



Surge Protective Devices (SPDs)



Our strengths

- International R&D team
- Global patents protected
- 5+ years warranty
- KEMA, TUV, UL, CE, ROHS certified
- ISO9001& 6 sigma quality control
- In-house lab performing test according to UL or IEC standards

Global partners

To defend your choice with our strength and dignity

Founded in 2006, Prosurge is a world leader in manufacturing a full line of Surge Protective Devices (SPDs) for complete solutions across applications in the home, commercial, industrial, electricity system, telecommunications, transportation, and renewable energy sectors (e.g. Solar Power / PV, wind energy, EV Charging and energy storage), etc.

The past 20 years' specialized endeavor has positioned Prosurge as a highest-quality supplier with QEHS Management holders of ISO 9001, ISO 14001, and ISO 45001 awards. With a robust global sales network covering over 80 countries, Prosurge ensures unparalleled service and support to customers worldwide with competitive UL, CSA, TUV and KEMA certificate. Prosurge is committed to excellence. The proof is that Prosurge has an inhouse test lab appointed TÜV SÜD External Test Laboratory, which is complementary, in terms of the available resources, to be able to offer the widest range of tests to IEEE, UL, CSA and IEC standards.

Focused on MAXIMUM SAFETY IN SURGE PROTECTION, Prosurge will continually innovate in the surge protection market and struggle for ideal solution to customized installation.

Our surge protection products cover a wide range of applications and have been delivered to more than 80 countries.



Railway system



Solar power system



Telecommunication system



Wind energy system



Industrial control system



Electricity



Energy storage



CCTV system



Charger for electric vehicles



LED display



LED street Light



Petrol & Gas Industry



Strict bar code management tracking system

- ⌘ Bar code management for each part to trace lot #, parameters, materials lot No., materials specification, key process operator etc.



Product approvals & standards:

- ⌘ UL, (ANSI/UL 1449 5th edition, CSA C22.2, UL 497b, etc.)
- ⌘ KEMA, TUV(IEC/EN 61643-1/11, IEC/EN 61643-31/41, EN 50539)
- ⌘ CE (LVD, EMC)



Prosurge's In-house lab

- ⌘ Prosurge can perform testing according to ANSI/UL 1449, 497a/b/c, IEC/EN 61643-1/11/31/41, EN 50539-11, EN60730-1, IEC/EN 61643-21, IEEE C62.41 etc. at PROSURGE in-house Lab
- ⌘ China's leading lightning protection test laboratory
- ⌘ Strictly follow ISO/IEC 17025 testing and calibration laboratories standards
- ⌘ TÜV SÜD external test Laboratory

R&D

- ⌘ International R&D team with china & USA experts, senior member of IEC, UL and IEEE.
- ⌘ Main products are international patents protected to avoid any possible intellectual property risk



Quality assurance

- ⌘ Global supplier of Fortune 500 enterprises
- ⌘ ISO 9001 certified Quality Management System
- ⌘ ISO 14001 certified Environmental Management System
- ⌘ ISO 45001 certified Occupational Health Safety Management System
- ⌘ 6 Sigma Quality Control System
- ⌘ Inspection by 100% before packing
- ⌘ 5+ Years Warranty



Production capacity

- ⌘ Factory size in square meter: 4000
- ⌘ More than monthly 300K pcs SPDs in one shift



Multi-waveform surge generator

- For IEC/EN 61643 Type1, 2, 3 / Class B, C,D SPD, and UL1449 all type testing
- Current capacity: 100kA (10/350 μ s), 150kA (8/20 μ s) & combination wave (1.2/50 μ s voltage - 8/20 μ s current)



Glow wire tester

- IEC/EN 61643 Resistance to abnormal heat and fire



Online aging tester

- Uc / MCOV compliance 100% online testing before packing



Environment test chamber

- UL, IEC/EN environment test, aging test



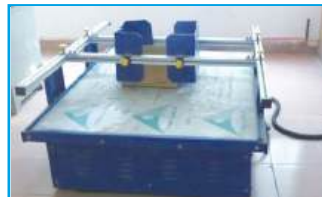
Rated functioning temperature (Tf)

- UI60691 & IEC/EN 60691



1.2/50 Voltage Impulse generator

- UL 1449 & IEC/EN 61643



Vibration tester

- Structural & packaging test



Thermal stability tester

- IEC/EN 61643



Intermediate current tester

- UL 1449



Accelerated aging tester

- UL 1449 & IEC/EN 61643



Precision Salt Spraying Tester

- ASTM 117&IEC60068-2-11



Fluke network analysis

- UI497 & IEC/EN 61643-21



Oscilloscope



Digital electric Bridge



SPD component tester



Varistor parameter tester

Certificates and International patents



UL



KEMA



TUV



ISO 14001:2015



ISO 45001:2018



ISO 9001:2015



US PATENT



GERMANY PATENT



KOREA PATENT

Prosurge SPDs overview

Prosurge is among the very few companies who can provide the most extensive SPDs applicable for worldwide market. The product details are thoroughly presented in later parts of this catalog.

Before we go into details, we would like to give a brief introduction so that you can have a general idea in the shortest time.

Basically, our SPDs can be classified into 6 categories:

PCB mounting SPDs



Panel SPDs



DIN-rail SPDs for AC & PV / DC



SPDs for information system



Lightning & surge monitoring devices



Intelligent SPDs (iSPDs)



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SPD for information system

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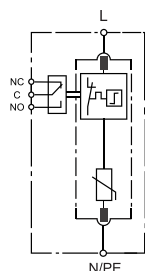
- TUV certified T1+ T2 SPD per IEC/EN 61643-11 standard
- Unique thermal disconnecter design provides quick thermal response and secure disconnection
- Dual module redundancy for one pole and dual indication window
- High lightning current discharge capacity up to 25kA 10/350µs, surge current capability up to 100kA 8/20µs
- High short-circuit current rating up to 50kArms, suitable for most industry and commerce application
- Anti-vibration module locking system with release button
- Pluggable module for easy replacement without the need to remove system wiring
- Degradation failure indication and optional remote signal contact



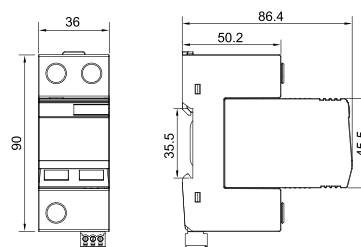
Prosurge's BP25V series are class I and class II pluggable MOV based SPDs, designed for low-voltage power supply system lightning & surge protection, especially for locations of high risk exposure or LPZ 0A-1 building entrances (IEC 62305-4) to against the damage from direct or close lightning strikes. High energy MOVs are employed to provide stable lightning & surge protection service with no follow current, with a lightning current discharge capacity up to 25kA (10/350µs) and short circuit current rating as 50kArms, the BP25V is suit for the main distribution board of low-voltage power supply system. A notable feature of BP25V is dual module redundancy design, two individual MOV protection modules in parallel in one pole SPD with two indication windows, so that the SPD could keep on working in spite of one protection module fails or one indication windows turns to red. That will help to realize the uninterrupted surge protection, since user can replace the failure models according to the timing and the condition.

Part No.	BP25V/xxx(-S)	75	150	180	275	320	350	385	440	480	600	750
In accordance with	IEC/EN 61643-11:2011; UL1449 5th											
Category IEC/EN/VDE	I+ II /1+2/ B+C											
Nominal voltage (AC) Un	60V	120V	120V	230V	230V	277V	277V	400V	400V	480V	690V	
Max. continuous operating voltage(AC) Uc	75V	150V	180V	275V	320V	350V	385V	440V	480V	600V	750V	
Nominal discharge current(8/20) In	25kA											
Max. discharge current(8/20) Imax	100kA											
Lightning impulse current (10/350) Iimp	25kA	25kA	25kA	25kA	25kA	25kA	25kA	25kA	22kA	15kA	12.5kA	
Voltage protection level Up	0.6kV	0.8kV	1.0kV	1.2kV	1.4kV	1.5kV	1.8kV	2.0kV	2.2kV	2.5kV	2.8kV	
Temporary overvoltage TOV-5 sec Ur withstand mode	90V	174V	228V	335V	335V	403V	403V	580V	580V	700V	870V	
Short-circuit current rating Isccr	50 kArms											
Leakage current Ipe	<0.1 mA											
Backup fuse(only required if not already provided in mains)	≤315A gL/gG											
Operating temperature range	-40°C ~ +85°C											
Mounting	35mm DIN-rail											
Degree of protection	IP20											
Thermal disconnecter	Internal Green – normal ; red - failure											
Remote alarm contact type	Isolated Form C											
Switching capability Un / In	AC: 250V/0.5A DC: 250V/0.1A; 125V/0.2A; 75V/0.5A											

■ Basic circuit diagram



■ Dimension drawing (mm)



SPD for AC power supply system

Class I + Class II / Type 1 + Type 2

G50/G100 NPE

ProSurge®
Maximum Safety in Surge Protection



- TUV certified T1+ T2 SPD per IEC/EN 61643-11 standard.
- Designed for separation and protection between the N and PE conductors
- High energy gas discharge tube technology
- High lightning current discharge capacity up to 100kA 10/350 μ s
- High surge current discharge capacity up to 150kA 8/20 μ s
- 35mm DIN-rail mounting
- Wide operating temperature -40°C ~85°C

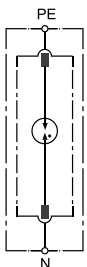


Prosurge's G50(100) NPE series are class I and class II gas discharge tube (GDT) based SPDs, designed for low-voltage power supply system lightning current & surge protection, especially for separation and protection between the N and PE conductors.

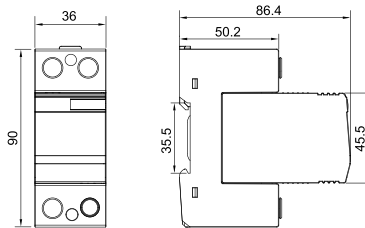
With a lightning discharge capacity up to 50/100kA (10/350 μ s) and surge discharge capacity up 150kA (8/20 μ s), G50(100) NPE module fulfill the total discharge current requirement for installation in "1+1" or "3+1" circuit according to standards IEC 60364-4-53/IEC 62305.

Part No.	G50/150NPE	G50/255NPE	G50/440NPE	G100/150NPE	G100/255NPE	G100/440NPE
In accordance with	IEC/EN 61643-11:2011; UL1449 5th					
Category IEC/EN/VDE	I+ II /1+2/ B+C					
Max. continuous operating voltage(AC) U_c	150V	255V	440V	150V	255V	440V
Nominal discharge current(8/20) I_n	50kA	50kA	50kA	100kA	100kA	100kA
Max. discharge current(8/20) I_{max}	100kA	100kA	100kA	150kA	150kA	150kA
Lightning impulse current (10/350) I_{imp}	50kA	50kA	50kA	100kA	100kA	100kA
Voltage protection level U_p	1.5kV	1.5kV	2.0kV	1.5kV	1.5kV	2.0kV
Temporary overvoltage TOV-200ms U_T withstand mode	1200V	1200V	1200V	1200V	1200V	1200V
Follow current & interrupt rating I_{fi}	100Arms					
Operating temperature range	-40°C ~ +85°C					
Mounting	35mm DIN-rail					
Enclosure material	Thermoplastic; extinguishing degree UL94 V-0					
Degree of protection	IP20					
Approvals, certifications	TUV, CE					

Basic circuit diagram



Dimension drawing (mm)





Prewired multi-pole SPDs

Part No.	Pole	Protection circuit	Max. operating Voltage	Lightning impulse current(10/350us)	Max.discharge current(8/20 us)	Nominal discharge current(8/20 us)	Voltage protection level	Short-circuit current rating	Diagram
			Uc	Iimp	Imax	In	Up	Iscrr	
BP25V/75(-S)/2P	2	2+0	75Vac	25kA	100kA	25kA	0.6kV	50kA	1
BP25V/150(-S)/2P	2	2+0	150Vac	25kA	100kA	25kA	0.8kV	50kA	1
BP25V/180(-S)/2P	2	2+0	180Vac	25kA	100kA	25kA	1.0kV	50kA	1
BP25V/275(-S)/2P	2	2+0	275Vac	25kA	100kA	25kA	1.2kV	50kA	1
BP25V/320(-S)/2P	2	2+0	320Vac	25kA	100kA	25kA	1.4kV	50kA	1
BP25V/350(-S)/2P	2	2+0	350Vac	25kA	100kA	25kA	1.5kV	50kA	1
BP25V/385(-S)/2P	2	2+0	385Vac	25kA	100kA	25kA	1.8kV	50kA	1
BP25V/440(-S)/2P	2	2+0	440Vac	25kA	100kA	25kA	2.0kV	50kA	1
BP25V/480(-S)/2P	2	2+0	480Vac	22kA	100kA	25kA	2.2kV	50kA	1
BP25V/600(-S)/2P	2	2+0	600Vac	15kA	100kA	25kA	2.5kV	50kA	1
BP25V/750(-S)/2P	2	2+0	750Vac	12.5kA	100kA	25kA	2.8kV	50kA	1
BP25V/75(-S)/PN50	2	1+1	L-N:75Vac N-PE:150Vac	L-N:25kA N-PE:50kA	L-N:100kA N-PE:100kA	L-N:25kA N-PE:50kA	L-N: 0.6kV N-PE:1.5kV	50kA	2
BP25V/150(-S)/PN50	2	1+1	L-N:150Vac N-PE:150Vac	L-N:25kA N-PE:50kA	L-N:100kA N-PE:100kA	L-N:25kA N-PE:50kA	L-N: 0.8kV N-PE:1.5kV	50kA	2
BP25V/180(-S)/PN50	2	1+1	L-N:180Vac N-PE:150Vac	L-N:25kA N-PE:50kA	L-N:100kA N-PE:100kA	L-N:25kA N-PE:50kA	L-N: 1.0kV N-PE:1.5kV	50kA	2
BP25V/275(-S)/PN50	2	1+1	L-N:275Vac N-PE:255Vac	L-N:25kA N-PE:50kA	L-N:100kA N-PE:100kA	L-N:25kA N-PE:50kA	L-N: 1.2kV N-PE:1.5kV	50kA	2
BP25V/320(-S)/PN50	2	1+1	L-N:320Vac N-PE:255Vac	L-N:25kA N-PE:50kA	L-N:100kA N-PE:100kA	L-N:25kA N-PE:50kA	L-N: 1.4kV N-PE:1.5kV	50kA	2
BP25V/350(-S)/PN50	2	1+1	L-N:350Vac N-PE:255Vac	L-N:25kA N-PE:50kA	L-N:100kA N-PE:100kA	L-N:25kA N-PE:50kA	L-N: 1.5kV N-PE:1.5kV	50kA	2
BP25V/385(-S)/PN50	2	1+1	L-N:385Vac N-PE:255Vac	L-N:25kA N-PE:50kA	L-N:100kA N-PE:100kA	L-N:25kA N-PE:50kA	L-N: 1.8kV N-PE:1.5kV	50kA	2
BP25V/440(-S)/PN50I	2	1+1	L-N:440Vac N-PE:255Vac	L-N:25kA N-PE:50kA	L-N:100kA N-PE:100kA	L-N:25kA N-PE:50kA	L-N: 2.0kV N-PE:1.5kV	50kA	2
BP25V/440(-S)/PN50	2	1+1	L-N:440Vac N-PE:440Vac	L-N:25kA N-PE:50kA	L-N:100kA N-PE:100kA	L-N:25kA N-PE:50kA	L-N: 2.0kV N-PE:2.0kV	50kA	2
BP25V/75(-S)/3P	3	3+0	75Vac	25kA	100kA	25kA	0.6kV	50kA	3
BP25V/150(-S)/3P	3	3+0	150Vac	25kA	100kA	25kA	0.8kV	50kA	3
BP25V/180(-S)/3P	3	3+0	180Vac	25kA	100kA	25kA	1.0kV	50kA	3
BP25V/275(-S)/3P	3	3+0	275Vac	25kA	100kA	25kA	1.2kV	50kA	3
BP25V/320(-S)/3P	3	3+0	320Vac	25kA	100kA	25kA	1.4kV	50kA	3
BP25V/350(-S)/3P	3	3+0	350Vac	25kA	100kA	25kA	1.5kV	50kA	3
BP25V/385(-S)/3P	3	3+0	385Vac	25kA	100kA	25kA	1.8kV	50kA	3
BP25V/440(-S)/3P	3	3+0	440Vac	25kA	100kA	25kA	2.0kV	50kA	3
BP25V/480(-S)/3P	3	3+0	480Vac	22kA	100kA	25kA	2.2kV	50kA	3
BP25V/600(-S)/3P	3	3+0	600Vac	15kA	100kA	25kA	2.5kV	50kA	3
BP25V/750(-S)/3P	3	3+0	750Vac	12.5kA	100kA	25kA	2.8kV	50kA	3
BP25V/75(-S)/4P	4	4+0	75Vac	25kA	100kA	25kA	0.6kV	50kA	4
BP25V/150(-S)/4P	4	4+0	150Vac	25kA	100kA	25kA	0.8kV	50kA	4
BP25V/180(-S)/4P	4	4+0	180Vac	25kA	100kA	25kA	1.0kV	50kA	4
BP25V/275(-S)/4P	4	4+0	275Vac	25kA	100kA	25kA	1.2kV	50kA	4
BP25V/320(-S)/4P	4	4+0	320Vac	25kA	100kA	25kA	1.4kV	50kA	4
BP25V/350(-S)/4P	4	4+0	350Vac	25kA	100kA	25kA	1.5kV	50kA	4
BP25V/385(-S)/4P	4	4+0	385Vac	25kA	100kA	25kA	1.8kV	50kA	4
BP25V/440(-S)/4P	4	4+0	440Vac	25kA	100kA	25kA	2.0kV	50kA	4
BP25V/480(-S)/4P	4	4+0	480Vac	22kA	100kA	25kA	2.2kV	50kA	4
BP25V/600(-S)/4P	4	4+0	600Vac	15kA	100kA	25kA	2.5kV	50kA	4
BP25V/750(-S)/4P	4	4+0	750Vac	12.5kA	100kA	25kA	2.8kV	50kA	4
BP25V/150(-S)/3PN100	4	3+1	L-N:75Vac N-PE:150Vac	L-N:25kA N-PE:100kA	L-N:100kA N-PE:150kA	L-N:25kA N-PE:100kA	L-N: 0.6kV N-PE:1.5kV	50kA	5
BP25V/150(-S)/3PN100	4	3+1	L-N:150Vac N-PE:150Vac	L-N:25kA N-PE:100kA	L-N:100kA N-PE:150kA	L-N:25kA N-PE:100kA	L-N: 0.8kV N-PE:1.5kV	50kA	5

SPD for AC power supply system

Class I + Class II / Type 1 + Type 2 BP25V

ProSurge®
Maximum Safety in Surge Protection

Prewired multi-pole SPDs

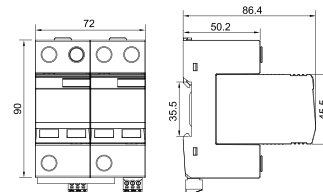
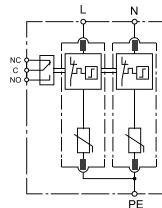
Part No.	Pole	Protection circuit	Max. operating Voltage	Lightning impulse current(10/350us)	Max.discharge current(8/20 us)	Nominal discharge current(8/20 us)	Voltage protection level	Short-circuit current rating	Diagram
			Uc	Iimp	I _{max}	I _n	Up	I _{sc}	
BP25V/180(-S)/3PN100	4	3+1	L-N:180Vac N-PE:150Vac	L-N:25kA N-PE:100kA	L-N:100kA N-PE:150kA	L-N:25kA N-PE:100kA	L-N: 1.0kV N-PE:1.5kV	50kA	5
BP25V/275(-S)/3PN100	4	3+1	L-N:275Vac N-PE:255Vac	L-N:25kA N-PE:100kA	L-N:100kA N-PE:150kA	L-N:25kA N-PE:100kA	L-N: 1.2kV N-PE:1.5kV	50kA	5
BP25V/320(-S)/3PN100	4	3+1	L-N:320Vac N-PE:255Vac	L-N:25kA N-PE:100kA	L-N:100kA N-PE:150kA	L-N:25kA N-PE:100kA	L-N: 1.4kV N-PE:1.5kV	50kA	5
BP25V/350(-S)/3PN100	4	3+1	L-N:350Vac N-PE:255Vac	L-N:25kA N-PE:100kA	L-N:100kA N-PE:150kA	L-N:25kA N-PE:100kA	L-N: 1.5kV N-PE:1.5kV	50kA	5
BP25V/385(-S)/3PN100	4	3+1	L-N:385Vac N-PE:255Vac	L-N:25kA N-PE:100kA	L-N:100kA N-PE:150kA	L-N:25kA N-PE:100kA	L-N: 1.8kV N-PE:1.5kV	50kA	5
BP25V/440(-S)/3PN100I	4	3+1	L-N:440Vac N-PE:255Vac	L-N:25kA N-PE:100kA	L-N:100kA N-PE:150kA	L-N:25kA N-PE:100kA	L-N: 2.0kV N-PE:1.5kV	50kA	5
BP25V/440(-S)/3PN100	4	3+1	L-N:440Vac N-PE:440Vac	L-N:25kA N-PE:100kA	L-N:100kA N-PE:150kA	L-N:25kA N-PE:100kA	L-N: 2.0kV N-PE:2.0kV	50kA	5

Diagram

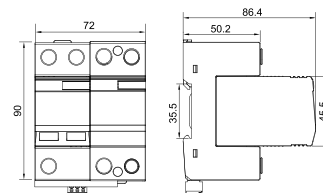
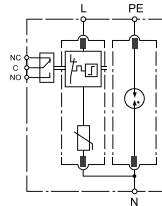
Basic circuit diagram

Dimension drawing

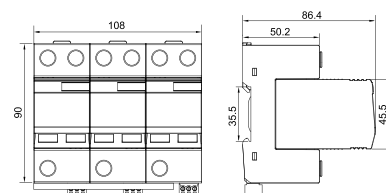
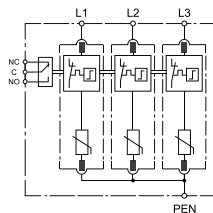
1)2+0



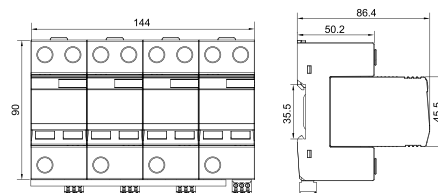
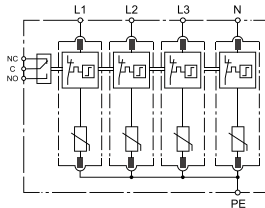
2)1+1



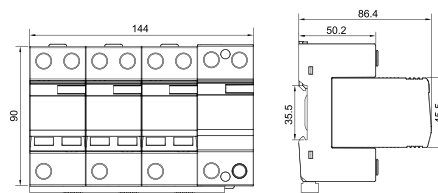
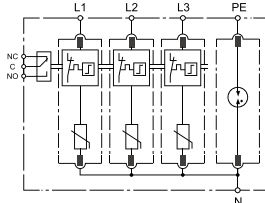
3)3+0



4)4+0



5)3+1



- TUV certified T1+T2 SPD per IEC/EN 61643-11 standard
- Unique thermal disconnecter design provides quick thermal response and secure disconnection
- Dual module redundancy for one pole and dual failure indication window
- Lightning current capacity up to 25 kA10/350µs, surge current capability up to 100kA 8/20µs
- High short-circuit current rating up to 50kArms, suitable for most industry and commerce application
- Long service life because of no leakage current and follow current
- Better reliability and robustness, Higher TOV (Temporary Over-Voltage) withstanding performance
- Anti-vibration module locking system with release button
- Pluggable module for easy replacement without the need to remove system wiring



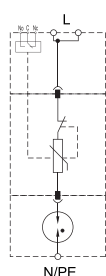
Prosurge's BP25VT series are class I and class II pluggable SPDs, designed for low-voltage power supply system lightning current & surge protection, especially for locations of high risk exposure or LPZ 0A-1 building entrances (IEC 62305-4) to against the damage from direct or close lightning strikes.

