2000	1200	2000	150~450kA	12.5~40kA	320
PS240YG%1/*CA			✗	✓	✓	✗	2000	1200	1200	2000	150~450kA	12.5~40kA	320
PS240YC%1/*CA			✗	✓	✗	✗	-	1200	-	2000	150~450kA	12.5~40kA	320
PS277Y%2/*CA	480Y277V Three-phase wye	20	✓	✓	✓	✗	1200	1200	1200	2000	300~900kA	25~80kA	320
PS277YN%1/*CA			✓	✗	✓	✗	1200	2000	1200	2000	150~450kA	12.5~40kA	320
PS277YG%1/*CA			✗	✓	✓	✗	2000	1200	1200	2000	150~450kA	12.5~40kA	320
PS277YC%1/*CA			✗	✓	✗	✗	-	1200	-	2000	150~450kA	12.5~40kA	320
PS347Y%2/*CA	600Y347V Three-phase wye	20	✓	✓	✓	✗	1500	1500	1500	2500	300~600kA	25~80kA	420
PS347YN%1/*CA			✓	✗	✓	✗	1500	2500	1500	2500	150~300kA	12.5~40kA	420
PS347YG%1/*CA			✗	✓	✓	✗	2500	1500	1500	2500	150~300kA	12.5~40kA	420
PS347YC%1/*CA			✗	✓	✗	✗	-	1500	-	2500	150~300kA	12.5~40kA	420
PS120H%2/*CA	120/240V High-leg delta	20	✓	✓	✓	✗	700-1200HL	700-1200HL	700	1200-2000HL	300~900kA	25~80kA	150/320HL
PS120HN%1T/*CA			✓	✗	✓	✗	700-1200HL	1500-2000HL	1500	1200-2000HL	150~450kA	12.5~40kA <sup>(2)</sup>	150/320HL
PS120HN%1/*CA			✓	✗	✓	✗	700-1200HL	1200-2000HL	700	1200-2000HL	150~450kA	12.5~40kA	150/320HL
PS120HG%1/*CA			✗	✓	✓	✗	1200-2000HL	700-1200HL	700	1200-2000HL	150~450kA	12.5~40kA	150/320HL
PS120HC%1/*CA			✗	✓	✗	✗	-	700-1200HL	-	1200-2000HL	150~450kA	12.5~40kA	150/320HL