With built in PROSURGE VT technology, BP25VT features No leakage current and No follow current. It can be applied in most electrical installation to provide better reliability and safety protection, and particularly suitable for system with permanent insulation monitoring. Another prominent feature of BP25VT is higher TOV (temporary over-voltage) resistibility, which makes it can withstand high mains voltage fluctuation, expanded the scope of its application.

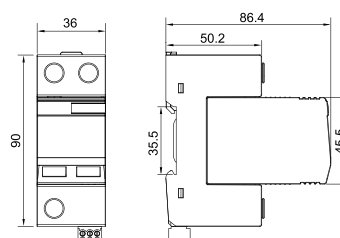
BP25VT is designed as dual module redundancy, two individual MOV protection modules in parallel in one pole SPD with two indication windows, so that the SPD could keep on working in spite of one protection module fails or one indication windows turns to red. That will help to realize the uninterrupted surge protection, since user can replace the failure models according to the timing and the condition.

Part No.	BP25VT/xxx(-S)	75	150	180	275	320	350	385	440	480	600	750
In accordance with		IEC/EN 61643-11:2011; UL1449 5th										
Category IEC/EN/VDE		I+ II /1+2/ B+C										
Nominal voltage (AC) Un		60V	120V	120V	230V	230V	277V	277V	400V	400V	480V	690V
Max. continuous operating voltage(AC) Uc		75V	150V	180V	275V	320V	350V	385V	440V	480V	600V	750V
Nominal discharge current(8/20) In		25kA										
Max. discharge current(8/20) Imax		100kA										
Lightning impulse current (10/350) Iimp		25kA	25kA	25kA	25kA	25kA	25kA	25kA	25kA	22kA	15kA	12.5kA
Voltage protection level Up		0.6kV	0.7kV	0.8kV	1.0kV	1.2kV	1.4kV	1.6kV	1.8kV	2.0kV	2.2kV	2.5kV
Temporary overvoltage TOV-120 min Ur withstand mode		115V	228V	242V	442V	442V	528V	528V	763V	763V	915V	1145V
Short-circuit current rating Isccr		50 kArms										
Leakage current Ipe		0 mA										
Backup fuse(only required if not already provided in mains)		≤315A gL/gG										
Operating temperature range		-40°C ~ +85°C										
Mounting		35mm DIN-rail										
Degree of protection		IP20										
Thermal disconnecter		Internal green - normal ; red - failure										
Remote alarm contact type		Isolated form C										
Switching capability Un / In		AC: 250V/0.5A DC: 250V/0.1A; 125V/0.2A; 75V/0.5A										

■ Basic circuit



■ Dimension drawing (mm)





SPD for AC power supply system

Class I + Class II / Type 1 + Type 2

BP25VT

ProSurge®
Maximum Safety in Surge Protection

Prewired multi-pole SPDs

Part No.	Pole	Protection circuit	Max. operating Voltage	Lightning impulse current(10/350us)	Max.discharge current(8/20 us)	Nominal discharge current(8/20 us)	Voltage protection level	Short-circuit current rating	Diagram
			Uc	Iimp	Imax	In	Up	Iscrr	
BP25VT/75(-S)/2P	2	2+0	75Vac	25kA	100kA	25kA	0.6kV	50kA	1
BP25VT/150(-S)/2P	2	2+0	150Vac	25kA	100kA	25kA	0.7kV	50kA	1
BP25VT/180(-S)/2P	2	2+0	180Vac	25kA	100kA	25kA	0.8kV	50kA	1
BP25VT/275(-S)/2P	2	2+0	275Vac	25kA	100kA	25kA	1.0kV	50kA	1
BP25VT/320(-S)/2P	2	2+0	320Vac	25kA	100kA	25kA	1.2kV	50kA	1
BP25VT/350(-S)/2P	2	2+0	350Vac	25kA	100kA	25kA	1.4kV	50kA	1
BP25VT/385(-S)/2P	2	2+0	385Vac	25kA	100kA	25kA	1.6kV	50kA	1
BP25VT/440(-S)/2P	2	2+0	440Vac	25kA	100kA	25kA	1.8kV	50kA	1
BP25VT/480(-S)/2P	2	2+0	480Vac	22kA	100kA	25kA	2.0kV	50kA	1
BP25VT/600(-S)/2P	2	2+0	600Vac	15kA	100kA	25kA	2.2kV	50kA	1
BP25VT/750(-S)/2P	2	2+0	750Vac	12.5kA	100kA	25kA	2.5kV	50kA	1
BP25VT/75(-S)/PN50	2	1+1	L-N:75Vac N-PE:150Vac	L-N:25kA N-PE:50kA	L-N:100kA N-PE:100kA	L-N:25kA N-PE:50kA	L-N: 0.6kV N-PE:1.5kV	50kA	2
BP25VT/150(-S)/PN50	2	1+1	L-N:150Vac N-PE:150Vac	L-N:25kA N-PE:50kA	L-N:100kA N-PE:100kA	L-N:25kA N-PE:50kA	L-N: 0.7kV N-PE:1.5kV	50kA	2
BP25VT/180(-S)/PN50	2	1+1	L-N:180Vac N-PE:150Vac	L-N:25kA N-PE:50kA	L-N:100kA N-PE:100kA	L-N:25kA N-PE:50kA	L-N: 0.8kV N-PE:1.5kV	50kA	2
BP25VT/275(-S)/PN50	2	1+1	L-N:275Vac N-PE:255Vac	L-N:25kA N-PE:50kA	L-N:100kA N-PE:100kA	L-N:25kA N-PE:50kA	L-N: 1.0kV N-PE:1.5kV	50kA	2
BP25VT/320(-S)/PN50	2	1+1	L-N:320Vac N-PE:255Vac	L-N:25kA N-PE:50kA	L-N:100kA N-PE:100kA	L-N:25kA N-PE:50kA	L-N: 1.2kV N-PE:1.5kV	50kA	2
BP25VT/350(-S)/PN50	2	1+1	L-N:350Vac N-PE:255Vac	L-N:25kA N-PE:50kA	L-N:100kA N-PE:100kA	L-N:25kA N-PE:50kA	L-N: 1.4kV N-PE:1.5kV	50kA	2
BP25VT/385(-S)/PN50	2	1+1	L-N:385Vac N-PE:255Vac	L-N:25kA N-PE:50kA	L-N:100kA N-PE:100kA	L-N:25kA N-PE:50kA	L-N: 1.6kV N-PE:1.5kV	50kA	2
BP25VT/440(-S)/PN50I	2	1+1	L-N:440Vac N-PE:255Vac	L-N:25kA N-PE:50kA	L-N:100kA N-PE:100kA	L-N:25kA N-PE:50kA	L-N: 1.8kV N-PE:1.5kV	50kA	2
BP25VT/440(-S)/PN50	2	1+1	L-N:440Vac N-PE:440Vac	L-N:25kA N-PE:50kA	L-N:100kA N-PE:100kA	L-N:25kA N-PE:50kA	L-N: 1.8kV N-PE:2.0kV	50kA	2
BP25VT/75(-S)/3P	3	3+0	75Vac	25kA	100kA	25kA	0.6kV	50kA	3
BP25VT/150(-S)/3P	3	3+0	150Vac	25kA	100kA	25kA	0.7kV	50kA	3
BP25VT/180(-S)/3P	3	3+0	180Vac	25kA	100kA	25kA	0.8kV	50kA	3
BP25VT/275(-S)/3P	3	3+0	275Vac	25kA	100kA	25kA	1.0kV	50kA	3
BP25VT/320(-S)/3P	3	3+0	320Vac	25kA	100kA	25kA	1.2kV	50kA	3
BP25VT/350(-S)/3P	3	3+0	350Vac	25kA	100kA	25kA	1.4kV	50kA	3
BP25VT/385(-S)/3P	3	3+0	385Vac	25kA	100kA	25kA	1.6kV	50kA	3
BP25VT/440(-S)/3P	3	3+0	440Vac	25kA	100kA	25kA	1.8kV	50kA	3
BP25VT/480(-S)/3P	3	3+0	480Vac	22kA	100kA	25kA	2.0kV	50kA	3
BP25VT/600(-S)/3P	3	3+0	600Vac	15kA	100kA	25kA	2.2kV	50kA	3
BP25VT/750(-S)/3P	3	3+0	750Vac	12.5kA	100kA	25kA	2.5kV	50kA	3
BP25VT/75(-S)/4P	4	4+0	75Vac	25kA	100kA	25kA	0.6kV	50kA	4
BP25VT/150(-S)/4P	4	4+0	150Vac	25kA	100kA	25kA	0.7kV	50kA	4
BP25VT/180(-S)/4P	4	4+0	180Vac	25kA	100kA	25kA	0.8kV	50kA	4
BP25VT/275(-S)/4P	4	4+0	275Vac	25kA	100kA	25kA	1.0kV	50kA	4
BP25VT/320(-S)/4P	4	4+0	320Vac	25kA	100kA	25kA	1.2kV	50kA	4
BP25VT/350(-S)/4P	4	4+0	350Vac	25kA	100kA	25kA	1.4kV	50kA	4
BP25VT/385(-S)/4P	4	4+0	385Vac	25kA	100kA	25kA	1.6kV	50kA	4
BP25VT/440(-S)/4P	4	4+0	440Vac	25kA	100kA	25kA	1.8kV	50kA	4
BP25VT/480(-S)/4P	4	4+0	480Vac	22kA	100kA	25kA	2.0kV	50kA	4
BP25VT/600(-S)/4P	4	4+0	600Vac	15kA	100kA	25kA	2.2kV	50kA	4
BP25VT/750(-S)/4P	4	4+0	750Vac	12.5kA	100kA	25kA	2.5kV	50kA	4
BP25VT/75(-S)/3PN100	4	3+1	L-N:75Vac N-PE:150Vac	L-N:25kA N-PE:100kA	L-N:100kA N-PE:150kA	L-N:25kA N-PE:100kA	L-N: 0.6kV N-PE:1.5kV	50kA	5
BP25VT/150(-S)/3PN100	4	3+1	L-N:150Vac N-PE:150Vac	L-N:25kA N-PE:100kA	L-N:100kA N-PE:150kA	L-N:25kA N-PE:100kA	L-N: 0.7kV N-PE:1.5kV	50kA	5
BP25VT/180(-S)/3PN100	4	3+1	L-N:180Vac N-PE:150Vac	L-N:25kA N-PE:100kA	L-N:100kA N-PE:150kA	L-N:25kA N-PE:100kA	L-N: 0.8kV N-PE:1.5kV	50kA	5

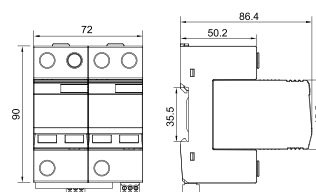
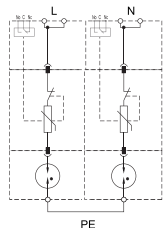


Prewired multi-pole SPDs

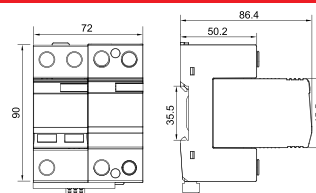
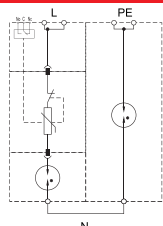
Part No.	Pole	Protection circuit	Max. operating Voltage	Lightning impulse current(10/350us)	Max.discharge current(8/20 us)	Nominal discharge current(8/20 us)	Voltage protection level	Short-circuit current rating	Diagram
			Uc	Iimp	I _{max}	I _n	Up	I _{sc}	
BP25VT/275(-S)3PN100	4	3+1	L-N:275Vac N-PE:255Vac	L-N:25kA N-PE:100kA	L-N:100kA N-PE:150kA	L-N:25kA N-PE:100kA	L-N: 1.0kV N-PE:1.5kV	50kA	5
BP25VT/320(-S)3PN100	4	3+1	L-N:320Vac N-PE:255Vac	L-N:25kA N-PE:100kA	L-N:100kA N-PE:150kA	L-N:25kA N-PE:100kA	L-N: 1.2kV N-PE:1.5kV	50kA	5
BP25VT/350(-S)3PN100	4	3+1	L-N:350Vac N-PE:255Vac	L-N:25kA N-PE:100kA	L-N:100kA N-PE:150kA	L-N:25kA N-PE:100kA	L-N: 1.4kV N-PE:1.5kV	50kA	5
BP25VT/385(-S)3PN100	4	3+1	L-N:385Vac N-PE:255Vac	L-N:25kA N-PE:100kA	L-N:100kA N-PE:150kA	L-N:25kA N-PE:100kA	L-N: 1.6kV N-PE:1.5kV	50kA	5
BP25VT/440(-S)3PN100I	4	3+1	L-N:440Vac N-PE:255Vac	L-N:25kA N-PE:100kA	L-N:100kA N-PE:150kA	L-N:25kA N-PE:100kA	L-N: 1.8kV N-PE:1.5kV	50kA	5
BP25VT/440(-S)3PN100	4	3+1	L-N:440Vac N-PE:440Vac	L-N:25kA N-PE:100kA	L-N:100kA N-PE:150kA	L-N:25kA N-PE:100kA	L-N: 1.8kV N-PE:2.0kV	50kA	5

Diagram Basic circuit diagram Dimension drawing

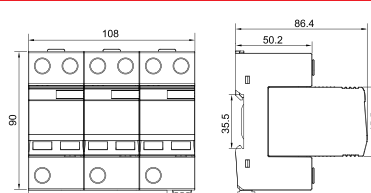
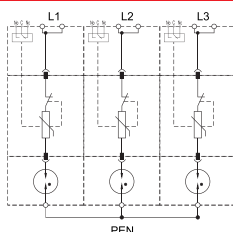
1)2+0



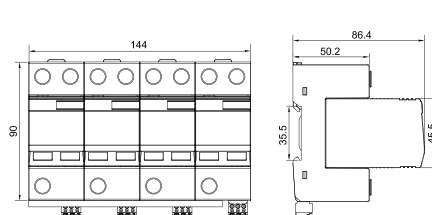
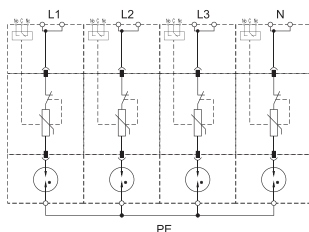
2)1+1



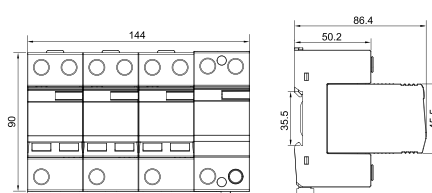
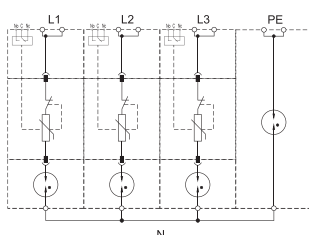
3)3+0



4)4+0



5)3+1



SPD for AC power supply system

Class I + Class II / Type 1 + Type 2 BPS12.5V

ProSurge®
Maximum Safety in Surge Protection

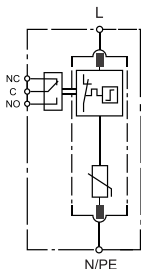


- TUV certified T1+ T2 SPD per IEC/EN 61643-11 standard.
- 18mm narrow model design, pluggable module for easy replacement without the need to remove system wiring
- Unique thermal disconnecter design provides quick thermal response and secure disconnection
- High lightning current discharge capacity 12.5kA 10/350μs, surge current capability up to 80kA 8/20μs
- High short-circuit current rating up to 50kArms, suitable for most industry and commerce application
- Degradation failure indication and optional remote signal contact.
- 35mm DIN-rail mounting

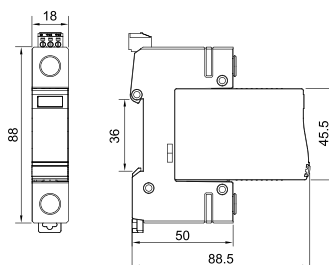
Prosurge's BPS12.5V series are class I and class II pluggable MOV based SPDs, designed for low-voltage power supply system lightning current & surge protection, especially for locations of high risk exposure or LPZ 0B-1 building entrances (IEC 62305-4) to against the damage from direct or close lightning strikes. BPS12.5V features a compact housing design (18 mm narrow) with a high energy MOV employed, which the lightning discharge capacity can be up to 12.5kA (10/350μs) and short circuit current rating as 50kArms, the BPS12.5V is an ideal solution for the main distribution board of low-voltage power supply system surge protection. BPS12.5V can be used alone or in combination, the multifunctional terminals offer busbars and conductor connecting, that makes it ideal for use in various low-voltage power distributions.

Part No.	BPS12.5V/xxx(-S)	75	150	180	275	320	350	385	440	480	600	750
In accordance with		IEC/EN 61643-11:2011; UL1449 5th										
Category IEC/EN/VDE		I+ II /1+2/ B+C										
Nominal voltage (AC) Un		60V	120V	120V	230V	230V	277V	277V	400V	400V	480V	600V
Max. continuous operating voltage(AC) Uc		75V	150V	180V	275V	320V	350V	385V	440V	480V	600V	750V
Nominal discharge current(8/20) In		25kA										
Max. discharge current(8/20) I _{max}		80kA	80kA	80kA	80kA	80kA	80kA	80kA	65kA	65kA	65kA	65kA
Lightning impulse current (10/350) I _{imp}		12.5kA	12.5kA	12.5kA	12.5kA	12.5kA	12.5kA	12.5kA	8kA	6kA	6kA	4kA
Voltage protection level Up		0.6kV	0.8kV	1.0kV	1.2kV	1.4kV	1.5kV	1.8kV	2.0kV	2.2kV	2.5kV	2.8kV
Temporary overvoltage TOV-5sec U _T withstand mode		90	174V	228V	335V	335V	403V	403V	580V	580V	700V	870V
Short-circuit current rating I _{scCR}		50kArms										
Backup fuse(only required if not already provided in mains)		≤250AgL/gG										
Operating temperature range		-40°C ~ +85°C										
Mounting		35mm DIN-rail										
Degree of protection		IP20										
Thermal disconnecter		Internal Green - normal ; red - failure										
Approvals, Certifications		TUV, CE										
Remote alarm contact type		Isolated form C										
Switching capability Un / In		AC: 250V/0.5A DC: 250V/0.1A; 125V/0.2A; 75V/0.5A										

Basic circuit diagram



Dimension drawing (mm)



- TUV certified T1+ T2 SPD per IEC/EN 61643-11 standard
- Designed for separation and protection between the N and PE conductors
- 18mm narrow model design, pluggable module for easy replacement without the need to remove system wiring
- High energy gas discharge tube technology
- High lightning discharge capacity up to I_{imp} 50kA 10/350 μ s
- High surge discharge capacity up to I_{max} 100kA 8/20 μ s
- 35mm DIN-rail mounting
- Wide operating temperature -40°C ~85°C

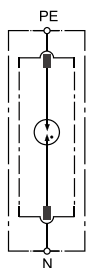


Prosurge's GP25(50) NPE series are class I and class II pluggable gas discharge tube (GDT) based SPDs, designed for low-voltage power supply system lightning current & surge protection, especially for separation and protection between the N and PE conductors .

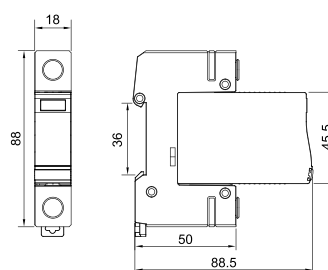
GP25(50) NPE features a compact housing design (18 mm narrow) with discharge capacity up to 25/50kA (10/350 μ s) and surge discharge capacity up 100kA (8/20 μ s), GPE module fulfill the total discharge current requirement for installation in "1+1" or "3+1" circuit according to standards IEC 60364-4-53/IEC 62305.

Part No.	GP25/150NPE	GP25/255NPE	GP50/150NPE	GP50/255NPE
In accordance with	IEC/EN 61643-11:2011; UL1449 5th			
Category IEC/EN/VDE	I+ II /1+2/ B+C			
Max. continuous operating voltage(AC) U_c	150V	255V	150V	255V
Nominal discharge current(8/20) I_n	25kA	25kA	50kA	50kA
Max. discharge current(8/20) I_{max}	50kA	50kA	100kA	100kA
Lightning impulse current (10/350) I_{imp}	25kA	25kA	50kA	50kA
Voltage protection level U_p	1.5kV	1.5kV	1.5kV	1.5kV
Temporary overvoltage TOV-200ms U_t withstand mode	1200V	1200V	1200V	1200V
Follow current & interrupt rating I_{fi} I_{scrr}	100Arms			
Operating temperature range	-40°C ~ +85°C			
Mounting	35mm DIN-rail			
Enclosure material	Thermoplastic; extinguishing degree UL94 V-0			
Degree of protection	IP20			
Approvals, Certifications	TUV, CE			

■ Basic circuit diagram



■ Dimension drawing (mm)





SPD for AC power supply system

Class I + Class II / Type 1 + Type 2

BPS12.5V

ProSurge®
Maximum Safety in Surge Protection

Prewired multi-pole SPDs

Part No.	Pole	Protection circuit	Max. operating Voltage	Lightning impulse current(10/350us)	Max.discharge current(8/20 us)	Nominal discharge current(8/20 us)	Voltage protection level	Short-circuit current rating	Diagram
			Uc	Iimp	Imax	In	Up	Iscrr	
BPS12.5V/75(-S)/2P	2	2+0	75Vac	12.5kA	80kA	25kA	0.6kV	50kA	1
BPS12.5V/150(-S)/2P	2	2+0	150Vac	12.5kA	80kA	25kA	0.8kV	50kA	1
BPS12.5V/180(-S)/2P	2	2+0	180Vac	12.5kA	80kA	25kA	1.0kV	50kA	1
BPS12.5V/275(-S)/2P	2	2+0	275Vac	12.5kA	80kA	25kA	1.2kV	50kA	1
BPS12.5V/320(-S)/2P	2	2+0	320Vac	12.5kA	80kA	25kA	1.4kV	50kA	1
BPS12.5V/350(-S)/2P	2	2+0	350Vac	12.5kA	80kA	25kA	1.5kV	50kA	1
BPS12.5V/385(-S)/2P	2	2+0	385Vac	12.5kA	80kA	25kA	1.8kV	50kA	1
BPS12.5V/440(-S)/2P	2	2+0	440Vac	8kA	65kA	25kA	2.0kV	50kA	1
BPS12.5V/480(-S)/2P	2	2+0	480Vac	6kA	65kA	25kA	2.2kV	50kA	1
BPS12.5V/600(-S)/2P	2	2+0	600Vac	6kA	65kA	25kA	2.5kV	50kA	1
BPS12.5V/750(-S)/2P	2	2+0	750Vac	4kA	65kA	25kA	2.8kV	50kA	1
BPS12.5V/75(-S)/PN25	2	1+1	L-N:75Vac N-PE:150Vac	L-N:12.5kA N-PE:25kA	L-N:80kA N-PE:50kA	L-N:25kA N-PE:25kA	L-N: 0.6kV N-PE:1.5kV	50kA	2
BPS12.5V/150(-S)/PN25	2	1+1	L-N:150Vac N-PE:150Vac	L-N:12.5kA N-PE:25kA	L-N:80kA N-PE:50kA	L-N:25kA N-PE:25kA	L-N: 0.8kV N-PE:1.5kV	50kA	2
BPS12.5V /180(-S)/PN25	2	1+1	L-N:180Vac N-PE:150Vac	L-N:12.5kA N-PE:25kA	L-N:80kA N-PE:50kA	L-N:25kA N-PE:25kA	L-N: 1.0kV N-PE:1.5kV	50kA	2
BPS12.5V/275(-S)/PN25	2	1+1	L-N:275Vac N-PE:255Vac	L-N:12.5kA N-PE:25kA	L-N:80kA N-PE:50kA	L-N:25kA N-PE:25kA	L-N: 1.2kV N-PE:1.5kV	50kA	2
BPS12.5V/320(-S)/PN25	2	1+1	L-N:320Vac N-PE:255Vac	L-N:12.5kA N-PE:25kA	L-N:80kA N-PE:50kA	L-N:25kA N-PE:25kA	L-N: 1.4kV N-PE:1.5kV	50kA	2
BPS12.5V/350(-S)/PN25	2	1+1	L-N:350Vac N-PE:255Vac	L-N:12.5kA N-PE:25kA	L-N:80kA N-PE:50kA	L-N:25kA N-PE:25kA	L-N: 1.5kV N-PE:1.5kV	50kA	2
BPS12.5V/385(-S)/PN25	2	1+1	L-N:385Vac N-PE:255Vac	L-N:12.5kA N-PE:25kA	L-N:80kA N-PE:50kA	L-N:25kA N-PE:25kA	L-N: 1.8kV N-PE:1.5kV	50kA	2
BPS12.5V/75(-S)/PN50	2	1+1	L-N:75Vac N-PE:150Vac	L-N:12.5kA N-PE:50kA	L-N:80kA N-PE:100kA	L-N:25kA N-PE:50kA	L-N: 0.6kV N-PE:1.5kV	50kA	2
BPS12.5V/150(-S)/PN50	2	1+1	L-N:150Vac N-PE:150Vac	L-N:12.5kA N-PE:50kA	L-N:80kA N-PE:100kA	L-N:25kA N-PE:50kA	L-N: 0.8kV N-PE:1.5kV	50kA	2
BPS12.5V /180(-S)/PN50	2	1+1	L-N:180Vac N-PE:150Vac	L-N:12.5kA N-PE:50kA	L-N:80kA N-PE:100kA	L-N:25kA N-PE:50kA	L-N: 1.0kV N-PE:1.5kV	50kA	2
BPS12.5V/275(-S)/PN50	2	1+1	L-N:275Vac N-PE:255Vac	L-N:12.5kA N-PE:50kA	L-N:80kA N-PE:100kA	L-N:25kA N-PE:50kA	L-N: 1.2kV N-PE:1.5kV	50kA	2
BPS12.5V/320(-S)/PN50	2	1+1	L-N:320Vac N-PE:255Vac	L-N:12.5kA N-PE:50kA	L-N:80kA N-PE:100kA	L-N:25kA N-PE:50kA	L-N: 1.4kV N-PE:1.5kV	50kA	2
BPS12.5V/350(-S)/PN50	2	1+1	L-N:350Vac N-PE:255Vac	L-N:12.5kA N-PE:50kA	L-N:80kA N-PE:100kA	L-N:25kA N-PE:50kA	L-N: 1.5kV N-PE:1.5kV	50kA	2
BPS12.5V/385(-S)/PN50	2	1+1	L-N:385Vac N-PE:255Vac	L-N:12.5kA N-PE:50kA	L-N:80kA N-PE:100kA	L-N:25kA N-PE:50kA	L-N: 1.8kV N-PE:1.5kV	50kA	2
BPS12.5V/75(-S)/3P	3	3+0	75Vac	12.5kA	80kA	25kA	0.6kV	50kA	3
BPS12.5V/150(-S)/3P	3	3+0	150Vac	12.5kA	80kA	25kA	0.8kV	50kA	3
BPS12.5V/180(-S)/3P	3	3+0	180Vac	12.5kA	80kA	25kA	1.0kV	50kA	3
BPS12.5V/275(-S)/3P	3	3+0	275Vac	12.5kA	80kA	25kA	1.2kV	50kA	3
BPS12.5V/320(-S)/3P	3	3+0	320Vac	12.5kA	80kA	25kA	1.4kV	50kA	3
BPS12.5V/350(-S)/3P	3	3+0	350Vac	12.5kA	80kA	25kA	1.5kV	50kA	3
BPS12.5V/385(-S)/3P	3	3+0	385Vac	12.5kA	80kA	25kA	1.8kV	50kA	3
BPS12.5V/440(-S)/3P	3	3+0	440Vac	8kA	65kA	25kA	2.0kV	50kA	3
BPS12.5V/480(-S)/3P	3	3+0	480Vac	6kA	65kA	25kA	2.2kV	50kA	3
BPS12.5V/600(-S)/3P	3	3+0	600Vac	6kA	65kA	25kA	2.5kV	50kA	3
BPS12.5V/750(-S)/3P	3	3+0	750Vac	4kA	65kA	25kA	2.8kV	50kA	3
BPS12.5V/75(-S)/4P	4	4+0	75Vac	12.5kA	80kA	25kA	0.6kV	50kA	4
BPS12.5V/150(-S)/4P	4	4+0	150Vac	12.5kA	80kA	25kA	0.8kV	50kA	4
BPS12.5V/180(-S)/4P	4	4+0	180Vac	12.5kA	80kA	25kA	1.0kV	50kA	4
BPS12.5V/275(-S)/4P	4	4+0	275Vac	12.5kA	80kA	25kA	1.2kV	50kA	4
BPS12.5V/320(-S)/4P	4	4+0	320Vac	12.5kA	80kA	25kA	1.4kV	50kA	4
BPS12.5V/350(-S)/4P	4	4+0	350Vac	12.5kA	80kA	25kA	1.5kV	50kA	4
BPS12.5V/385(-S)/4P	4	4+0	385Vac	12.5kA	80kA	25kA	1.8kV	50kA	4
BPS12.5V/440(-S)/4P	4	4+0	440Vac	8kA	65kA	25kA	2.0kV	50kA	4
BPS12.5V/480(-S)/4P	4	4+0	480Vac	6kA	65kA	25kA	2.2kV	50kA	4
BPS12.5V/600(-S)/4P	4	4+0	600Vac	6kA	65kA	25kA	2.5kV	50kA	4
BPS12.5V/750(-S)/4P	4	4+0	750Vac	4kA	65kA	25kA	2.8kV	50kA	4
BPS12.5V/75(-S)/3PN50	4	3+1	L-N:75Vac N-PE:150Vac	L-N:12.5kA N-PE:50kA	L-N:80kA N-PE:100kA	L-N:25kA N-PE:50kA	L-N: 0.6kV N-PE:1.5kV	50kA	5



Prewired multi-pole SPDs

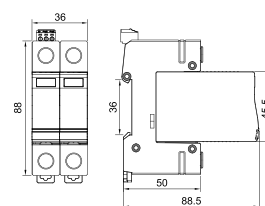
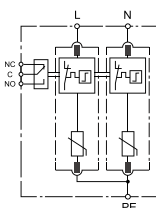
Part No.	Pole	Protection circuit	Max. operating Voltage	Lightning impulse current(10/350us)	Max.discharge current(8/20 us)	Nominal discharge current(8/20 us)	Voltage protection level	Short-circuit current rating	Diagram
			Uc	Iimp	I _{max}	I _n	Up	I _{sc}	
BPS12.5V/150(-S)/3PN50	4	3+1	L-N:150Vac N-PE:150Vac	L-N:12.5kA N-PE:50kA	L-N:80kA N-PE:100kA	L-N:25kA N-PE:50kA	L-N: 0.8kV N-PE:1.5kV	50kA	5
BPS12.5V /180(-S)/3PN50	4	3+1	L-N:180Vac N-PE:150Vac	L-N:12.5kA N-PE:50kA	L-N:80kA N-PE:100kA	L-N:25kA N-PE:50kA	L-N: 1.0kV N-PE:1.5kV	50kA	5
BPS12.5V/275(-S)/3PN50	4	3+1	L-N:275Vac N-PE:255Vac	L-N:12.5kA N-PE:50kA	L-N:80kA N-PE:100kA	L-N:25kA N-PE:50kA	L-N: 1.2kV N-PE:1.5kV	50kA	5
BPS12.5V/320(-S)/3PN50	4	3+1	L-N:320Vac N-PE:255Vac	L-N:12.5kA N-PE:50kA	L-N:80kA N-PE:100kA	L-N:25kA N-PE:50kA	L-N: 1.4kV N-PE:1.5kV	50kA	5
BPS12.5V/350(-S)/3PN50	4	3+1	L-N:350Vac N-PE:255Vac	L-N:12.5kA N-PE:50kA	L-N:80kA N-PE:100kA	L-N:25kA N-PE:50kA	L-N: 1.5kV N-PE:1.5kV	50kA	5
BPS12.5V/385(-S)/3PN50	4	3+1	L-N:385Vac N-PE:255Vac	L-N:12.5kA N-PE:50kA	L-N:80kA N-PE:100kA	L-N:25kA N-PE:50kA	L-N: 1.8kV N-PE:1.5kV	50kA	5

Diagram

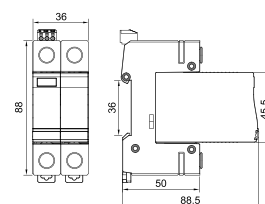
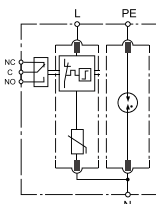
Basic circuit diagram

Dimension drawing

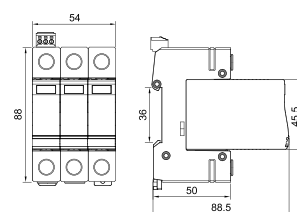
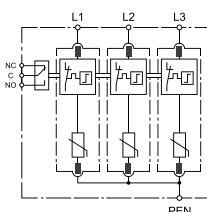
1)2+0



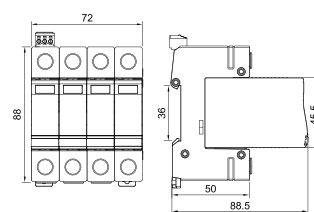
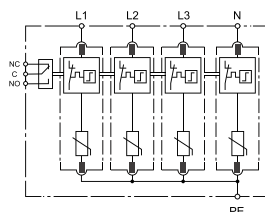
2)1+1



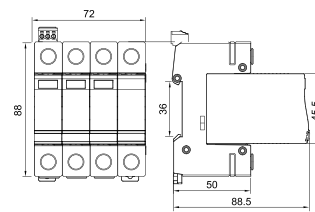
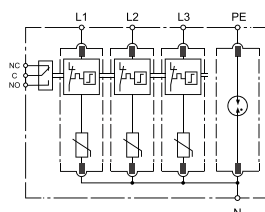
3)3+0



4)4+0



5)3+1





SPD for AC power supply system

Class I + Class II / Type 1 + Type 2

V50/DS50/DT50

ProSurge®
Maximum Safety in Surge Protection



- TUV certified T1+ T2 SPD per IEC/EN 61643-11 standard.
- Unique thermal disconnecter design provides quick thermal response and secure disconnection
- Prewired 1~4 poles SPD application for various power grids.
- Pluggable module for easy replacement without the need to remove system wiring.
- High lightning current discharge capacity 7.5kA and 12.5kA (NPE mode) 10/350 μ s
- High surge current discharge capacity up to I_{max} 50kA 8/20 μ s
- Short circuit withstand capability 25kArms
- Degradation failure indication and optional remote signal contact.
- Wide operating temperature -40°C ~85°C

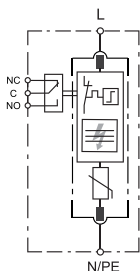
Prosurge's V50/DS50/DT50 series are class I and class II pluggable MOV and GDT based SPDs, designed for low-voltage power supply system protection against the damage from transient surge and spikes caused by lightning and other electrical source.

V50/DS50/DT50 features a compact housing design (18 mm narrow) with a high energy MOV employed, which the lightning current discharge capacity can be up to 7.5kA (10/350 μ s) and 12.5kA (NPE mode) and short circuit current rating as 25kArms, this is an ideal solution for the sub distribution board of low-voltage power supply system surge protection.

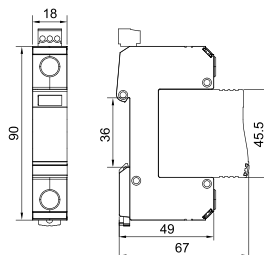
V50/DS50/DT50 are prewired 1~4 poles SPD, users can select from either type depending on requirements.

Part No.	V50/xxx(-S)	75	150	180	275	320	350	385	440	480	600	750
In accordance with		IEC/EN 61643-11:2011; UL1449 5th										
Category IEC/EN/VDE		I+ II /1+2/ B+C										
Nominal voltage (AC) U _n		60V	120V	120V	230V	230V	277V	277V	400V	400V	480V	600V
Max. continuous operating voltage(AC) U _c		75V	150V	180V	275V	320V	350V	385V	440V	480V	600V	750V
Nominal discharge current(8/20) I _n		20kA										
Max. discharge current(8/20) I _{max}		50kA										
Lightning impulse current (10/350) I _{imp}		7.5kA	7.5kA	7.5kA	7.5kA	7.5kA	7.5kA	7.5kA	6.0kA	4.5kA	4.5kA	3.5kA
Voltage protection level U _p		0.6kV	0.8kV	1.0kV	1.2kV	1.4kV	1.5kV	1.8kV	2.0kV	2.2kV	2.5kV	2.8kV
Temporary overvoltage TOV-5sec U _T withstand mode		90V	174V	228V	335V	335V	403V	403V	580V	580V	700V	870V
Short-circuit current rating I _{scrr}		25kArms										
Backup fuse(only required if not already provided in mains)		≤ 125A gL/gG										
Operating temperature range		-40 °C ~ +85 °C										
Mounting		35mm DIN-rail										
Degree of protection		IP20										
Thermal disconnecter		Internal Green - normal ; red - failure										
Approvals, Certifications		TUV, CE										
Remote alarm contact type		Isolated form C										
Switching capability U _n / I _n		AC: 250V/0.5A DC: 250V/0.1A; 125V/0.2A; 75V/0.5A										

Basic circuit diagram



Dimension drawing (mm)





Prewired multi-pole SPDs

Part No.	Pole	Protection circuit	Max. operating Voltage	Lightning impulse current(10/350us)	Max.discharge current(8/20 us)	Nominal discharge current(8/20 us)	Voltage protection level	Short-circuit current rating	Diagram
			Uc	Iimp	I _{max}	I _n	Up	I _{sc}	
DS50/75-2V(-S)	2	2+0	75Vac	7.5kA	50kA	20kA	0.6kV	25kA	1
DS50/150-2V(-S)	2	2+0	150Vac	7.5kA	50kA	20kA	0.8kV	25kA	1
DS50/180-2V(-S)	2	2+0	180Vac	7.5kA	50kA	20kA	1.0kV	25kA	1
DS50/275-2V(-S)	2	2+0	275Vac	7.5kA	50kA	20kA	1.2kV	25kA	1
DS50/320-2V(-S)	2	2+0	320Vac	7.5kA	50kA	20kA	1.4kV	25kA	1
DS50/350-2V(-S)	2	2+0	350Vac	7.5kA	50kA	20kA	1.5kV	25kA	1
DS50/385-2V(-S)	2	2+0	385Vac	7.5kA	50kA	20kA	1.8kV	25kA	1
DS50/440-2V(-S)	2	2+0	440Vac	6.0kA	50kA	20kA	2.0kV	25kA	1
DS50/480-2V(-S)	2	2+0	480Vac	4.5kA	50kA	20kA	2.2kV	25kA	1
DS50/600-2V(-S)	2	2+0	600Vac	4.5kA	50kA	20kA	2.5kV	25kA	1
DS50/750-2V(-S)	2	2+0	750Vac	3.5kA	50kA	20kA	2.8kV	25kA	1
DS50/75-(V+T)(-S)	2	1+1	L-N:75Vac N-PE:150Vac	L-N:7.5kA N-PE:12.5kA	L-N:50kA N-PE:50kA	L-N:20kA N-PE:20kA	L-N: 0.6kV N-PE:1.5kV	25kA	2
DS50/150-(V+T)(-S)	2	1+1	L-N:150Vac N-PE:150Vac	L-N:7.5kA N-PE:12.5kA	L-N:50kA N-PE:50kA	L-N:20kA N-PE:20kA	L-N: 0.8kV N-PE:1.5kV	25kA	2
DS50/180-(V+T)(-S)	2	1+1	L-N:180Vac N-PE:150Vac	L-N:7.5kA N-PE:12.5kA	L-N:50kA N-PE:50kA	L-N:20kA N-PE:20kA	L-N: 1.0kV N-PE:1.5kV	25kA	2
DS50/275-(V+T)(-S)	2	1+1	L-N:275Vac N-PE:255Vac	L-N:7.5kA N-PE:12.5kA	L-N:50kA N-PE:50kA	L-N:20kA N-PE:20kA	L-N: 1.2kV N-PE:1.5kV	25kA	2
DS50/320-(V+T)(-S)	2	1+1	L-N:320Vac N-PE:255Vac	L-N:7.5kA N-PE:12.5kA	L-N:50kA N-PE:50kA	L-N:20kA N-PE:20kA	L-N: 1.4kV N-PE:1.5kV	25kA	2
DS50/350-(V+T)(-S)	2	1+1	L-N:350Vac N-PE:255Vac	L-N:7.5kA N-PE:12.5kA	L-N:50kA N-PE:50kA	L-N:20kA N-PE:20kA	L-N: 1.5kV N-PE:1.5kV	25kA	2
DS50/385-(V+T)(-S)	2	1+1	L-N:385Vac N-PE:255Vac	L-N:7.5kA N-PE:12.5kA	L-N:50kA N-PE:50kA	L-N:20kA N-PE:20kA	L-N: 1.8kV N-PE:1.5kV	25kA	2
DT50/75-3V(-S)	3	3+0	75Vac	7.5kA	50kA	20kA	0.6kV	25kA	3
DT50/150-3V(-S)	3	3+0	150Vac	7.5kA	50kA	20kA	0.8kV	25kA	3
DT50/180-3V(-S)	3	3+0	180Vac	7.5kA	50kA	20kA	1.0kV	25kA	3
DT50/275-3V(-S)	3	3+0	275Vac	7.5kA	50kA	20kA	1.2kV	25kA	3
DT50/320-3V(-S)	3	3+0	320Vac	7.5kA	50kA	20kA	1.4kV	25kA	3
DT50/350-3V(-S)	3	3+0	350Vac	7.5kA	50kA	20kA	1.5kV	25kA	3
DT50/385-3V(-S)	3	3+0	385Vac	7.5kA	50kA	20kA	1.8kV	25kA	3
DT50/440-3V(-S)	3	3+0	440Vac	6.0kA	50kA	20kA	2.0kV	25kA	3
DT50/480-3V(-S)	3	3+0	480Vac	4.5kA	50kA	20kA	2.2kV	25kA	3
DT50/600-3V(-S)	3	3+0	600Vac	4.5kA	50kA	20kA	2.5kV	25kA	3
DT50/750-3V(-S)	3	3+0	750Vac	3.5kA	50kA	20kA	2.8kV	25kA	3
DT50/75-4V(-S)	4	4+0	75Vac	7.5kA	50kA	20kA	0.6kV	25kA	4
DT50/150-4V(-S)	4	4+0	150Vac	7.5kA	50kA	20kA	0.8kV	25kA	4
DT50/180-4V(-S)	4	4+0	180Vac	7.5kA	50kA	20kA	1.0kV	25kA	4
DT50/275-4V(-S)	4	4+0	275Vac	7.5kA	50kA	20kA	1.2kV	25kA	4
DT50/320-4V(-S)	4	4+0	320Vac	7.5kA	50kA	20kA	1.4kV	25kA	4
DT50/350-4V(-S)	4	4+0	350Vac	7.5kA	50kA	20kA	1.5kV	25kA	4
DT50/385-4V(-S)	4	4+0	385Vac	7.5kA	50kA	20kA	1.8kV	25kA	4
DT50/440-4V(-S)	4	4+0	440Vac	6.0kA	50kA	20kA	2.0kV	25kA	4
DT50/480-4V(-S)	4	4+0	480Vac	4.5kA	50kA	20kA	2.2kV	25kA	4
DT50/600-4V(-S)	4	4+0	600Vac	4.5kA	50kA	20kA	2.5kV	25kA	4
DT50/750-4V(-S)	4	4+0	750Vac	3.5kA	50kA	20kA	2.8kV	25kA	4
DT50/75-(3V+T)(-S)	2	3+1	L-N:75Vac N-PE:150Vac	L-N:7.5kA N-PE:12.5kA	L-N:50kA N-PE:50kA	L-N:20kA N-PE:20kA	L-N: 0.6kV N-PE:1.5kV	25kA	5
DT50/150-(3V+T)(-S)	4	3+1	L-N:150Vac N-PE:150Vac	L-N:7.5kA N-PE:12.5kA	L-N:50kA N-PE:50kA	L-N:20kA N-PE:20kA	L-N: 0.8kV N-PE:1.5kV	25kA	5
DT50/180-(3V+T)(-S)	4	3+1	L-N:180Vac N-PE:150Vac	L-N:7.5kA N-PE:12.5kA	L-N:50kA N-PE:50kA	L-N:20kA N-PE:20kA	L-N: 1.0kV N-PE:1.5kV	25kA	5
DT50/275-(3V+T)(-S)	4	3+1	L-N:275Vac N-PE:255Vac	L-N:7.5kA N-PE:12.5kA	L-N:50kA N-PE:50kA	L-N:20kA N-PE:20kA	L-N: 1.2kV N-PE:1.5kV	25kA	5
DT50/320-(3V+T)(-S)	4	3+1	L-N:320Vac N-PE:255Vac	L-N:7.5kA N-PE:12.5kA	L-N:50kA N-PE:50kA	L-N:20kA N-PE:20kA	L-N: 1.4kV N-PE:1.5kV	25kA	5
DT50/350-(3V+T)(-S)	4	3+1	L-N:350Vac N-PE:255Vac	L-N:7.5kA N-PE:12.5kA	L-N:50kA N-PE:50kA	L-N:20kA N-PE:20kA	L-N: 1.5kV N-PE:1.5kV	25kA	5
DT50/385-(3V+T)(-S)	4	3+1	L-N:385Vac N-PE:255Vac	L-N:7.5kA N-PE:12.5kA	L-N:50kA N-PE:50kA	L-N:20kA N-PE:20kA	L-N: 1.8kV N-PE:1.5kV	25kA	5

SPD for AC power supply system

Class I + Class II / Type 1 + Type 2 V50/DS50/DT50

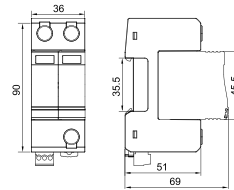
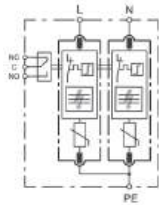
ProSurge®
Maximum Safety in Surge Protection

Diagram

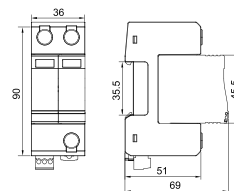
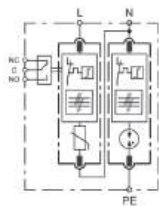
Basic circuit diagram

Dimension drawing

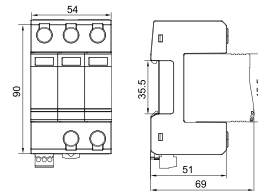
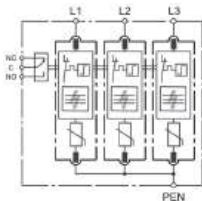
1)2+0



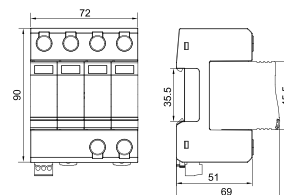
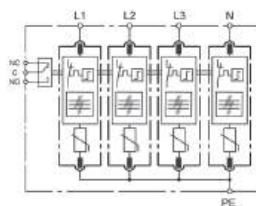
2)1+1



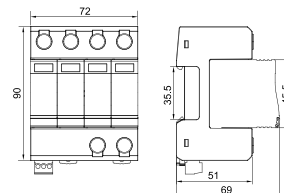
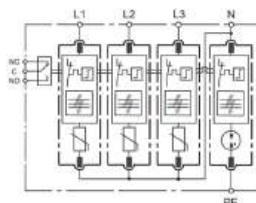
3)3+0



4)4+0



5)3+1



- KEMA certified Class II / T2 SPD per IEC/EN 61643-11, UL recognized Type 1CA SPD
- Global patented thermal disconnecter design with arc extinguishing device, fail-safe & self-protected, quick thermal response and perfect circuit cutoff function
- High surge current discharge capacity up to 40kA 8/20 μ s
- Pluggable module for easy replacement without the need to remove system wiring.
- Degradation failure indication and optional remote signal contact.
- 35 mm DIN-rail mounting
- Wide operating temperature -40°C ~85°C



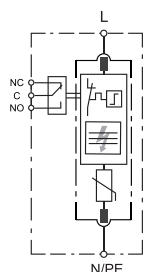
Prosurge SP series are class II pluggable SPD, designed for low-voltage power supply system protection against the damage from surges and spikes caused by lightning and other electrical sources.