PS series - Technical Data

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			L-N	L-G	N-G	L-L	L-N	L-G	N-G	L-L			
PS240H%2/*CA	240/480V High-leg delta	20	✓	✓	✓	✗	1200-2000HL	1200-2000HL	1200	2000-3000HL	300~600kA	25~50kA	320/550HL
PS240HN%1T/*CA			✓	✗	✓	✗	1200-2000HL	1500-3000HL	1500	2000-3000HL	150~300kA	12.5~25kA <sup>(2)</sup>	320/550HL
PS240HN%1/*CA			✓	✗	✓	✗	1200-2000HL	2000-3000HL	1200	2000-3000HL	150~300kA	12.5~25kA	320/550HL
PS240HG%1/*CA			✗	✓	✓	✗	2000-3000HL	1200-2000HL	1200	2000-3000HL	150~300kA	12.5~25kA	320/550HL
PS240HC%1/*CA			✗	✓	✗	✗	-	1200-2000HL	-	2000-3000HL	150~300kA	12.5~25kA	320/550HL
PS240D%2/*CA	240V Three-phase delta	20	✗	✓	✗	✓	-	1200	-	1200	300~900kA	25~80kA	320
PS240DG%1/*CA			✗	✓	✗	✗	-	1200	-	1500	150~450kA	12.5~40kA	320
PS480D%N2/*CA	480V Three-phase delta	20	✗	✓	✗	✓	-	1800	-	1800	300~600kA	25~50kA	550
PS480DGx1/*CA			✗	✓	✗	✗	-	1800	-	3000	150~300kA	12.5~25kA	550
PS600D%2/*CA	600V Three-phase delta	20	✗	✓	✗	✓	-	2000	-	2000	300~600kA	25~50kA	690
PS600DG%1/*CA			✗	✓	✗	✗	-	2000	-	4000	150~300kA	12.5~25kA	690
PS120S%2/*CA	120V Single-phase	20	✓	✓	✓	✗	700	700	700	-	300~900kA	25~40kA	150
PS120SN%1T/*CA			✓	✗	✓	✗	700	1500	1500	-	150~450kA	12.5~40kA <sup>(2)</sup>	150
PS120SN%1/*CA			✓	✗	✓	✗	700	1200	700	-	150~450kA	12.5~40kA	150
PS120SG%1/*CA			✗	✓	✓	✗	1200	700	700	-	150~450kA	12.5~40kA	150
PS127S%2/*CA	127V Single-phase	20	✓	✓	✓	✗	700	700	700	-	300~900kA	25~40kA	150
PS127SN%1T/*CA			✓	✗	✓	✗	700	1500	1500	-	150~450kA	12.5~40kA <sup>(2)</sup>	150
PS127SN%1/*CA			✓	✗	✓	✗	700	1200	700	-	150~450kA	12.5~40kA	150
PS127SG%1/*CA			✗	✓	✓	✗	1200	700	700	-	150~450kA	12.5~40kA	150
PS230S%2/*CA	230V Single-phase	20	✓	✓	✓	✗	1200	1200	1200	-	300~900kA	25~40kA	320
PS230SN%1T/*CA			✓	✗	✓	✗	1200	1500	1500	-	150~450kA	12.5~40kA <sup>(2)</sup>	320
PS230SN%1/*CA			✓	✗	✓	✗	1200	2000	1200	-	150~450kA	12.5~40kA	320
PS230SG%1/*CA			✗	✓	✓	✗	2000	1200	1200	-	150~450kA	12.5~40kA	320
PS240S%2/*CA	240V Single-phase	20	✓	✓	✓	✗	1200	1200	1200	-	300~900kA	25~40kA	320
PS240SN%1T/*CA			✓	✗	✓	✗	1200	1500	1500	-	150~450kA	12.5~40kA <sup>(2)</sup>	320
PS240SN%1/*CA			✓	✗	✓	✗	1200	2000	1200	-	150~450kA	12.5~40kA	320
PS240SG%1/*CA			✗	✓	✓	✗	2000	1200	1200	-	150~450kA	12.5~40kA	320
PS277S%2/*CA	277V Single-phase	20	✓	✓	✓	✗	1200	1200	1200	-	300~600kA	25~50kA	420
PS277SN%1/*CA			✓	✗	✓	✗	1200	2000	1200	-	150~300kA	12.5~25kA	420
PS277SG%1/*CA			✗	✓	✓	✗	2000	1200	1200	-	150~300kA	12.5~25kA	420
PS347S%2/*CA	347V Single-phase	20	✓	✓	✓	✗	1500	1500	1500	-	300~600kA	25~50kA	420
PS347SN%1/*CA			✓	✗	✓	✗	1500	2500	1500	-	150~300kA	12.5~25kA	420
PS347SG%1/*CA			✗	✓	✓	✗	2500	1500	1500	-	150~300kA	12.5~25kA	420



**PS Series - Basic Circuit Diagram**

Un/ Power system (50/60 HZ)	Basic Surge Protection Circuit Diagram		Basic Surge Protection Circuit Diagram	
	Normal model	N-G mode use GDT, Delete L-G mode (if present) PS...SPN%1T...(3W+G)	Delete L-G mode (if present) PS...SPN%1...(2W+G)	Delete L-N or L-L mode (if present) Delete N-G mode (if present) PS...SPC%1...(2W+G)
120/240VAC Split phase 240/480VAC Split phase ...				
120VAC single phase 127VAC single phase 220VAC single phase 230VAC single phase 240VAC single phase 277VAC single phase 347VAC single phase ...				
120/208VAC WYE 127/220VAC WYE 220/380VAC WYE 230/400VAC WYE 240/415VAC WYE 277/480VAC WYE 347/600VAC WYE ...				
240VAC Delta 480VAC Delta 600VAC Delta ...				