It is a DIN-rail SPD featuring Prosurge's global patented fail-safe & self-protected technology, offering quick thermal response and perfect circuit cutoff function and providing fast and reliable protection for various power supply systems.

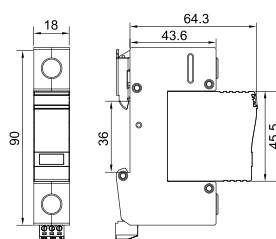
Built with window fault indication and optional remote alarm contact, it can monitor the operating status of the SPD itself.

Part No.	SP150(-S)	SP275(-S)	SP/320(-S)	SP/385(-S)
In accordance with	IEC/EN 61643-11:2011; UL1449 5th			
Category IEC/EN/VDE	II/2/C			
Nominal Voltage (AC) Un	120V	230V	230V	230V
Max. continuous operating voltage(AC) Uc	150V	275V	320V	385V
Nominal discharge current(8/20) In	20kA	20kA	20kA	20kA
Max. discharge current(8/20) Imax	40kA	40kA	40kA	40kA
Voltage protection level Up	0.8kV	1.4kV	1.5kV	1.8kV
Temporary overvoltage TOV-5 sec Ur withstand mode	174V	335V	335V	403V
Short-circuit current rating Isccr	25 kArms			
Backup fuse(only required if not already provided in mains)	$\leq 125A$ gL/gG			
Operating temperature range	-40°C ~ +85°C			
Mounting	35mm DIN-rail			
Degree of protection	IP20			
Thermal disconnecter	Internal green-normal ; red-failure			
Approvals, Certifications	KEMA, UL, CE			
Remote alarm contact type	Isolated Form C			
Switching capability Un / In	AC: 250V/0.5A DC: 250V/0.1A; 125V/0.2A; 75V/0.5A			

■ Basic circuit diagram



■ Dimension drawing (mm)



SPD for AC power supply system

Class II / Type 2 **SP**

ProSurge®
Maximum Safety in Surge Protection



- KEMA certified Class II / T2 SPD per IEC/EN 61643-11
- Global patented thermal disconnecter design with arc extinguishing device, fail-safe & self-protected, quick thermal response and perfect circuit cutoff function
- High surge current discharge capacity up to 40kA 8/20 μ s
- Long service life because of no leakage current and follow current
- Better reliability and robustness, Higher TOV (Temporary Over-Voltage) withstanding performance
- Pluggable module for easy replacement without the need to remove system wiring.
- Degradation failure indication and optional remote signal contact.
- Wide operating temperature -40°C ~85°C

Prosurge SP VT series are class II pluggable SPD, designed for low-voltage power supply system protection against the damage from surges and spikes caused by lightning and other electrical sources.

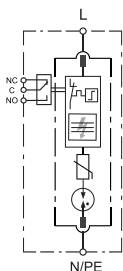
It is a DIN-rail SPD featuring Prosurge's global patented fail-safe & self-protected technology, offering quick thermal response and perfect circuit cutoff function and providing fast and reliable protection for various power supply systems.

With built in PROSURGE VT technology, it features No leakage current and No follow current. It can be applied in most electrical installation and provide better reliability and safety protection, and particularly suitable for system with permanent insulation monitoring. Another prominent feature of SP VT is higher TOV (temporary over-voltage) resistibility, which makes it can withstand high mains voltage fluctuation, expanded the scope of its application.

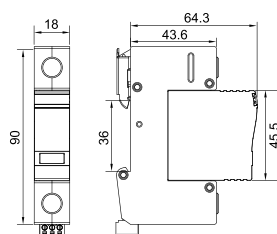
Built with window fault indication and optional remote alarm contact, it can monitor the operating status of the SPD itself.

Part No.	SP275VT(-S)	SP320VT(-S)
In accordance with	IEC/EN 61643-11:2011; UL1449 5th	
Category IEC/EN/VDE	II/2/C	
Nominal Voltage (AC) U_n	230V	230V
Max. continuous operating voltage(AC) U_c	275V	320V
Nominal discharge current(8/20) I_n	20kA	20kA
Max. discharge current(8/20) I_{max}	40kA	40kA
Voltage protection level U_p	1.4kV	1.5kV
Temporary overvoltage TOV-120 min U_T Withstand mode	442V	442V
Short-circuit current rating I_{scrr}	25 kArms	
Leakage current I_{pe}	0 mA	
Backup fuse(only required if not already provided in mains)	$\leq 125A$ gL/gG	
Operating temperature range	-40°C ~ +85°C	
Mounting	35mm DIN-rail	
Degree of protection	IP20	
Thermal disconnecter	Internal Green – normal ; red - failure	
Approvals, Certifications	KEMA, CE	
Remote alarm contact type	Isolated Form C	
Switching capability U_n / I_n	AC: 250V/0.5A DC: 250V/0.1A; 125V/0.2A; 75V/0.5A	

Basic circuit diagram



Dimension drawing (mm)





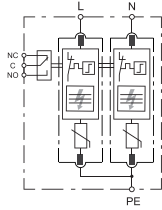
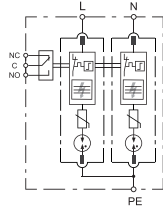
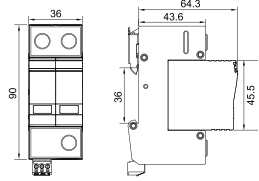
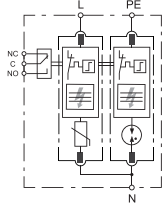
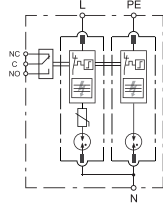
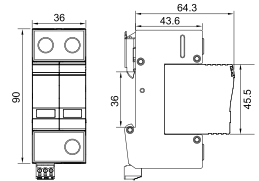
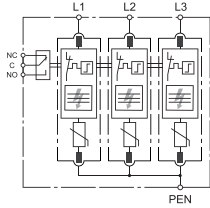
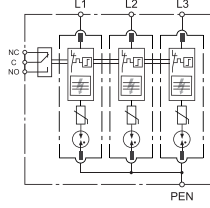
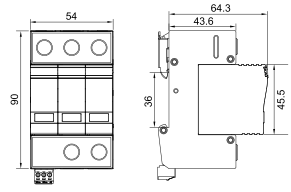
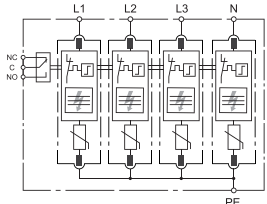
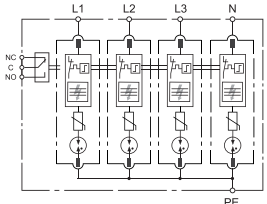
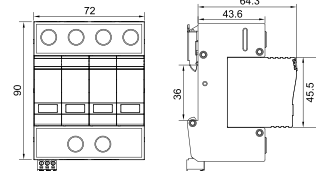
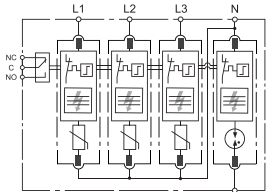
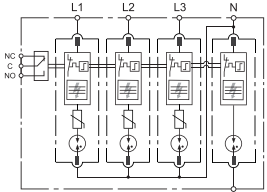
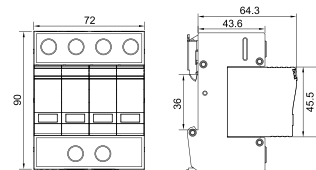
Prewired multi-pole SPDs

Part No.	Pole	Protection circuit	Max. operating Voltage	Max. discharge current(8/20 us)	Nominal discharge current(8/20 us)	Voltage protection level	Short-circuit current rating	Diagram
			Uc	I _{max}	I _n	U _p	I _{sc}	
SP150/2P(-S)	2	2+0	150Vac	40kA	20kA	0.8kV	25kA	1a
SP275/2P(-S)	2	2+0	275Vac	40kA	20kA	1.4kV	25kA	1a
SP320/2P(-S)	2	2+0	320Vac	40kA	20kA	1.5kV	25kA	1a
SP385/2P(-S)	2	2+0	385Vac	40kA	20kA	1.8kV	25kA	1a
SP275VT/2P(-S)	2	2+0	275Vac	40kA	20kA	1.4kV	25kA	1b
SP320VT/2P(-S)	2	2+0	320Vac	40kA	20kA	1.5kV	25kA	1b
SP150/PN(-S)	2	1+1	L-N:150Vac N-PE:255Vac	40kA	20kA	L-N: 0.8kV N-PE:1.5kV	25kA	2a
SP275/PN(-S)	2	1+1	L-N:275Vac N-PE:255Vac	40kA	20kA	L-N: 1.4kV N-PE:1.5kV	25kA	2a
SP320/PN(-S)	2	1+1	L-N:320Vac N-PE:255Vac	40kA	20kA	L-N: 1.5kV N-PE:1.5kV	25kA	2a
SP385/PN(-S)	2	1+1	L-N:385Vac N-PE:255Vac	40kA	20kA	L-N: 1.8kV N-PE:1.5kV	25kA	2a
SP275VT/PN(-S)	2	1+1	L-N:275Vac N-PE:255Vac	40kA	20kA	L-N: 1.4kV N-PE:1.5kV	25kA	2b
SP320VT/PN(-S)	2	1+1	L-N:320Vac N-PE:255Vac	40kA	20kA	L-N: 1.5kV N-PE:1.5kV	25kA	2b
SP150/3P(-S)	3	3+0	150Vac	40kA	20kA	0.8kV	25kA	3a
SP275/3P(-S)	3	3+0	275Vac	40kA	20kA	1.4kV	25kA	3a
SP320/3P(-S)	3	3+0	320Vac	40kA	20kA	1.5kV	25kA	3a
SP385/3P(-S)	3	3+0	385Vac	40kA	20kA	1.8kV	25kA	3a
SP275VT/3P(-S)	3	3+0	275Vac	40kA	20kA	1.4kV	25kA	3b
SP320VT/3P(-S)	3	3+0	320Vac	40kA	20kA	1.5kV	25kA	3b
SP150/4P(-S)	4	4+0	150Vac	40kA	20kA	0.8kV	25kA	4a
SP275/4P(-S)	4	4+0	275Vac	40kA	20kA	1.4kV	25kA	4a
SP320/4P(-S)	4	4+0	320Vac	40kA	20kA	1.5kV	25kA	4a
SP385/4P(-S)	4	4+0	385Vac	40kA	20kA	1.8kV	25kA	4a
SP275VT/4P(-S)	4	4+0	275Vac	40kA	20kA	1.4kV	25kA	4b
SP320VT/4P(-S)	4	4+0	320Vac	40kA	20kA	1.5kV	25kA	4b
SP150/3PN(-S)	4	3+1	L-N:150Vac N-PE:255Vac	40kA	20kA	L-N: 0.8kV N-PE:1.5kV	25kA	5a
SP275/3PN(-S)	4	3+1	L-N:275Vac N-PE:255Vac	40kA	20kA	L-N: 1.4kV N-PE:1.5kV	25kA	5a
SP320/3PN(-S)	4	3+1	L-N:320Vac N-PE:255Vac	40kA	20kA	L-N: 1.5kV N-PE:1.5kV	25kA	5a
SP385/3PN(-S)	4	3+1	L-N:385Vac N-PE:255Vac	40kA	20kA	L-N: 1.8kV N-PE:1.5kV	25kA	5a
SP275VT/3PN(-S)	4	3+1	L-N:275Vac N-PE:255Vac	40kA	20kA	L-N: 1.4kV N-PE:1.5kV	25kA	5b
SP320VT/3PN(-S)	4	3+1	L-N:320Vac N-PE:255Vac	40kA	20kA	L-N: 1.5kV N-PE:1.5kV	25kA	5b

SPD for AC power supply system

Class II / Type 2 SP

ProSurge®
Maximum Safety in Surge Protection

Diagram	Basic circuit diagram		Dimension drawing
	a.MOV & GDT technology	b.VT technology	
1)2+0 			
2)1+1 			
3)3+0 			
4)4+0 			
5)3+1 			



- TUV certified T1+ T2 PV DC SPD per IEC/EN 61643-31 standard.
- Application in Photovoltaic (PV) system and DC charging system for electric vehicles etc.
- 18mm narrow model design, pluggable module for easy replacement without the need to remove system wiring
- Unique thermal disconnecter design provides quick thermal response and secure disconnection
- High lightning current discharge capacity up to 12.5kA 10/350µs and surge current discharge capacity to 80kA 8/20µs
- Degradation failure indication and optional remote signal contact.
- 35mm DIN-rail mounting
- Wide operating temperature -40°C ~85°C
- Comply with IEC/EN 61643-41, UL 1449 5th standards



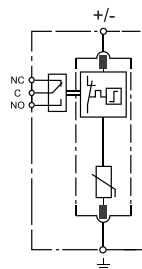
The PVB12.5 is class I & class II (or T1+T2) PV DC SPD designed for DC application such as PV (Photovoltaic) system, EV (electric vehicle) charging station dc-side protection, especially for location of high risk exposure or LPZ 0-2 (IEC 62305-4) to against the damage from direct or close lightning strikes.

In the photovoltaic power plant, the PV installation with external LPS when separation distance is not kept, the T1 PV SPD should be installed as close as possible to the inverter and the PV generator.

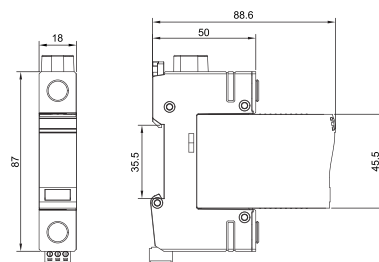
With built in PROSURGE high energy MOV, PVB12.5 ensures remarkable lightning current discharge capacity up to 12.5 kA 10/350µs and high reliability. The unique design of thermal protection provides quick thermal response and secure disconnection.

Part No.	PVB12.5/xxx-V(-S)	48	75	100	150	200	300	400	500	600	750
In accordance with	IEC/EN 61643-31; UL 1449 5th; EN 50539-11										
Category IEC/EN/VDE	I+ II /1+2/ B+C										
Nominal voltage (DC) Un		48V	75V	100V	150V	200V	300V	400V	500V	600V	750V
Max. continuous operating voltage (DC) Ucpv		85V	100V	125V	170V	225V	350V	460V	560V	670V	800V
Nominal discharge current(8/20) In		25kA	25kA	25kA	25kA	25kA	25kA	25kA	25kA	25kA	25kA
Max. discharge current(8/20) Imax		80kA	80kA	80kA	80kA	80kA	80kA	80kA	80kA	80kA	65kA
Lightning impulse current (10/350) Iimp		12.5kA	12.5kA	12.5kA	12.5kA	12.5kA	12.5kA	12.5kA	12.5kA	12.5kA	8kA
Voltage protection level Up		0.6kV	0.7kV	0.7kV	0.8kV	1.0kV	1.4kV	1.6kV	1.8kV	2.2kV	2.5kV
Short-circuit current Iscpv		25kA									
Operating temperature range		-40°C ~ +85°C									
Mounting		35mm DIN-rail									
Degree of protection		IP20									
Thermal disconnecter		Internal green-normal ; red-failure									
Approvals, certifications		TUV, CE									
Remote alarm contact type		Isolated form C									
Switching capability Un / In		AC: 250V/0.5A DC: 250V/0.1A; 125V/0.2A; 75V/0.5A									

■ Basic circuit diagram



■ Dimension drawing (mm)





SPDs for DC / PV system

Class I + Class II / Type 1 + Type 2

PVB12.5

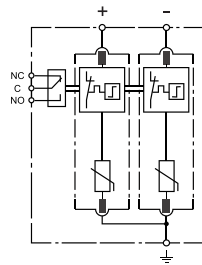
ProSurge®
Maximum Safety in Surge Protection

Prewired V configuration protection circuit

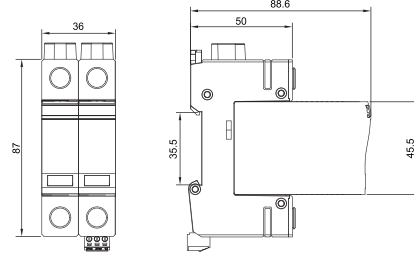
Part No.	PVB12.5/xxx-V-C (-S)	48	75	100	150	200	300	400	500	600	750
In accordance with		IEC/EN 61643-31; UL1449 5th; EN 50539-11									
Category IEC/EN/VDE		I+ II /1+2/ B+C									
Nominal colltage (DC) Un		48V	75V	100V	150V	200V	300V	400V	500V	600V	750V
Max. continuous operating voltage (DC) Ucpv		85V	100V	125V	170V	225V	350V	460V	560V	670V	800V
Nominal discharge current(8/20) In		25kA	25kA	25kA	25kA	25kA	25kA	25kA	25kA	25kA	25kA
Max. discharge current(8/20) Imax		80kA	80kA	80kA	80kA	80kA	80kA	80kA	80kA	80kA	65kA
Lightning impulse current (10/350) Iimp		12.5kA	12.5kA	12.5kA	12.5kA	12.5kA	12.5kA	12.5kA	12.5kA	12.5kA	8kA
Voltage protection level Up	DC+/- to PE	0.6 kV	0.7kV	0.7kV	0.8kV	1.0kV	1.4kV	1.6kV	1.8kV	2.2kV	2.5kV
	DC + to DC -	1.0kV	1.2kV	1.2kV	1.5kV	2.0kV	2.5kV	3.0kV	3.5kV	4.0kV	4.5kV
Short-circuit current Iscpv		25kA									
Approvals, certifications		TUV, CE									



Basic circuit diagram



Dimension drawing (mm)

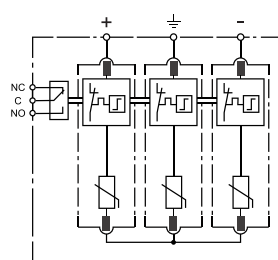


Prewired Y configuration protection circuit

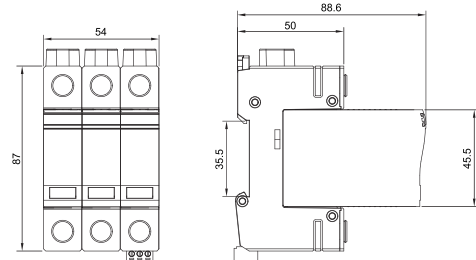
Part No.	PVB12.5/xxx-V-CD (-S)	100	200	300	400	600	800	1000	1200	1500
In accordance with		IEC/EN 61643-31; UL1449 5th; EN 50539-11								
Category IEC/EN/VDE		I+ II /1+2/ B+C								
Nominal voltage (DC) un		100V	200V	300V	400V	600V	800V	1000V	1200V	1500V
Max. continuous operating voltage (DC) Ucpv		170V	250V	340V	450V	700V	920V	1120V	1340V	1500V
Nominal discharge current(8/20) In		25kA	25kA	25kA	25kA	25kA	25kA	25kA	25kA	25kA
Max. discharge current(8/20) Imax		80kA	80kA	80kA	80kA	80kA	80kA	80kA	80kA	65kA
Lightning impulse current (10/350) Iimp		12.5kA	12.5kA	12.5kA	12.5kA	12.5kA	12.5kA	12.5kA	12.5kA	8kA
Voltage protection level Up	DC+/- to PE	1.0kV	1.2kV	1.5kV	2.0kV	2.5kV	3.0kV	3.5kV	4.0kV	4.5kV
	DC + to DC -	1.0kV	1.2kV	1.5kV	2.0kV	2.5kV	3.0kV	3.5kV	4.0kV	4.5kV
Short-circuit current Iscpv		25kA								
Approvals, certifications		TUV, CE								



Basic circuit diagram



Dimension drawing (mm)





- TUV certified T1+ T2 PV DC SPD per IEC/EN 61643-31 standard.
- Application in Photovoltaic (PV) system and DC charging system for electric vehicles etc.
- 18mm narrow model design, pluggable module for easy replacement without the need to remove system wiring
- Unique thermal disconnecter design provides quick thermal response and secure disconnection
- High lightning current discharge capacity up to 7.5kA 10/350µs and surge current discharge capacity to 50kA 8/20µs
- Degradation failure indication and optional remote signal contact.
- 35mm DIN-rail mounting
- Wide operating temperature -40°C ~85°C
- Comply with IEC/EN 61643-41, UL1449 5th standards



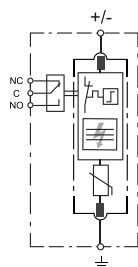
The PV50 is Class I + Class II (or T1+T2) PV DC SPD designed for DC application such as PV (Photovoltaic) system, EV (electric vehicle) charging station dc-side protection to against the damage from direct or close lightning strikes.

A high energy MOV employed ensures the surge current discharge capacity up to 50kA (8/20µs) and lightning current discharge capacity 7.5kA(10/350µs), makes it as an ideal solution for the sub distribution board of DC power supply system surge protection.

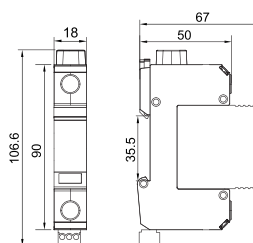
Built with window fault indication and optional remote alarm contact, it can monitor the operating status of the SPD itself.

Part No.	PV50/xxx-V(-S)	48	75	100	150	200	300	400	500	600	750
In accordance with	IEC/EN 61643-31; UL1449 5th; EN 50539-11										
Category IEC/EN/VDE	I+ II /1+2/ B+C										
Nominal voltage (DC) un		48V	75V	100V	150V	200V	300V	400V	500V	600V	750V
Max. continuous operating voltage (DC) Ucpv		85V	100V	125V	170V	225V	350V	460V	560V	670V	800V
Nominal discharge current(8/20) In		20kA	20kA	20kA	20kA	20kA	20kA	20kA	20kA	20kA	20kA
Max. discharge current(8/20) Imax		50kA	50kA	50kA	50kA	50kA	50kA	50kA	50kA	50kA	50kA
Lightning impulse current (10/350) Iimp		7.5kA	7.5kA	7.5kA	7.5kA	7.5kA	7.5kA	7.5kA	6kA	4.5kA	4.5kA
Voltage protection level Up		0.6 kV	0.6kV	0.7 kV	0.8kV	1.0 kV	1.2 kV	1.5 kV	2.0 kV	2.2kV	2.5kV
Short-circuit current Iscpv		25kA									
Operating temperature range		- 40°C ~ + 85°C									
Mounting		35mm DIN-rail									
Degree of protection		IP20									
Thermal disconnecter		Internal green-normal ; red-failure									
Approvals, certifications		TUV, CE									
Remote alarm contact type		Isolated form C									
Switching capability Un / In		AC: 250V/0.5A DC: 250V/0.1A; 125V/0.2A; 75V/0.5A									

■ Basic circuit diagram



■ Dimension drawing (mm)





SPDs for DC / PV system

Class I + Class II / Type 1 + Type 2

PV50

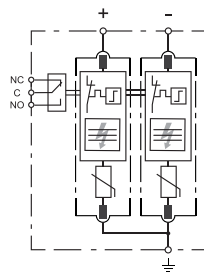
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Prewired V configuration protection circuit

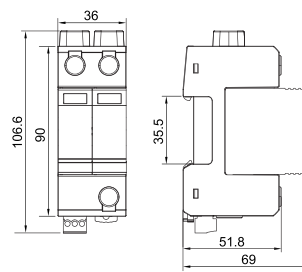
Part No.	PV50/xxx-V-C (-S)	48	75	100	150	200	300	400	500	600	750
In accordance with		IEC/EN 61643-31; UL1449 5th; EN 50539-11									
Category IEC/EN/VDE		I+ II /1+2/ B+C									
Nominal Voltage (DC) Un		48V	75V	100V	150V	200V	300V	400V	500V	600V	750V
Max. continuous operating voltage (DC) Ucpv		85V	100V	125V	170V	225V	350V	460V	560V	670V	800V
Nominal discharge current(8/20) In		20kA	20kA	20kA	20kA	20kA	20kA	20kA	20kA	20kA	20kA
Max. discharge current(8/20) Imax		50kA	50kA	50kA	50kA	50kA	50kA	50kA	50kA	50kA	50kA
Lightning impulse current (10/350) Iimp		7.5kA	7.5kA	7.5kA	7.5kA	7.5kA	7.5kA	7.5kA	6kA	4.5kA	4.5kA
Voltage protection level Up	DC+/- to PE	0.6kV	0.6kV	0.7kV	0.8kV	1.0kV	1.2kV	1.5kV	2.0kV	2.2kV	2.5kV
	DC + to DC -	1.0kV	1.0kV	1.2kV	1.5kV	2.0kV	2.2kV	2.8kV	3.5kV	4.0kV	4.5kV
Short-circuit Current Iscpv		25kA									
Approvals, Certifications		TUV, CE									



■ Basic circuit diagram



■ Dimension drawing (mm)

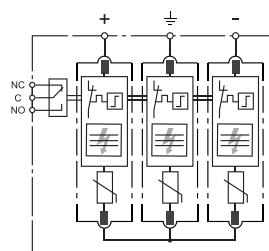


Prewired Y configuration protection circuit

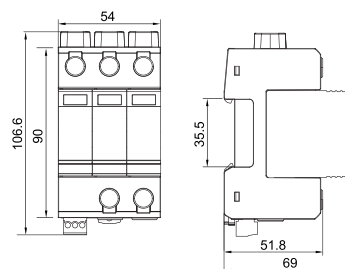
Part No.	PV50/xxx-V-CD (-S)	100	200	300	400	600	800	1000	1200	1500
In accordance with		IEC/EN 61643-31; UL1449 5th; EN 50539-11								
Category IEC/EN/VDE		I+ II /1+2/ B+C								
Nominal voltage (DC) un		100V	200V	300V	400V	600V	800V	1000V	1200V	1500V
Max. continuous operating voltage (DC) Ucpv		170V	250V	340V	450V	700V	920V	1120V	1340V	1500V
Nominal discharge current(8/20) In		20kA	20kA	20kA	20kA	20kA	20kA	20kA	20kA	20kA
Max. discharge current(8/20) Imax		50kA	50kA	50kA	50kA	50kA	50kA	50kA	50kA	50kA
Lightning impulse current (10/350) Iimp		7.5kA	7.5kA	7.5kA	7.5kA	7.5kA	7.5kA	6kA	4.5kA	4.5kA
Voltage protection level Up	DC+/- to PE	1.0kV	1.2kV	1.5kV	2.0kV	2.5kV	2.8kV	3.5kV	4.0kV	4.5kV
	DC + to DC -	1.0kV	1.2kV	1.5kV	2.0kV	2.5kV	2.8kV	3.5kV	4.0kV	4.5kV
Short-circuit current Iscpv		25kA								
Approvals, certifications		TUV, CE								



■ Basic circuit diagram



■ Dimension drawing (mm)





Technical Features

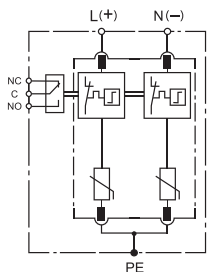
- Type 4CA design according to ANSI/UL1449 5th, Class III design to IEC/EN 61643-11/31
- Max.continuous operating voltage(Un) :24V~110Vdc
- Large surge capacity up to 20kA 8/20μs
- For common mode & differential mode protection
- Thermally protected MOV technology
- DIN-rail mount configuration and compact design, 18mm width (1 module, DIN 43880)
- Pluggable design with window fault indication
- Remote alarm signal optional



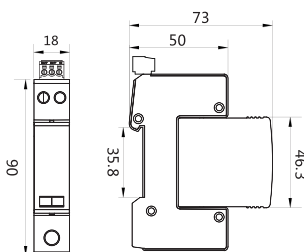
Prosurge MDSS series is designed for low-voltage DC power supply system protection against the damaging from surges and spikes caused by lightning and other electrical sources, suitable for use in category location B,C (ANSI/IEEE C62.41)

Part No.	Nominal Voltage (Vdc)	Nominal Discharge Current, In (8/20μs) (kA)	Max. Discharge Current, I _{max} (8/20μs) (kA)	Open Circuit Voltage, U _{oc} (kV)	Voltage Protection Level, Up (V)
MDSS10/12-2V-S	12	5	10	10	160
MDSS10/24-2V-S	24	5	10	10	180
MDSS20/36-2V-S	36	10	20	20	330
MDSS20/48-2V-S	48	10	20	20	370
MDSS20/60-2V-S	60	10	20	20	460
MDSS20/110-2V-S	110	10	20	20	700

■ Basic circuit diagram



■ Dimension drawing (mm)





SPDs for DC System/EV Charger

Class I / Type 1 DB12.5

ProSurge®
Maximum Safety in Surge Protection



CE

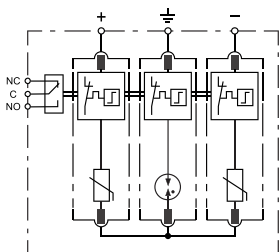
- Class I/T1 DC SPD per IEC/EN61643-11/41 standard
- 18mm narrow model design, prewired three poles of Y circuit for common mode & differential mode protection
- Application in DC power system like electric vehicle(EV) charging station system ,energy storage system etc
- Unique thermal disconnecter design
- Total impulse current discharge capacity up to 15kA 10/350μs
- Surge current capability up to 60kA 8/20μs per pole
- High short-circuit current rating up to 50kA
- 35mm DIN-rail mounting
- Wide operating temperature -40°C ~85°C

The DB12.5 V2T is class I (or T1) prewired DC SPD designed for DC application such as electric vehicle(EV) charging station, energy storage etc. to against the damaging from surges and spikes caused by lightning and other electrical sources.

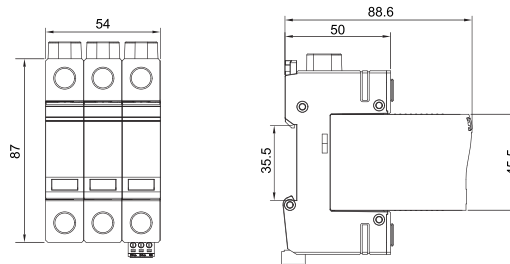
With built in PROSURGE high energy MOV & Gas Tube, DB12.5 V2T ensures remarkable total impulse current discharge capacity up to 15kA 10/350μs and high reliability. The unique design of thermal protection provides quick thermal response and secure disconnection.

Part No.	DB12.5/xxxx-V2T-CD(-S)	800	1000	1200	1500
In accordance with	IEC/EN 61643-11/41; UL1449 5th; EN 50539-11				
Category IEC/EN/VDE	I/1/B				
Nominal Voltage (DC) Un		800V	1000V	1200V	1500V
Max. continuous operating voltage (DC) Uc		800V	1000V	1200V	1500V
Nominal discharge current (8/20) In		20kA			
Max. discharge current (8/20) Imax		60kA			
Lightning impulse current (10/350) Iimp		8kA	6.25kA	5kA	4kA
Total discharge current (8/20) Itotal		100kA	100kA	100kA	100kA
Total impulse current (10/350) Itotal		15kA	12.5kA	10kA	8kA
Voltage protection level Up	DC+ to DC-	4.5kV	4.8kV	5.3kV	5.8kV
	DC+/- to GND	2.3kV	2.5kV	2.8kV	3.0kV
Leakage current (DC+/- to GND)	No				
Short-circuit Current rating Isccr	50kA				
Operating temperature range	- 40°C ~ + 85°C				
Mounting	35mm DIN-rail in accordance with EN 50022/DIN46277-3				
Enclosure material	thermoplastic; extinguishing degree UL94 V-0				
Degree of protection	IP20				
Thermal disconnecter	Internal Green – normal ; red - failure				
Approvals, Certifications	CE				
Remote alarm contact type	Isolated Form C				
Switching capability Un/In	AC: 250V/0.5A DC: 250V/0.1A; 125V/0.2A; 75V/0.5A				

Basic circuit diagram



Dimension drawing (mm)





- Class II/T2 DC SPD per IEC/EN61643-11/41 standard
- 18mm narrow model design, Prewired three poles of Y circuit for common mode & differential mode protection
- Application in DC power system like electric vehicle(EV) charging station system, energy storage system etc
- Unique thermal disconnecter design
- Total discharge current capacity up to 100kA 8/20μs
- Surge current capability up to 50kA 8/20μs per pole
- High short-circuit current rating up to 25kA
- 35mm DIN-rail mounting
- Wide operating temperature -40°C ~85°C

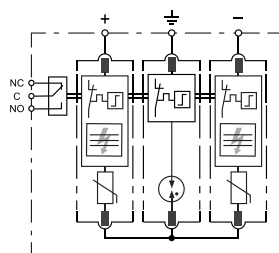


The DP50 V2T is class II (or T2) prewired DC SPD designed for DC application such as electric vehicle(EV) charging station, energy storage etc. to against the damaging from surges and spikes caused by lightning and other electrical sources.

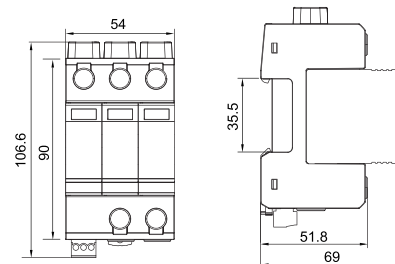
With built in PROSURGE high energy MOV & Gas Tube, DP50 V2T ensures remarkable surge current discharge capacity up to 50kA 8/20μs and high reliability. The unique design of thermal protection provides quick thermal response and secure disconnection.

Part No.	DP50/xxxx-V2T-CD(-S)	800	1000	1200	1500
In accordance with	IEC/EN 61643-11/41; UL1449 5th; EN 50539-11				
Category IEC/EN/VDE	II/2/C				
Nominal Voltage (DC) Un		800V	1000V	1200V	1500V
Max. continuous operating voltage (DC) Uc		800V	1000V	1200V	1500V
Nominal discharge current (8/20) In		20kA			
Max. discharge current (8/20) Imax		50kA	50kA	45kA	45kA
Total discharge current (8/20) Itotal		100kA	100kA	80kA	80kA
Voltage protection level Up	DC+ to DC-	4.5kV	4.8kV	5.3kV	5.8kV
	DC+/- to GND	2.3kV	2.5kV	2.8kV	3.0kV
Leakage current (DC+/- to GND)	No				
Short-circuit Current rating Isccr	25kA				
Operating temperature range	- 40°C ~ + 85°C				
Mounting	35mm DIN-rail in accordance with EN 50022/DIN46277-3				
Enclosure material	thermoplastic; extinguishing degree UL94 V-0				
Degree of protection	IP20				
Thermal disconnecter	Internal Green – normal ; red - failure				
Approvals, Certifications	CE				
Remote alarm contact type	Isolated Form C				
Switching capability Un/In	AC: 250V/0.5A DC: 250V/0.1A; 125V/0.2A; 75V/0.5A				

Basic circuit diagram



Dimension drawing (mm)





SPD for wind turbine

Class I + Class II / Type 1 + Type 2

BP25VT

ProSurge®
Maximum Safety in Surge Protection

The BP25VT/960(-S)/3PI-WD is class I & class II (or T1+T2) prewired four poles combined SPD designed for high voltage power system lightning current & surge protection, especially for location of high risk exposure or LPZ 0-2 building entrances (IEC 62305-4) to against the damage from direct or close lightning strikes. With built in PROSURGE VT technology, BP25VT WD ensures remarkable lightning current discharge capacity up to 22kA 10/350µs and No leakage current & No follow current. It can be applied in most electrical installation and provide better reliability and safety protection, and fulfill the specific requirement of wind turbine industrial. A notable feature of BP25VT is dual module redundancy design, two individual MOV protection modules in parallel in one pole SPD with two indication windows, so that the SPD could keep on working in spite of one protection module fault or one indication window turns to red. That will help to realize the uninterrupted surge protection, since user can replace the failure models according to the timing and the conditions.

Because of the high exposed surface and height, wind turbines are frequently hit by direct lightning strikes. Comprehensive lightning and surge protection measures are essential to maximise the return on investment and prevent downtime.

In Wind turbine system, there are many vulnerable electronics equipment need to be protected, such as :

- The control system, include sensors, actuators, and the motors for steering the equipment into the wind etc.
- The electronics, include transformer, frequency converter, switchgear elements, and other expensive, sensitive equipment.
- And generators, battery subsystem etc.

Properly select and install surge protective devices (SPDs) will minimize the potential impact of lightning events. Prosurge creates groups of SPD for wind power generation system protection.

With built in PROSURGE VT technology, the prominent feature of BP25VT WD is higher TOV (temporary over-voltage) resistibility, which makes it can withstand high mains voltage fluctuation. For example, the BP25VT/960(-S)/3PI-WD has a rated (Uc) 960Vac MOV in series with gas discharge tube (GDT), the GDT is used for potential isolation and to protect the generator lines of wind turbines.

For 400/690V power supply systems, BPS12.5V/1000(-S)/3P-WD and BPS12.5V/1000(-S)/3PT-WD can be installed to protect 400/690V transformer, inverters, main filters and measurement equipment.

The power supply system of the control cabinet in the tower base, the switchgear cabinet in the nacelle, the pitch system in the hub and the aircraft warning light is a 230/400V TN-C system or TN-S/TT system, and which should be protected by Class II/T2 SPDs, for example DT50/320-3V(-S), DT50/320-(3V+T)(-S).



Part No.

BP25VT/960(-S)/3PI-WD

In accordance with IEC/EN 61643-11:2011; UL1449 5th; EN50539-22:2010

Category IEC/EN/VDE I+ II /1+2/ B+C

Nominal voltage (AC) Un 690V, 3-Phase TN-C/IT

Max. continuous operating voltage (AC) Uc 960V

Nominal discharge current (8/20) In 25kA

Max. discharge current (8/20) Imax 100kA

Lightning impulse current (10/350) Iimp 22kA

Voltage protection level Up 4.0kV (L-L, L-PE)

Temporary overvoltage TOV-120 min Ur Withstand mode 1350Vac

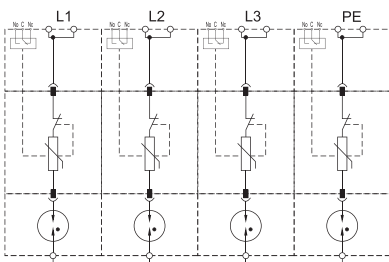
Short-circuit current rating Isccr 50 kArms

Leakage current Ipe 0 mA

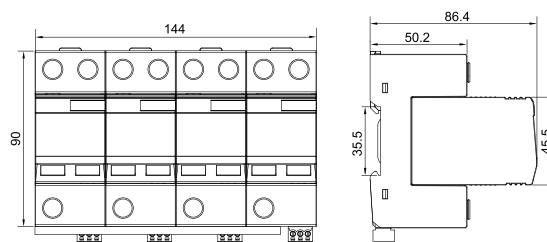
Backup fuse (only required if not already provided in mains) ≤250A gL/gG

Certifications TUV (single pole), CE

Basic circuit diagram



Dimension drawing (mm)

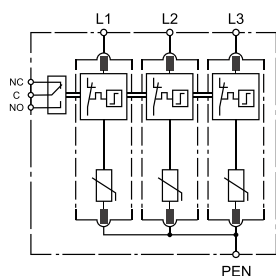




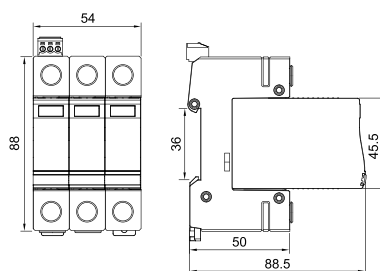
Part No.	BPS12.5V/1000(-S)/3P-WD
In accordance with	IEC/EN 61643-11:2011; UL1449 5th; EN50539-22:2010
Category IEC/EN/VDE	I+ II /1+2/ B+C
Nominal voltage (AC) Un	690V, 3-Phase TN-C/IT
Max. continuous operating voltage(AC) Uc	1000V
Nominal discharge current(8/20) In	20kA
Max. discharge current(8/20) Imax	40kA
Voltage protection level Up	4.0kV (L-PE)
Temporary overvoltage TOV-5 sec Ur Withstand mode	1200Vac
Temporary overvoltage TOV -120 min Ur Failure mode	1580Vac
Short-circuit current rating Isocr	50kArms
Backup fuse(only required if not already provided in mains)	≤ 125A gL/gG
Certifications	CE



■ Basic circuit diagram



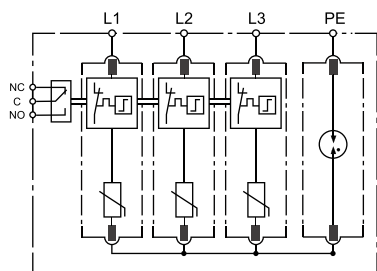
■ Dimension drawing (mm)



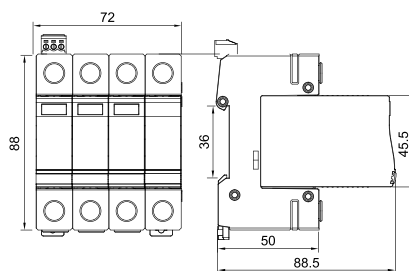
Part No.	BPS12.5V/1000(-S)/3PT-WD
In accordance with	IEC/EN 61643-11:2011; UL1449 5th; EN50539-22:2010
Category IEC/EN/VDE	I+ II /1+2/ B+C
Nominal voltage (AC) Un	690V, 3-Phase TN-C/IT
Max. continuous operating voltage(AC) Uc	1000V
Nominal discharge current(8/20) In	20kA
Max. discharge current(8/20) Imax	40kA
Voltage protection level Up	4.0kV (L-PE)
Temporary overvoltage TOV -120 min Ur Failure mode	2200Vac
Short-circuit current rating Isocr	50kArms
Backup fuse(only required if not already provided in mains)	≤ 125A gL/gG
Certifications	CE



■ Basic circuit diagram



■ Dimension drawing (mm)





SPD for wind turbine

Class I + Class II / Type 1 + Type 2

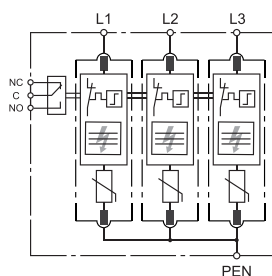
DT50

ProSurge®
Maximum Safety in Surge Protection

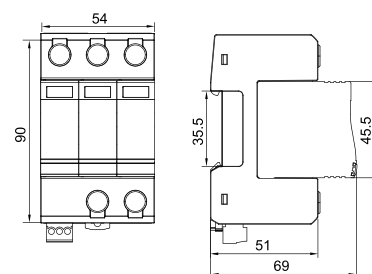


Part No.	DT50/320-3v(-s)
In accordance with	IEC/EN 61643-11:2011; UL 1449 5th; EN50539-22:2010
Category IEC/EN/DE	I+ II /1+2/ B+C
Power system	220/380Vac ~ 277/480Vac
Nominal voltage (AC) Un	Three phase TN-C
Max. continuous operating voltage(AC) Uc	320/420V
Nominal discharge current(8/20) In	20kA
Max. discharge current(8/20) Imax	50kA
Lightning impulse current (10/350) Iimp	7.5kA
Voltage protection level Up	1.4kV
Temporary overvoltage TOV - 5 sec Ur Withstand mode	335Vac
Short-circuit current rating Isccr	25kArms
Backup fuse(only required if not already provided in mains)	≤ 125A gL/gG
Certifications	TUV,CE

Basic circuit diagram

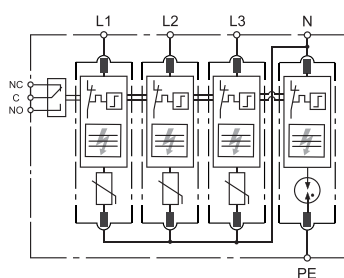


Dimension drawing (mm)

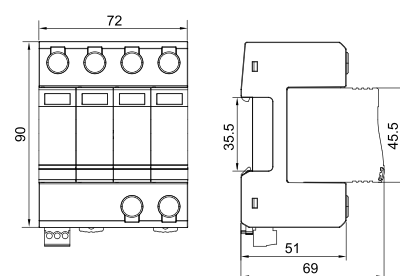


Part No.	DT50/320-(3V+T)(-S)
In accordance with	IEC/EN 61643-11:2011; UL 1449 5th; EN50539-22:2010
Category IEC/EN/DE	I+ II /1+2/ B+C
Nominal voltage (AC) Un	220/380Vac ~ 277/480Vac
Power system	Three phase TN-S/TT
Max. continuous operating voltage(AC) Uc	320/420V
Nominal discharge current(8/20) In	20kA
Max. discharge current(8/20) Imax	50kA
Lightning impulse current (10/350) Iimp	7.5kA/12.5kA(NPE)
Voltage protection level Up	1.4kV/1.5kV(NPE)
Temporary overvoltage TOV - 5 sec Ur Withstand mode	335Vac
Short-circuit current rating Isccr	25kArms
Backup fuse(only required if not already provided in mains)	≤ 125A gL/gG
Certifications	TUV,CE

Basic circuit diagram



Dimension drawing (mm)





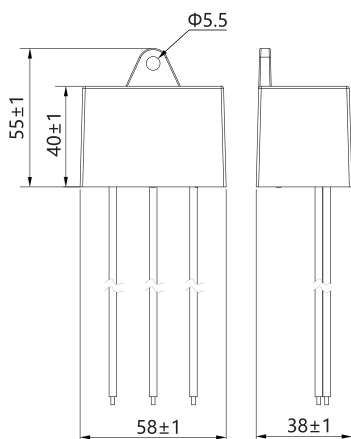
PROSUGE WS05 series Surge Protective Devices are for surge protection of single phase AC power lines. It can effectively suppress the transient over voltage on power line caused by lightning strikes and other electrical source. They are recommended for LED light protection, machine and equipment protection. The products are generally installed in the distribution or power unit of the equipment to be protected.

- Surge arrester comply with IEC/EN 61643-11 and UL1449 5th
- Suitable for single phase AC power application
- Patented fail-safe technology to prevent a hazard to the facility due to end-of-life of MOV component or extreme failure conditions which may caused by abnormal line voltage fluctuation etc
- Offering full mode protection
- Max. discharge current up to 15kA 8/20 μ s and open circuit voltage Uoc to 20kV
- Installed in series to power supply
- LED fault indication
- IP67 waterproof enclosure to resist dirt, dust and water

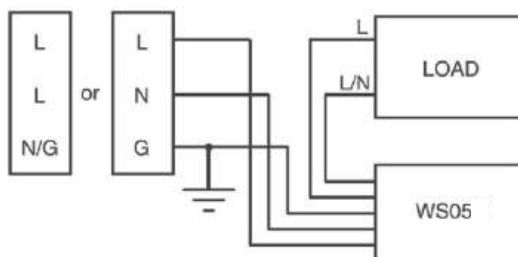
Type	WS05
In accordance with	IEC/EN 61643-11; UL1449 5th
Category IEC/EN/UL	III/ 3/Type 4CA
Connection type	Series connection
Nominal current IL	5A
Mode of protection	Full mode protection
Nominal discharge current(8/20) In	5kA
Max. discharge current (8/20) I _{max}	15kA
Open circuit voltage Uoc	20kV
Leakage current	≤0.1mA
Failure indication	LED ON=Normal; LED OFF=Failure or power off
Thermal disconnecter	internal
Working envioment	- 40°C ~ +70°C; ≤95% RH
Connection wire	16AWG(L=Black; N=White; PE=Yellow/Green) ,150mm
Enclosure material	thermoplastic; extinguishing degree UL94 V-0
Degree of protection	IP67 (Waterproof)
Dimension	40x58x38 mm
Approval,Certifications	UL(pending), CE



■ Dimension drawing (mm)



■ Examples of installation





Surge protection for LED lighting

Class III / Type 3 **WS05**

ProSurge®
Maximum Safety in Surge Protection

Part No.	Nominal voltage (50/60Hz) AC	Max. continuous operating voltage AC	Nominal discharge current(8/20us)	Max.discharge current(8/20us)	Open circuit voltage	Nominal current
	Un	Uc	In	I _{max}	Uoc	I _L
WS05-120SP-2P-F	120/240V Split-phase	150/300V	5kA	15kA	20kV	5A
WS05-120SPN-2P-F		150/300V	5kA	15kA	20kV	5A
WS05-240SP-2P-F	240/480V Split-phase	320/640V	5kA	15kA	20kV	5A
WS05-240SPN-2P-F		320/640V	5kA	15kA	20kV	5A
WS05-120S-3P-F	120V Single-phase	150V	5kA	15kA	20kV	5A
WS05-120S-2P-F		150V	5kA	15kA	20kV	5A
WS05-120SG-2P-F		150V	5kA	15kA	20kV	5A
WS05-240S-3P-F	240V Single-phase	320V	5kA	15kA	20kV	5A
WS05-240S-2P-F		320V	5kA	15kA	20kV	5A
WS05-240SG-2P-F		320V	5kA	15kA	20kV	5A
WS05-277S-3P-F	277V Single-phase	320V	5kA	15kA	20kV	5A
WS05-277S-2P-F		320V	5kA	15kA	20kV	5A
WS05-277SG-2P-F		320V	5kA	15kA	20kV	5A
WS05-347S-3P-F	347V Single-phase	420V	5kA	12kA	20kV	5A
WS05-347S-2P-F		420V	5kA	12kA	20kV	5A
WS05-347SG-2P-F		420V	5kA	12kA	20kV	5A
WS05-480S-3P-F	480V Single-phase	550V	5kA	12kA	20kV	5A
WS05-480S-2P-F		550V	5kA	12kA	20kV	5A
WS05-480SG-2P-F		550V	5kA	12kA	20kV	5A

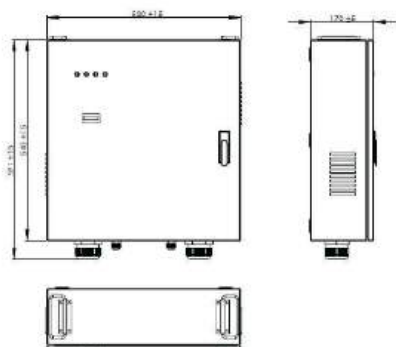


- Multi-stage protection circuit with LC Filter design to protect sensitive electronics
- Prosurge ESG+VTD technology to further improve voltage clamping performance
- GDT Technology for NPE Mode
- Application for 120~127V, 220~277V (L-N) TT/TN, or any three phase system with a grounded neutral
- Surge capacity: 50kA 10/350 μ s or 150kA 8/20 μ s (per mode)
- Surge capacity of N-PE mode up to 100kA 10/350 μ s
- Load current rating 125A
- Built-in in series fuse for overload / short circuit protection available
- LED failure indication & remote alarm function available
- Surge counter optional

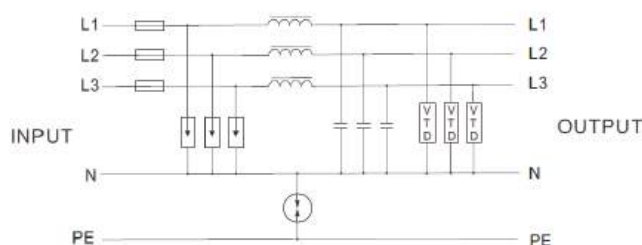
Prosurge's surge filter is designed as a 3-stage protection system which consists to primary protection & secondary protection and with a well-designed LC filter in series. The LC filter is used to slow down the inherently fast rise rate of voltage and current. The primary protection module is used to divert the strong lightning/surge current, which the secondary protection module & LC filter will limit the let-through voltage to a very low level. The surge filter should be installed in series with the supply powering the equipment.

Model	BSF200-3/180-125A-3PN-VTD-S		BSF200-3/320-125A-3PN-VTD-S
In accordance with	IEC/EN61643-11; UL1449 5th; IEC61000-6; ANSI/IEEE C62.41; AS1768-1991; AS3100		
Category IEC/EN/VDE	I+II/ 1+2 / B+C		
Ports	2		
Protection Mode	All mode protection		
Nominal voltage(AC) Un	120/208 to 127/220V three phase (TN/TT)		220/380 to 277/480V three phase (TN/TT)
Max. Continuous Operating Voltage (AC/DC) Uc	180V / 230V		320V / 420V
Rated load Current I _L	125A		
Nominal Discharge Current I _n	50kA (8/20 μ s)		
Primary Surge Protection Rating	L-N	I _{imp} : 50kA (10/350 μ s), I _{max} : 150kA (8/20 μ s)	
	N-PE	I _{imp} : 100kA (10/350 μ s), I _{max} : 200kA (8/20 μ s)	
Secondary Surge Protection Rating I _{max}	50kA (8/20 μ s)		
Total surge capacity per phase I _{max}	200kA (8/20 μ s)		
Voltage Protection Level	L-N@6kV/3kA VPR	0.4kV	0.5kV
	L-N@ I _n (50kA, 8/20 μ s) U _p	0.8kV	1.0kV
	N-PE@1.2/50 μ s U _p	1.0kV	1.5kV
Temporary overvoltage TOV -120 min U _r Withstand mode	230V		440V
Filter Attenuation d _s	>48dB @ 1MHz		
Built In Over Load/ Over-Current Protection In Series	125A (optional)		
Lightning Counter Current	≤3kA		
Protect Status Indication	4 LED display, Normal (Blue), Protection fault(Off)		
Remote Alarm	Dry contact alarm relay - 250Vac/32Vdc, 5A		
Connecting Cable	Power: 2~3AWG(100A/125A); Alarm: 14 ~22AWG		
Environment	Temperature Range: - 40° C ~ +70° C; Humidity: ≤95%; Altitude: ≤2000m		
Mounting	Wall mounting		
Degree of Protection	IP20		
Certification	CE		

■ Dimension drawing (mm)



■ Basic Circuit Diagram





Two-Port Surge Filter

Class II+ Class III / Type 2 + Type 3 BSF40

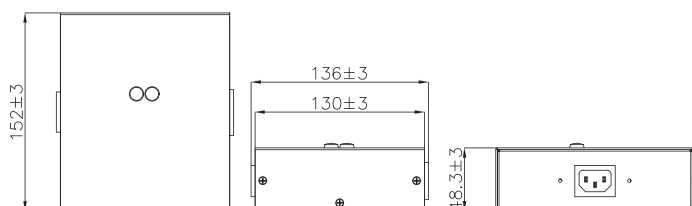
ProSurge®
Maximum Safety in Surge Protection



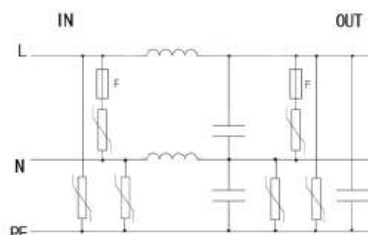
- Multi-stage protection circuit with LC Filter design to protect sensitive electronics
- MOV technology with thermal protection
- Application for 220~277V (L-N) TT/TN, or any single phase system with a grounded neutral
- Surge capacity: 40kA 8/20 μ s
- Load current rating 16A, 10A is available
- Built in backup fuse for fault current protection
- All mode protection
- Flexible standard socket options for easy wiring
- LED failure indication
- Compact and portable size

Model	BSF40-1/320-10A-3P	BSF40-1/320-16A-3P
In accordance with	IEC/EN61643-11; UL1449 5th; IEC61000-6; ANSI/IEEE C62.41; AS1768-1991; AS3100	
Category IEC/EN/VDE	II+III / 2+3 / C+D	
Ports	2	
Protection Mode	All mode protection	
Nominal voltage(AC) Un	220-277V single phase	220-277V single phase
Max. Continuous Operating Voltage (AC/DC) U _c	320V / 420V	320V / 420V
Rated load Current I _L	10A	16A
Nominal Discharge Current (8/20 μ s) I _n	L-N 20kA, N-E 5kA, L-E 5kA	
Max. Discharge Current (8/20 μ s) I _{max}	L-N 40kA, N-E 10kA, L-E 10kA	
Voltage Impulse (1.2/50 μ s) U _{oc}	20kV	
Total Surge Capacity Per Line I _{total}	100kA (8/20 μ s)	
Voltage Protection Level	L-N @6kV/3kA VPR	1.0kV
	L/N-PE@6kV/3kA VPR	1.2kV
	L-N @In Up	1.2kV
	L/N-PE@In Up	1.4kV
Temporary overvoltage TOV - 5 sec U _T Withstand mode	400V	
Filter Attenuation d _B	>40dB @ 1MHz	
Recommended External Over Current Protection In Series	10A Fuse or CB	16A Fuse or CB
Protect Status Indication	2 part display, Power OK, Protection fault	
Connecting Cable	IEC320 10A input x 1, IEC320 10A output x 1 Alternative standards available	IEC320 16A input x 1, IEC320 16A output x 1 Alternative standards available
Environment	Temperature Range: - 10° C ~ +60° C; Humidity: ≤95%; Altitude: ≤2000m	
Mounting	Portable	
Degree of Protection	IP20	
Certification	CE	

■ Dimension drawing



■ Basic Circuit Diagram



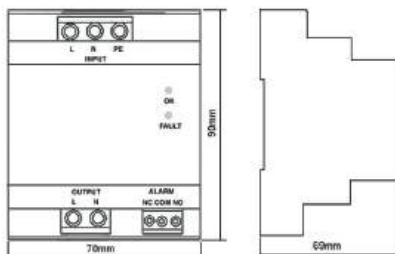
- Multi-stage protection circuit with LC Filter design to protect sensitive electronics
- Application for 120~127V, 220~277V (L-N) TT/TN, or any 1-phase system with a grounded neutral
- Surge capacity 25kA 8/20 μ s
- Load current rating 25A, 16A is available
- Built in backup fuse for fault current protection
- All mode protection
- LED failure indication
- Remote alarm function available
- Terminal wiring method
- Easy installation on DIN rails

Model		DSF25/175-25A/3P/C-S	DSF25/320-25A/3P/C-S
In accordance with		IEC/EN61643-11; UL 1449 5th; IEC61000-6; ANSI/IEEE C62.41; AS1768-1991; AS3100	
Category IEC/EN/VDE		III / 3 / C	
Ports		2	
Protection Mode		All mode protection	
Nominal Voltage(AC) Un		120-127V single phase	220-277V single phase
Max. Continuous Operating Voltage (AC/DC) Uc		175V / 230V	320V / 420V
Rated load Current IL		25A	
Nominal Discharge Current (8/20μs) In		L-N 10kA, N-E 3kA, L-E 3kA	
Max. Discharge Current (8/20μs) I _{max}		L-N 25kA, N-E 6kA, L-E 6kA	
Voltage Impulse (1.2/50μs) Uoc		10kV	
Total Surge Capacity Per Line (8/20μs) I _{total}		31kA	
Voltage Protection Level	L-N @6kV/3kA VPR	0.7kV	1.0kV
	L-N @In Up	0.8kV	1.2kV
Temporary overvoltage TOV - 5 sec Ut Withstand mode		195V	370V
Filter Attenuation dB		>45dB @ 1MHz	
Recommended External Over Current Protection In Series		25A Fuse or CB	
Protect Status Indication		2 part display, Power OK, Protection fault	
Remote Alarm		Dry contact alarm relay – 125Vac 1A; 30Vdc, 2A	
Connecting Cable		Power: single-strand 6mm ² ; multi-strand 4mm ² Remote: 1.5mm ² (16 AWG); Other standards available	
Environment		Temperature Range: – 10° C~ +60° C; Humidity: ≤95%; Altitude: ≤2000m	
Mounting		35mm DIN–rail in accordance with EN 50022/DIN46277–3	
Degree of Protection		IP20	
Certification		CE	

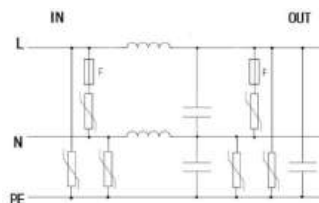
Other Models

Power System	Load Current	Model Recommended	Recommended External Over Current Protection In Series
Single phase 2W+G	16A	DSF25/...-16A/3P/C-S	16A CB/Fuse

Dimension drawing



Basic Circuit Diagram



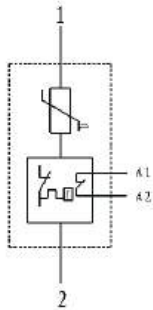


PCB mounting SPDs

Class I, II / Type 1,2

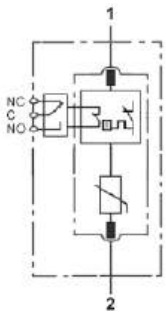
The PCB mounting SPD is easy integrated on printed circuit boards (PCB) and close to sensitive electronic element inside device, to minimize the potential impact of lightning events. The PCB mounting SPD will help to significantly reduce the cost of substantial repair, replacement, system downtime and the loss of revenue. PROSURGE's PCB mounting SPD is size optimization and space efficiency, which is a high performance but low cost solution for the industry of power electronics. It employs high energy Metal Oxide Varistor (MOV), and constructed with patented thermal protection and arc extinguishing technology which ensure safe disconnection while faulty current or abnormal voltage happened. Prosurge PCB mounting SPDs have comprehensively improved the safety performance and proven to be excellent fail-safe and self-protected protective devices because of patented technology.

PCB mounting-Soldering



Part No.	PTMOV	PVTMOV	20PTMOV	SMTMOV	HSMTMOV
IEC/EN/UL category	II/T2/Type1ca	II/T2/Type 1ca	II/T2/Type1ca	II/T2/Type1ca	I+II/T1+T2/Type1ca
Max. continuous operating voltage Uc /Ucpv/MCOV	AC:150V~690V	DC:48V~1000V	AC:150V~550V	AC:150V~690V	AC:150V~320V
Nominal discharge current(8/20) In	10kA	10kA	20kA	20kA	15kA/20kA
Lightning impulse current (10/350) Iimp	-	-	-	-	8kA/-
Max. discharge current(8/20) Imax	25kA	25kA	50kA	50kA	45kA/75kA
Fault indication	NA	NA	NA	A	A
Remote alarm contact	A	A	A	A	A
Operating temperature	-40~80℃	-40~85(110)℃	-40~85℃	-40~85℃	-40~85℃
Certification	UL,CE	TUV,CE	UL,CE	UL,CE	UL,CE

PCB mounting- Pluggable while install with soldering socket



Part No.	MPV50	SP D	MPVB12.5	MBPS12.5
IEC/EN/UL category	I+II/T1+T2/Type1ca	II/T2/Type1ca	I+II/T1+T2/Type1ca	I+II/T1+T2/Type1ca
Max. continuous operating voltage Uc /Ucpv/MCOV	DC:48V~750V	DC:85V~825V	DC:48V~750V	AC:75V~750V
Nominal discharge current(8/20) In	20kA	20kA	25kA	25kA
Lightning impulse current (10/350) Iimp	7.5kA	-	12.5kA	12.5kA
Max. discharge current(8/20) Imax	50kA	50kA	80kA	80kA
Fault indication	A	A	A	A
Remote alarm contact *	A	A	A	A
Operating temperature	-40~85℃	-40~85℃	-40~85℃	-40~85℃
Certification	TUV,CE	UL,CE	TUV,CE	TUV,CE

Note:

*: Need be used with socket.



UL Type 1ca SPD

PTMOV/20PTMOV



UL 1449 5th tested
Global patented
In: 10/20kA
Imax: 25/50kA



Part No.	MCOV /Uc	In	Imax	Voltage protection rating (VPR) UL 1449	Short circuit current rating (SCCR) UL 1449
PTMOV150/S	150Vac	10kA	25kA	0.6kV	200kA
PTMOV180/S	180Vac	10kA	25kA	0.8kV	200kA
PTMOV320/S	320Vac	10kA	25kA	1.0kV	200kA
PTMOV420/S	420Vac	10kA	25kA	1.2kV	200kA
PTMOV550/S	550Vac	10kA	22kA	1.8kV	200kA
PTMOV690/S	690Vac	10kA	22kA	2.0kV	200kA
20PTMOV150/S	150Vac	20kA	50kA	0.6kV	200kA
20PTMOV320/S	320Vac	20kA	50kA	1.0kV	200kA
20PTMOV420/S	420Vac	20kA	50kA	1.2kV	200kA
20PTMOV550/S	550Vac	20kA	45kA	1.8kV	200kA

UL Type 1ca SPD

SMTMOV/HSMTMOV



UL 1449 5th tested
Global patented
In: 20kA
Imax: 50/75kA



Part No.	MCOV /Uc	In	Imax	Voltage protection rating (VPR) UL 1449	Short circuit current rating (SCCR) UL 1449
SMTMOV150	150Vac	20kA	50kA	0.6kV	200kA
SMTMOV180	180Vac	20kA	50kA	0.8kV	200kA
SMTMOV275A	275Vac	20kA	50kA	0.8kV	200kA
SMTMOV320	320Vac	20kA	50kA	1.0kV	200kA
SMTMOV420	420Vac	20kA	50kA	1.5kV	200kA
SMTMOV550	550Vac	20kA	50kA	1.5kV	200kA
SMTMOV690	690Vac	20kA	40kA	2.0kV	200kA
HSMTMOV150	150Vac	20kA	75kA	0.6kV	200kA
HSMTMOV275A	275Vac	20kA	75kA	0.8kV	200kA
HSMTMOV320	320Vac	20kA	75kA	1.0kV	200kA

IEC/EN T1+T2 SPD

MBPS



IEC/EN 61643-11 tested
In: 25kA
Imax: 80kA
Iimp: 12.5kA



Part No.	Uc	In	Imax	Iimp	Voltage protection level (Up) IEC	Short circuit withstand capacity (Iscpr) IEC
MBPS12.5V/75	75Vac	25kA	80kA	12.5kA	0.6kV	50kA
MBPS12.5V/150	150Vac	25kA	80kA	12.5kA	0.8kV	50kA
MBPS12.5V/180	180Vac	25kA	80kA	12.5kA	1.0kV	50kA
MBPS12.5V/275	275Vac	25kA	80kA	12.5kA	1.2kV	50kA
MBPS12.5V/320	320Vac	25kA	80kA	12.5kA	1.4kV	50kA
MBPS12.5V/350	350Vac	25kA	80kA	12.5kA	1.5kV	50kA
MBPS12.5V/385	385Vac	25kA	80kA	12.5kA	1.8kV	50kA
MBPS12.5V/440	440Vac	25kA	65kA	8kA	2.0kV	50kA
MBPS12.5V/480	480Vac	25kA	65kA	6kA	2.2kV	50kA
MBPS12.5V/600	600Vac	25kA	65kA	6kA	2.5kV	50kA
MBPS12.5V/750	750Vac	25kA	65kA	4kA	2.8kV	50kA



PCB mounting SPDs

Application in DC/DC PV Power Electronics

IEC/EN T2 SPD

PVTMOV



IEC/EN 61643-31 tested
Global patented
In: 10kA
Imax: 25kA



Part No.	Ucpv	In	Imax	Voltage protection level (Up) IEC	Short circuit withstand capacity (Iscpv) IEC
PVTMOV48/S	48Vdc	10kA	25kA	0.3kV	1000A
PVTMOV100/S	100Vdc	10kA	25kA	0.5kV	1000A
PVTMOV180/S	180Vdc	10kA	25kA	0.6kV	1000A
PVTMOV200/S	200Vdc	10kA	25kA	0.7kV	1000A
PVTMOV300/S	300Vdc	10kA	25kA	1.0kV	1000A
PVTMOV400/S	400Vdc	10kA	25kA	1.2kV	1000A
PVTMOV500/S	500Vdc	10kA	25kA	1.6kV	1000A
PVTMOV600/S	600Vdc	10kA	25kA	1.9kV	1000A
PVTMOV800/S	800Vdc	10kA	25kA	2.5kV	1000A
PVTMOV1000/S	1000Vdc	10kA	25kA	2.7kV	1000A

IEC/EN T1+T2 SPD

MPV50



IEC/EN 61643-31 tested
In: 20kA
Imax: 50kA
Iimp: 7.5kA



Part No.	Ucpv	In	Imax	Iimp	Voltage protection level (Up) IEC	Short circuit withstand capacity (Iscpv) IEC
MPV50/48-V	85Vdc	20kA	50kA	7.5kA	0.6kV	25kA
MPV50/75-V	100Vdc	20kA	50kA	7.5kA	0.6kV	25kA
MPV50/100-V	125Vdc	20kA	50kA	7.5kA	0.7kV	25kA
MPV50/150-V	170Vdc	20kA	50kA	7.5kA	0.8kV	25kA
MPV50/200-V	225Vdc	20kA	50kA	7.5kA	1.0kV	25kA
MPV50/300-V	350Vdc	20kA	50kA	7.5kA	1.2kV	25kA
MPV50/400-V	460Vdc	20kA	50kA	7.5kA	1.5kV	25kA
MPV50/500-V	560Vdc	20kA	50kA	6kA	2.0kV	25kA
MPV50/600-V	670Vdc	20kA	50kA	4.5kA	2.2kV	25kA
MPV50/750-V	800Vdc	20kA	50kA	4.5kA	2.5kV	25kA



IEC/EN T1+T2 SPD

MPVB12.5



IEC/EN 61643-31 tested

In: 25kA

I_{max}: 80kA

I_{imp}: 12.5kA



Part No.	U _{cpv}	I _n	I _{max}	I _{imp}	Voltage protection level (U _p) IEC	Short circuit withstand capacity (I _{scpv}) IEC
MPVB12.5/48-V	85Vdc	25kA	80kA	12.5kA	0.6kV	25kA
MPVB12.5/75-V	100Vdc	25kA	80kA	12.5kA	0.7kV	25kA
MPVB12.5/100-V	125Vdc	25kA	80kA	12.5kA	0.7kV	25kA
MPVB12.5/150-V	170Vdc	25kA	80kA	12.5kA	0.8kV	25kA
MPVB12.5/200-V	225Vdc	25kA	80kA	12.5kA	1.0kV	25kA
MPVB12.5/300-V	350Vdc	25kA	80kA	12.5kA	1.4kV	25kA
MPVB12.5/400-V	460Vdc	25kA	80kA	12.5kA	1.6kV	25kA
MPVB12.5/500-V	560Vdc	25kA	80kA	12.5kA	1.8kV	25kA
MPVB12.5/600-V	670Vdc	25kA	80kA	12.5kA	2.2kV	25kA
MPVB12.5/750-V	800Vdc	25kA	65kA	8kA	2.5kV	25kA

UL Type 1ca SPD

SP D



UI1449 5th tested

Global patented

In: 20kA

I_{max}: 50kA



Part No.	U _{pdc}	I _n	I _{max}	Voltage protection rating (VPR) UL 1449	Short circuit current rating (SCCR) UL 1449
SP85D	85Vdc	20kA	50kA	0.4kV	30kA
SP350D	350Vdc	20kA	50kA	0.9kV	100kA
SP460D	460Vdc	20kA	50kA	1.2kV	100kA
SP560D	560Vdc	20kA	50kA	1.5kV	100kA
SP670D	670Vdc	20kA	50kA	1.5kV	50kA
SP825D	825Vdc	20kA	50kA	1.8kV	50kA



Lightning & Surge Monitoring Devices

Lightning Event Counter LEC-MC

ProSurge®
Maximum Safety in Surge Protection



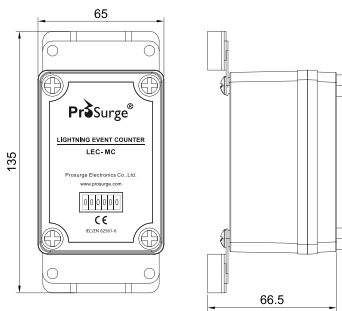
CE

- Needs no maintenance and long service life
- High sensitive response with trigger current 1.5kA
- Can register very high lightning strike up to 100kA (10/350μs, 8/20μs)
- Mechanical strike counter with 6 digit display
- Easy to install and use, Fast installation directly on the round wire or flat strip of an existing down conductor, no need to remove the enclosure
- Does not require external power or batteries for operation, maintenance free operation
- Can not be manual reset to ensures accurate continued recording of lightning strokes
- IP67 enclosure with UV resistant & anti-aging plastic, water-proof, dust-proof, anti-sunburn, suitable for outdoor installation
- According to standards IEC/EN 62561-6 and EN 50164-6

LEC-MC is a compact Mechanical lightning & surge event counter for lightning protection systems. It automatically detects and counts the lightning strikes received by the lightning protection system. The counter is mounted directly onto the lightning down conductor (cable, rod or plate) or the PE line of the surge protection device, no modifications to existing wiring are required.

LEC-MC not require external power or batteries for operation, maintenance free operation, and is suitable for outdoor installation.

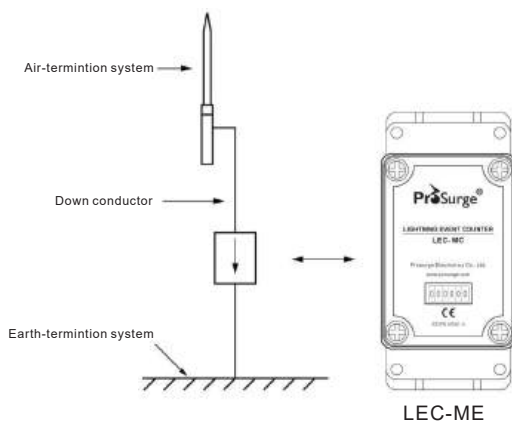
Dimension(mm)



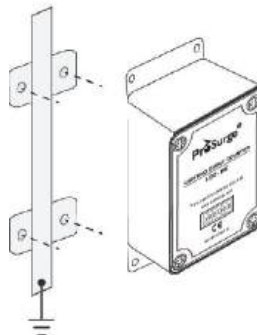
Part No.	LEC-MC
In accordance with	IEC/EN 62561-6; EN 50164-6
Counting Current (rise time $\geq 8\mu s$)	1.5kA
Sequence of impulse	> 1s
Display Model	Electromechanical digital display
Counter range	0~999999
Current Sample Mode	Inductive Probe (Built-in)
Power supply	No battery & power supply need
Operation temperature	-20~+70°C
Mounting	Directly mounting
Dimension of counter	135x65x66.5mm
Enclosure material	UV resistant & Anti-aging plastic, UL94-V0
Degree of protection	IP67

Installation

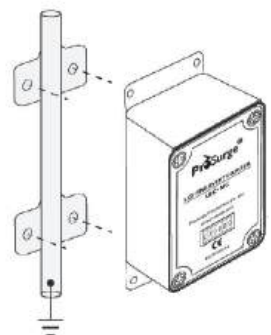
The lightning event counter LEC-ME is suited for new and existing installations. It is directly mounted on the round wire or flat strip of the down conductor, two mounting accessories are available.



Mounting on the flat strip of conductor



Mounting on the round wire of conductor





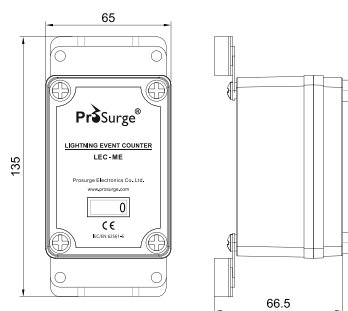
- Low maintenance and long service life
- High sensitive response with trigger current 150A
- Can register very high lightning strike up to 100kA (10/350μs, 8/20μs)
- Easy viewable LCD display
- Easy to install and use, fast installation directly on the round wire or flat strip of an existing down conductor, no need to remove the enclosure
- CR2450 lithium coin battery for easy installation and replacement, the average battery lifetime is 5 years
- Can be reset through the internal reset button
- IP67 enclosure with UV resistant & anti-aging plastic, water-proof, dust-proof, anti-sunburn, suitable for outdoor installation
- According to standards IEC/EN 62561-6 and EN 50164-6



LEC-ME is a compact digital lightning & surge event counter for lightning protection systems. It automatically detects and counts the lightning strikes received by the lightning protection system. The counter is mounted directly onto the lightning down conductor (cable, rod or plate) or the PE line of the surge protection device, no modifications to existing wiring are required.

LEC-ME is powered by an CR2450 lithium coin battery for easy installation and replacement.

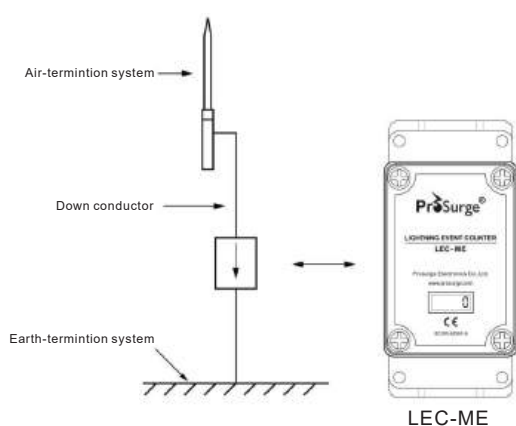
■ Dimension(mm)



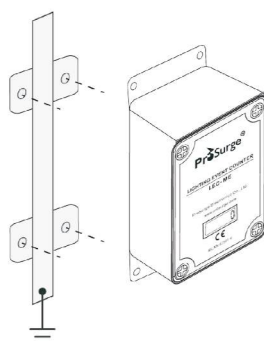
Part No.	LEC-ME
In accordance with	IEC/EN 62561-6; EN 50164-6
Counting Current (rise time $\geq 8\mu s$)	150A
Sequence of impulse	> 1s
Display Model	LCD Display
Counter range	0~999999
Current Sample Mode	Inductive Probe (Built-in)
Power supply	Powered by lithium 3V battery CR2450
Average battery lifetime	5 years
Operation temperature	-20~+70 °C
Mounting	Directly mounting
Dimension of counter	135x65x66.5mm
Enclosure material	UV resistant & Anti-aging plastic, UL94-V0
Degree of protection	IP67

Installation

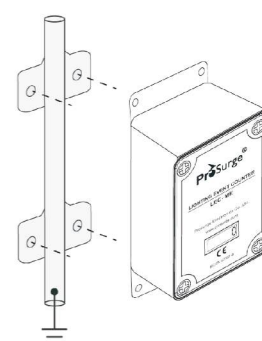
The lightning event counter LEC-ME is suited for new and existing installations. It is directly mounted on the round wire or flat strip of the down conductor, two mounting accessories are available.



Mounting on the flat strip of conductor



Mounting on the round wire of conductor





Lightning & Surge Monitoring Devices

Lightning Event Counter

LEC-AT

ProSurge®
Maximum Safety in Surge Protection

The PROSURGE Intelligent Surge & Power Monitor is a multi-function monitoring device for power system and LPS (lightning Protecting System), a core unit for Intelligent LPS or Surge Protective Devices (iSPDs), which is an innovative solution to make your LPS smart and intelligent.

It can be widely used in Telecom, Railway electrical system, Wind power plant, Photovoltaic power plant, Network Communication system, building electrical system and automatic industrial lightning protection etc.

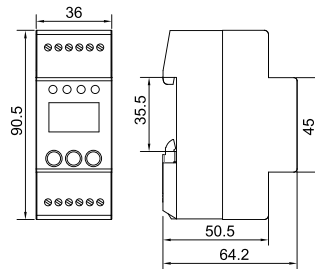
It has a leading technology and stable functions, through local Man-Machine interface or connecting to remote monitoring center, users can check completed LPS information.



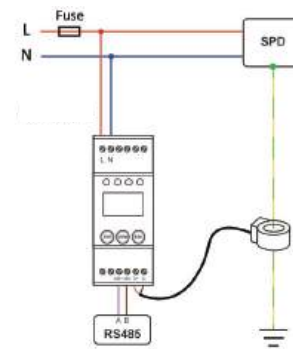
LEC-AT

- Monitor and record 999's lightning and surge event (**polarity, event time, total events quantity**)
- Buzzer alarm when the number of lightning and surge event reaches a settable value
- OLED display, support history events information query
- RS-485 communication interface, users can browse history events information on the far-end PC

■ Dimension drawing



■ Examples of Installation

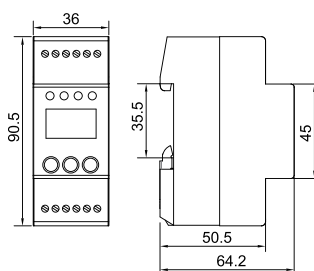




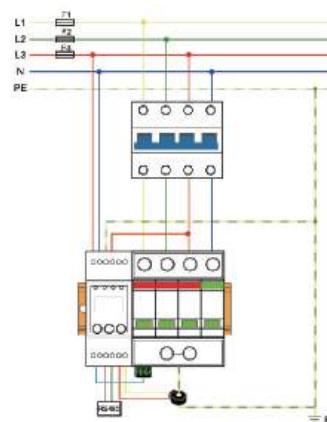
iSPM-02

- Monitor and record 999's lightning and surge event (**polarity, event time, total events quantity**)
- SPD working status with alarm
- SPD's aging with alarm while close to end-of-life
- Backup over-current protection device working status (circuit breaker or fuse) with alarm
- Voltage on SPD in real-time, overvoltage alarm
- Grounding conditions of SPD with alarm
- N line monitor (screen light off while lost, alarm by remote signal contact)
- OLED display, support history events information query
- RS-485 communication interface, users can browns history events information on the far-end PC

■ Dimension drawing



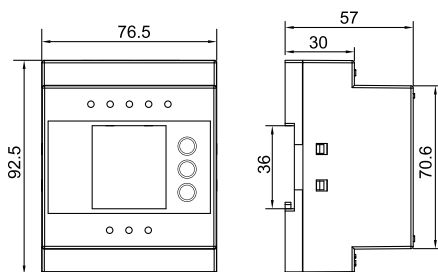
■ Examples of Installation



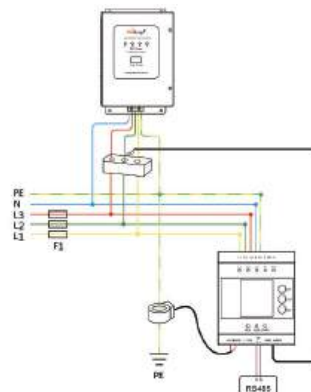
iSPM-03

- Monitor and record 5000's lightning and surge event (**surge amplitude, polarity, event time, total events quantity**)
- SPD working status with alarm
- SPD's leakage current measurement
- SPD's aging and alarm while close to end-of-life
- Power line & Grounding monitor with alarm while lost
- Backup over-current protection device working status (circuit breaker or fuse) with alarm
- Voltage on SPD in real-time (all phase lines), overvoltage alarm
- TFT display, support history events information query
- RS-485 communication interface, users can browns history events information on the far-end PC
- Din rail design, easy to install and use

■ Dimension drawing



■ Examples of Installation





Lightning & Surge Monitoring Devices

Intelligent Surge & Power Monitor

iSPM-04 & LSM-CT01

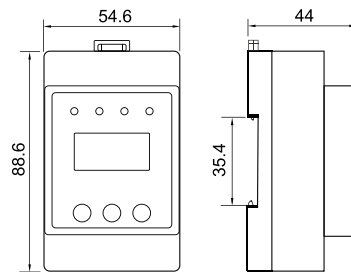
ProSurge®
Maximum Safety in Surge Protection



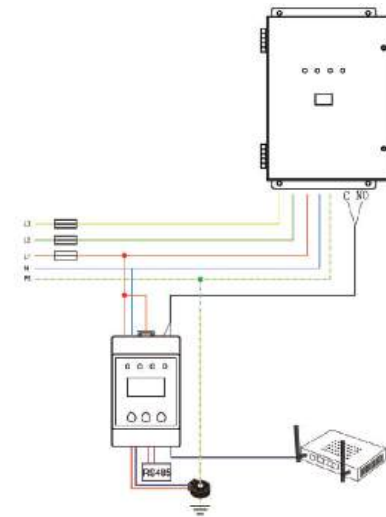
iSPM-04

- Monitor and record 5000's lightning and surge event (**polarity, event time, total events quantity**)
- SPD working status with alarm
- Backup over-current protection device working status (circuit breaker or fuse) with alarm
- Voltage on SPD in real-time, overvoltage alarm
- Grounding conditions of SPD with alarm
- N line monitor (screen light off while lost, alarm by remote signal contact)
- Buzzer alarm when the number of lightning and surge event reaches a settable value
- TFT display, support history events information query
- RS-485 communication interface, users can brows history events information on the far-end PC
- Web-based device, can be accessible via standard Web-browsers
- E-mail pushing, uses never miss fault information anywhere and anytime
- Din rail design, easy to install and use

■ Dimension drawing



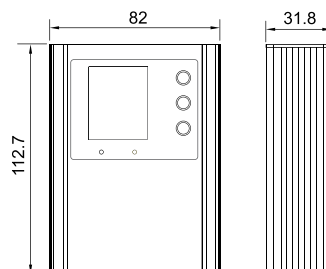
■ Examples of Installation



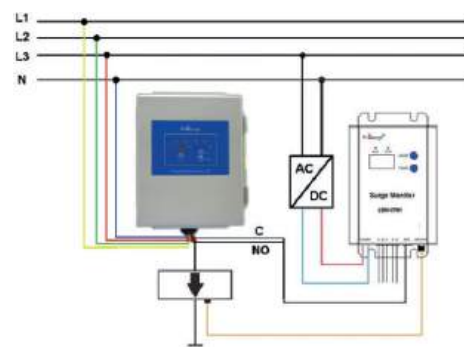
LSM-CT01

- Monitor and record 500's lightning and surge event (**surge amplitude, polarity, event time, totalevents quantity**)
- SPD working status
- USB interface for data export
- TFT display, support history events information query
- RS-485 communication interface, users can brows history events information on the far-end PC

■ Dimension drawing



■ Examples of Installation



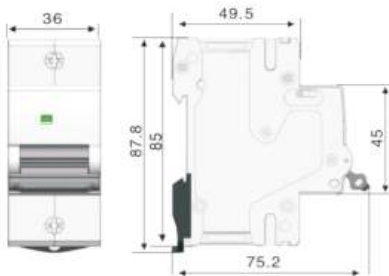


PROSURGE SCB provides enhance backup over-current protection for the SPD, which is located externally upstream of SPD, to avoid overheating and destruction of the SPD.

Comparing to normal backup device, like as traditional circuit breaker/fuse, the PROSURGE SCB is fully coordinated with the surge protective device, which achieves a better balance between surge withstand performance (no tripping while expected surge occurs) and sharp reaction against short circuit and abnormal leakage current. While the Prosurge SCB is used in SPD circuit, the short current will be limited to less than 3A in case the SPD is unable to interrupt the power frequency short circuit current, which usually cause by power frequency temporary overvoltage(TOV). And because of this, the limited short circuit current will not lead to overheating of SPD and even burning, that makes SPDs safe and more reliable in most applications.

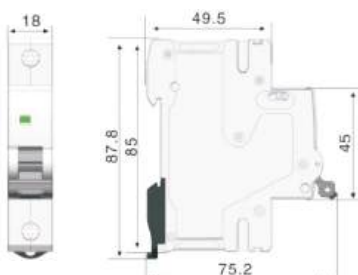
The SCB is also featuring the lower residual voltage while surge happens and compact size.

- Used with class I/T1 SPD**



Part No.	SCB B15-1P	SCB B25-1P	SCB B50-1P
Pole number	1P		
Nominal voltage Un	230/400Vac		
Operating frequency	50/60Hz		
Rated max. impulse current (10/350us) Iimp	15kA	25kA	50kA
Nominal discharge current (8/20us) In	50kA	60kA	80kA
Rated short circuit current capacity Icn	100kArms	100kArms	100kArms
Rated trip current (frequency current)	3A		
Rated trip time	<0.1s		
IP protection level	IP20		
Wire connection	Flexible:2.5~25mm ² Stranded:2.5~35mm ²		
Operating temperature	~25°C~60°C		
Installation width	36mm		

- Used with class II/T2 SPD**



Part No.	SCB C40-1P	SCB C65-1P	SCB C80-1P
Pole number	1P		
Nominal voltage Un	230/400Vac		
Operating frequency	50/60Hz		
Rated max. discharge current (8/20us) Imax	40kA	65kA	80kA
Nominal discharge current (8/20us) In	20kA	35kA	40kA
Rated short circuit current capacity Icn	50kArms	50kArms	50kArms
Rated trip Current (frequency current)	3A		
Rated trip time	<0.1s		
IP protection level	IP20		
Wire connection	Flexible:2.5~25mm ² Stranded:2.5~35mm ²		
Operating temperature	~25°C~60°C		
Installation width	18mm		



Intelligent SPDs (iSPDs)

iSPD

ProSurge®
Maximum Safety in Surge Protection



The **PROSURGE iSPD** is an intelligent and auto self-protected SPD for the single phase or multi phase power systems. It's an innovative solution for most commercial and industrial environments with critical operations, to make your surge protection smart and intelligent.

The iSPD is composed of three essential parts: surge protective device (SPD), intelligent surge & power monitor (iSPM) or Lightning/Surge event counter LEC-AT and surge circuit breaker (SCB).

Prosurge high performance MOV based SPDs (Class I or II) of iSPD can protect sensitive equipment from the harmful transient voltage surges resulting from:

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



Prosurge's Class II SPD

PROSURGE **iSPM / LEC-AT** technology makes it easy to monitor the power & lightning protecting system. This device allows end user to monitor real time power quality for SPD and Lightning/Surge event and get alarm feedback on failure and fault from power system and device self:

- SPD working status with alarm for SPD Failure - **Model: iSPM02**
- SPD's aging with alarm while close to end-of-life of SPD - **Model: iSPM02**
- Lightning and surge event (surge polarity, time-to-event, total events quantity) - **Model: iSPM02/LEC-AT**
- Buzzer alarm when the number of surge events reaches a settable number - **Model: LEC-AT**
- Backup over-current protection device working status (circuit breaker or fuse) with alarm for CB or fuse open - **Model: iSPM02**
- Voltage on SPD in real-time, alarm for overvoltage event - **Model: iSPM02**
- Grounding conditions of SPD with alarm for Grounding fault - **Model: iSPM02**
- N line lost alarm (screen light off while lost, alarm by remote signal contact) - **Model: iSPM02**



Prosurge's intelligent surge & power monitor



Prosurge's SCB

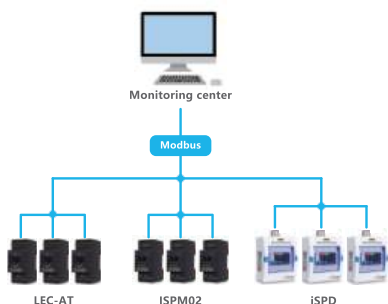
PROSURGE **SCB** provides backup over-current protection for the SPD, which is fully coordinated with the SPD's surge capacity. Comparing to normal backup circuit breaker/fuse, the integrated PROSURGE SCB achieve a better balance between surge withstand performance (no tripping while expected surge occurs) and sharp reaction against short circuit and abnormal leakage current.

The iSPD can communicate with computer or smart terminal.

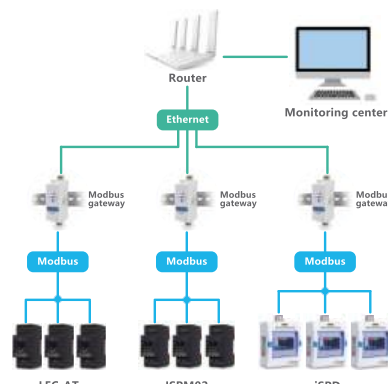
It can connect RS485 half-duplex MODBUS RTU protocol communication mode to the remote monitoring center.

Or through the "RS485/Ethernet converter", the MODBUS communication protocol can be converted to the Ethernet protocol, allowing the iSPD to connect to the Internet.

Once the iSPDs are connected to network, end user will be easy to get accurate and convenient information through computer software or smartphone Apps, and be able to act quickly to guarantees system uninterrupted operation based on optimal information.



RS485 MODBUS



RS485 MODBUS converter to Ethernet



Configuration & Ordering Information:

iSPD Intelligent SPD Model series	-02 Intelligent Surge & Power Monitor Model Series	/C SPD category per IEC/EN	320 Max. operating voltage (Uc)	-PN SPD config	-SCB Back up Surge Circuit Breaker
iSPD	-02: iSPM02 -AT: LEC-AT	-B: Class I or T1 -C: Class II or T2	320: 75VAC~320VAC	2: Two poles (2+0) PN: Two poles (1+1) 3: Three poles (3+0) 4: Four poles (4+0) 3PN: Four poles (3+1)	With or without

Intelligent Surge & Power Monitor choice:

Function	-02	-AT
Lightning and surge event logging (surge polarity, time-to-event, total events quantity)	✓	✓
Pre-set alarm number of surge event		✓
SPD working status with alarm	✓	
SPD's aging with alarm	✓	
Backup over-current protection device working status with alarm	✓	
Voltage on SPD in real-time with alarm	✓	
Neutral line monitor with alarm	✓	



iSPD-02/...-SCB

- SPD + iSPM02 + SCB
- Surge capacity 8/20μs: 50kA

Part No.	iSPD-02/C320-PN-SCB	iSPD-02/C320-3PN-SCB
General	Power system	2W+G, 1ph
	System voltage Un	220/380V ~ 240/415V
	Connection	Connection in parallel
	Connecting cable	Power line: 10-35mm ² ; Remote signal: 1.5mm ²
	Mounting	Wall mounting
	Dimension	148x180x87mm
SPD	SPD category	Class II / T2 per IEC 61643
	Max. continuous operating voltage Uc	320VAC
	Nominal discharge current (8/20 μs) In	20kA
	Max. discharge current (8/20 μs) Imax	50kA
	Voltage protection level Up	1.5kV
	Thermal disconnecter / Indication	Internal red - failure
iSPM	Display screen	OLED screen
	Event logging	999 events
	Surge event counting	Counting current ≥ 100A (adjustable)
	Communication Interface	RS485
	Indication	Buzzer / Indicator / remote signal
SCB	Trip current It	3±1A
	Trip time Tt	≤ 40ms



Intelligent SPDs (iSPDs)

iSPD

ProSurge®
Maximum Safety in Surge Protection



iSPD-AT/... SCB

- SPD + LEC-AT + SCB
- Surge capacity 8/20μs: 50kA

Part No.	iSPD-AT/C320-PN-SCB	iSPD-AT/C320-3PN-SCB
General	Power system	2W+G, 1ph
	System voltage Un	220/380V ~ 240/415V
	Connection	Connection in parallel
	Connecting cable	Power line: 10-35mm ² ; Remote signal: 1.5mm ²
	Mounting	Wall mounting
	Dimension	148x180x87mm
SPD	SPD category	Class II / T2 per IEC 61643
	Max. continuous operating voltage Uc	320VAC
	Nominal discharge current (8/20 μs) In	20kA
	Max. discharge current (8/20 μs) Imax	50kA
	Voltage protection level Up	1.5kV
	Thermal disconnecter / Indication	Internal red - failure
LEC-AT	Display screen	OLED screen
	Event logging	999 events
	Surge event counting	Counting current ≥ 100A (adjustable)
	Communication Interface	RS485
SCB	Indication	Buzzer / Indicator
	Trip current It	3±1A
	Trip time Tt	≤ 40ms



iSPD-AT/...

- SPD + LEC-AT
- Surge capacity 8/20μs: 50kA

Part No.	iSPD-AT/C320-PN	iSPD-AT/C320-3PN
General	Power system	2W+G, 1ph
	System voltage Un	220/380V ~ 240/415V
	Connection	Connection in parallel
	Connecting cable	Power line: 10-35mm ² ; Remote signal: 1.5mm ²
	Mounting	DIN-Rail
	SPD category	Class II / T2 per IEC 61643
SPD	Max. continuous operating voltage Uc	320VAC
	Nominal discharge current (8/20 μs) In	20kA
	Max. discharge current (8/20 μs) Imax	50kA
	Voltage protection level Up	1.5kV
	Thermal disconnecter / Indication	Internal red - failure
	Display screen	OLED screen
LEC-AT	Event logging	999 events
	Surge event counting	Counting current ≥ 100A (adjustable)
	Communication Interface	RS485
	Indication	Buzzer / Indicator



iSPD-...-SCB

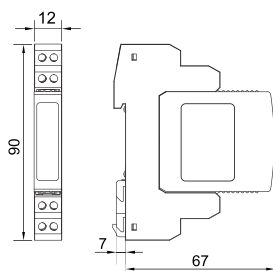
- SPD + SCB
- Surge capacity 8/20μs: 50kA

Part No.	iSPD-C320-PN-SCB	iSPD-C320-3PN-SCB
General	Power system	2W+G, 1ph
	System voltage Un	220/380V ~ 240/415V
	Connection	Connection in parallel
	Connecting cable	Power line: 10-35mm ² ; Remote signal: 1.5mm ²
	Mounting	DIN-Rail
	SPD category	Class II / T2 per IEC 61643
SPD	Max. continuous operating voltage Uc	320VAC
	Nominal discharge current (8/20 μs) In	20kA
	Max. discharge current (8/20 μs) Imax	50kA
	Voltage protection level Up	1.5kV
	Thermal disconnecter / Indication	Internal red - failure
	Trip current It	3±1A
SCB	Trip time Tt	≤ 40ms



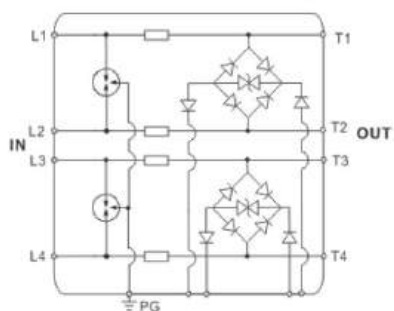
PROSURGE DM.. data network surge arrester are designed for universal 1 or 2-pairs data lines against the damaging from surges and spikes caused by lightning and other electrical sources, suitable for use in category location B, C (ANSI/IEEE C62.41) or directly at the upstream near the protected devices.

- Data network protector in according with UL497b, IEC/EN61643-21
- 12mm pluggable surge protector for DIN-Rail mounting
- Signal transmission is not interrupted when exchanging module
- Two-stage protection circuit. Limit the transients with gas discharge tubes and transzorb diodes
- Earthing is possible on DIN rail
- Different model are suitable to use for universal 4-20mA current loop, TTL, analog telephone line, measurement system and high-frequency bus and data transmission systems etc

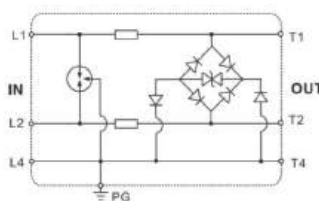


Model	DM-05-M2N1 DM-05-M4N1	DM-12-M2N1 DM-12-M4N1	DM-24-M2N1 DM-24-M4N1	DM-48-M2N1 DM-48-M4N1	DM-110-M2N1
Lines protected	1-Pair / 2-Pair				1-Pair
Nominal voltage (vdc) Un	5V	12V	24V	48V	110V
Max. continuous operating voltage (vdc/vac) Uc	6V/4.2V	15V/10.6V	33V/23.3V	54V/38.1V	170V/120V
C2 nominal discharge current (8/20μs) In	10kA				
Lightning Impulse current (10/350μs) Iimp	2.5kA				
Voltage protection level	@C2 (8/20μs) Up	30V(L-L); 30V(L-G)	45V(L-L); 45V(L-G)	55V(L-L); 55V(L-G)	100V(L-L); 100V(L-G)
	@C3 (1kV/μs) Up	24V(L-L); 24V(L-G)	38V(L-L); 38V(L-G)	48V(L-L); 48V(L-G)	75V(L-L); 75V(L-G)
Rated load current IL	1A				
Cut-off frequency fG	100 MHz				
Series impedance per line R	0.68 Ω				

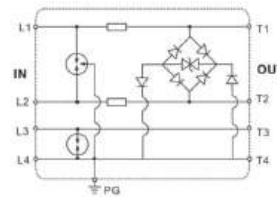
Basic circuit diagram



For 2-pair data line
DM-.../M4N1



For 1-pair data line
DM-.../M2N1



For 1-pair+shield data line
DM-.../M2N3

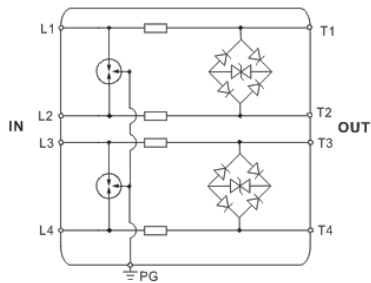


SPDs for Information System

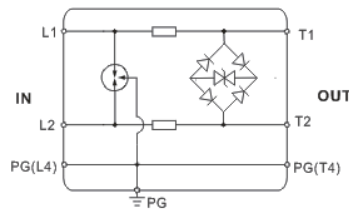
Data Line Protector DM

ProSurge®
Maximum Safety in Surge Protection

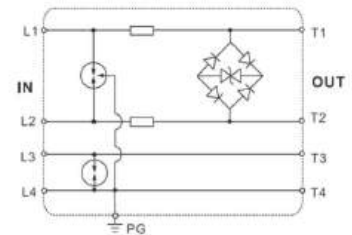
Model	DM-05-M2N2	DM-12-M2N2	DM-24-M2N2	DM-48-M2N2	DM-110-M2N2
	DM-05-M4N2	DM-12-M4N2	DM-24-M4N2	DM-48-M4N2	
Lines protected	1-Pair / 2-Pair				1-Pair
Nominal voltage (vdc) Un	5V	12V	24V	48V	110V
Max. continuous operating voltage (vdc/vac) Uc	6V/4.2V	15V/10.6V	33V/23.3V	54V/38.1V	170V/120V
C2 nominal discharge current (8/20μs) In	10kA				
C2 Total nominal discharge current (8/20μs)	20kA				
Lightning Impulse current (10/350μs) Iimp	2.5kA				
Voltage protection level	@C2 (8/20μs) Up	30V(L-L); 500V(L-G)	45V(L-L); 500V(L-G)	55V(L-L); 500V(L-G)	100V(L-L); 500V(L-G)
	@C3 (1kV/μs) Up	24V(L-L); 600V(L-G)	38V(L-L); 600V(L-G)	48V(L-L); 600V(L-G)	75V(L-L); 600V(L-G)
Rated load current IL	1A				
Cut-off frequency fG	100 MHz				
Series impedance per line R	0.68 Ω				



For 2-pair data line
DM-.../M4N2



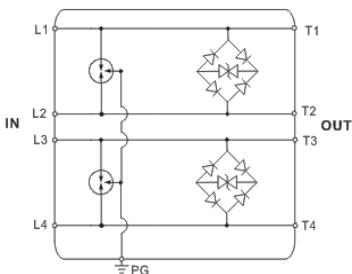
For 1-pair data line
DM-.../M2N2



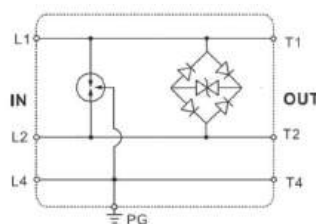
For 1-pair+shield data line
DM-.../M2N4

Model	DM-05-M2N6	DM-12-M2N6	DM-24-M2N6	DM-48-M2N6
	DM-05-M4N6	DM-12-M4N6	DM-24-M4N6	DM-48-M4N6
Lines protected	1-Pair / 2-Pair			
Nominal voltage (vdc) Un	5V	12V	24V	48V
Max. continuous operating voltage (vdc/vac) Uc	6V/4.2V	15V/10.6V	33V/23.3V	54V/38.1V
C2 nominal discharge current (8/20μs) In	10kA			
C2 Total nominal discharge current (8/20μs)	20kA			
Lightning Impulse current (10/350μs) Iimp	2.5kA			
Voltage protection level	@C2 (8/20μs) Up	30V(L-L); 500V(L-G)	45V(L-L); 500V(L-G)	55V(L-L); 500V(L-G)
	@C3 (1kV/μs) Up	24V(L-L); 600V(L-G)	38V(L-L); 600V(L-G)	48V(L-L); 600V(L-G)
Rated load current IL	2A			
Cut-off frequency fG	100 MHz			
Series impedance per line R	0 Ω			

Basic circuit diagram



For 2-pair data line
DM-.../M4N6

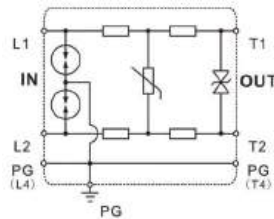


For 1-pair data line
DM-.../M2N6



Model	DM-12/M2N5	DM-24/M2N5	DM-48/M2N5	DM-110/M2N5
Lines protected	1-Pair			
Nominal voltage (vdc) Un	12V	24V	48V	110V
Max. continuous operating voltage (vdc/vac) Uc	15V/10.6V	33V/23.3V	54V/38.1V	170V/120V
C2 nominal discharge current (8/20µs) In	10kA			
C2 total nominal discharge current (8/20µs)	20kA			
Lightning Impulse current (10/350µs) Iimp	2.5kA			
Voltage protection level	@C2 (8/20µs) Up	25V(L-L); 750V(L-G)	50V(L-L); 750V(L-G)	100V(L-L); 750V(L-G)
	@C3 (1kV/µs) Up	19V(L-L); 650V(L-G)	45V(L-L); 650V(L-G)	70V(L-L); 650V(L-G)
Rated load current IL	1A			
Cut-off frequency fG	2 MHz			
Series impedance per line R	1.36 Ω			

■ Basic circuit diagram



For 1-pair data line

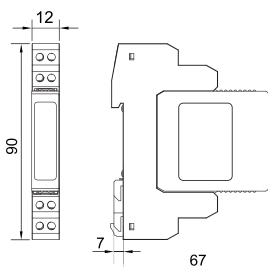
DM-../M..N7 data network protector is with **failure indication and fault-current** protection inside to make protection module replacement timely and prevent failure or even destruction of signal or communication system. These modules are suitable for digital I/O signal or analog power surge protection.



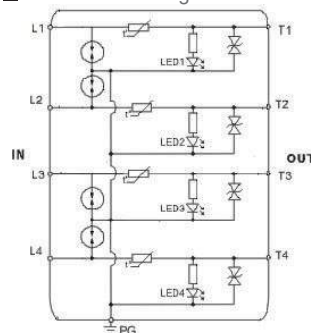
Model	DM-05/M4N7	DM-12/M4N7	DM-24/M4N7	DM-48/M4N7
Lines protected	2-Pair			
Nominal voltage (vdc) Un	5V	12V	24V	48V
Max. continuous operating voltage (vdc/vac) Uc	6V/4.2V	15V/10.6V	33V/23.3V	54V/38.1V
C2 nominal discharge current (8/20µs) In	10kA			
C2 total nominal discharge current (8/20µs)	20kA			
Lightning Impulse current (10/350µs) Iimp	2.5kA			
Voltage protection level	@C2 (8/20µs) Up	30V(L-L); 500V(L-G)	45V(L-L); 500V(L-G)	55V(L-L); 500V(L-G)
	@C3 (1kV/µs) Up	24V(L-L); 600V(L-G)	38V(L-L); 600V(L-G)	48V(L-L); 600V(L-G)
Rated load current IL	1A			
Cut-off frequency fG	2 MHz			
Series impedance per line R	PTC			



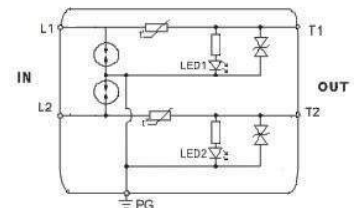
■ Dimension drawing



■ Basic circuit diagram



For 2-pair data line
DM-../M4N7



For 1-pair data line
DM-../M2N7



SPDs for Information System

Coaxial Cable Protector

D-05/BNC

ProSurge®
Maximum Safety in Surge Protection

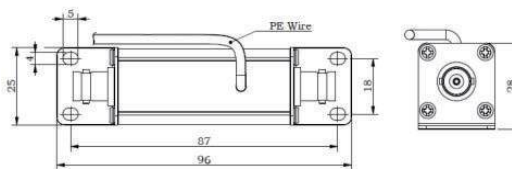
Prosurge D-05/BNC surge arrester is designed for coaxial systems such as camera and video system protection against the damage from surges and spikes caused by lightning and other electrical sources, suitable for use in category location B, C (ANSI/IEEE C62.41) or directly at the upstream near the protected devices.

- Data network protector in according with UL 497b, IEC 61643-21:2012
- High discharge capacity, total nominal discharge current up to 20kA 8/20µs
- Two-stage protection circuit
- Limit the transient with gas discharge tubes and transzorb diodes
- Comprising a PTC for overcurrent fault and short-circuit fault protection
- BNC connector for protection of video signal, cameras or TV system
- Low insertion loss

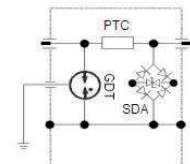


Part No.	D-05/BNC-FF50-B	
Nominal voltage (vdc) Un	5V	
Max. continuous operating voltage (vdc/vac) Uc	6/5V	
C2 nominal discharge current (8/20µs) In	10kA	
C2 total nominal discharge current (8/20µs) In	20kA	
Voltage protection level	L-SG@C2 (8/20µs) Up	30V
	L-SG@C3 (1kV/µs) Up	24V
Frequency range f	0~20MHz	
Nominal current IL	0.35A	
Technology	Two-stage protection circuit, GDT/SAD & PTC technology	
Insertion loss at 20MHz	0.2dB	
VSWR	1.2dB	
Continuous power P	0.77 Watts	
Series Impedance per line R	0.6 Ohm (PTC)	
Input / output connection type	BNC, 50 Ohm	

■ Dimension drawing



■ Basic circuit diagram



Multiport Coaxial Protector



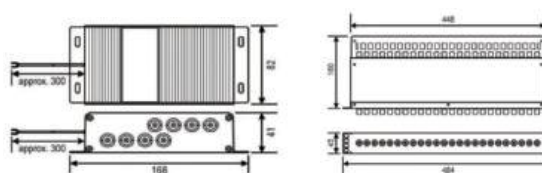
8-ports protector DSB05/BNC-8P

16-ports protector DSB05/BNC-16P 19" bay design

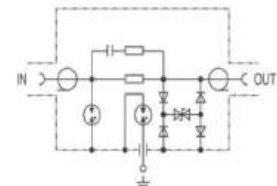
24-ports protector DSB05/BNC-24P 19" bay design

Part No.	DSB05/BNC-8P	DSB05/BNC-16P	DSB05/BNC-24P
Number of connection Ports	8	16	24
Nominal voltage (Vdc) Un	5V		
Max. continuous operating voltage (Vdc) Uc	8V		
Open circuit voltage (1.2/50µs) Uoc	5kV (L-SG), 10kV (SG-PG)		
Lightning Impulse current (10/350µs) Iimp	0.5kA		
Nominal discharge current (8/20µs) In	2.5kA (L-SG), 5kA (SG-PG)		
Max. discharge current (8/20µs) Imax	5kA (L-SG), 10kA (SG-PG)		
Voltage protection level at In Up	25V (L-SG)		
Voltage protection level at 1kV/µs Up	≤15V (L-SG), ≤600V (L/SG-PG)		
Bandwidth fG	300MHz		

■ Dimension drawing



■ Basic circuit diagram





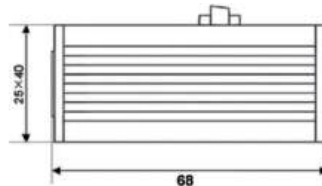
Prosurge D-05/RJ45 Protector is designed for Gigabit Ethernet terminals against surges. It is suitable for use in category location B, C (ANSI/IEEE C62.41) or directly at the upstream near the protected devices.

- Data network protector In according with standard UL 497b, EN 50173 Category 6, IEC 61643-21:2012
- Ethernet CAT6 & CAT5 system protection
- Applied in offices and industries like Gigabit Ethernet, ATM or ISDN system, and VoIP system (e.g. switch, router, hub, modem and so on)
- High discharge capacity, total nominal discharge current 10kA 8/20µs and Lightning current up to 1.0kA 10/350µs
- RJ45 connector for CAT6 & CAT 5 network technology, 100BaseT, 1000BaseT, 8 wires protection.
- DIN-rail type is available

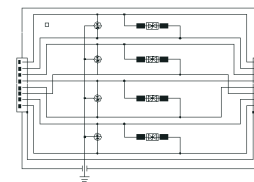


Part No.	D-05/RJ45(B)	
Nominal voltage (vdc) Un	5V	
Max. continuous operating voltage (vdc) Uc	6V	
C2 nominal discharge current (8/20µs) In	2.5kA	
C2 Total nominal discharge current (8/20µs)	10kA	
Voltage protection level	L-SG@C2 (8/20µs) Up	55V
	L-SG@C3 (1KV/µs) Up	25V
Lightning Impulse current (10/350µs) Iimp	1.0kA	
Nominal current IL	200mA	
Transmission speed	1000Mbps	
Insertion loss at 250MHz	≤ 3.0dB	
Transmission standards	100BaseT / 1000BaseT / 1000BaseTX (CAT6)	

■ Dimension drawing



■ Basic circuit diagram



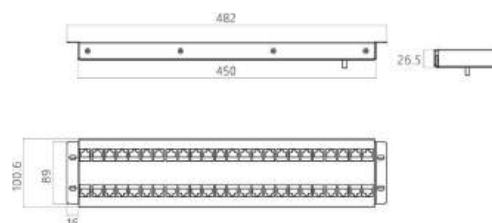
Multiport 1Gb Protector



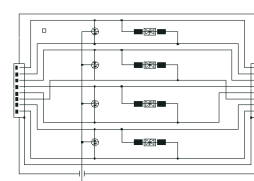
24-ports protector D-05/RJ45-24P 19"bay design

Part No.	D-05/RJ45-24P	
Number of Connection Ports	24	
Nominal Voltage (Vdc) Un	5V	
Max. continuous operating voltage (vdc) Uc	6V	
C2 nominal discharge current (8/20µs) In	2.5kA	
C2 total nominal discharge current (8/20µs)	10kA	
Voltage protection level	@C2 (8/20µs) Up	30V (L-L); 500V (L-G)
	@C3 (1KV/µs) Up	24V (L-L); 600V (L-G)
Lightning Impulse current (10/350µs) Iimp	1kA	
Nominal current IL	150mA	
Insertion loss	≤ 0.1dB	
Transmission speed	1000Mbps	
Technology	Two-stage protection circuit, GDT/SAD technology	
Transmission standards	1000BaseT/Tx	

■ Dimension drawing



■ Basic circuit diagram





SPDs for Information System

Ethernet Protector D-48/RJ45

ProSurge®
Maximum Safety in Surge Protection

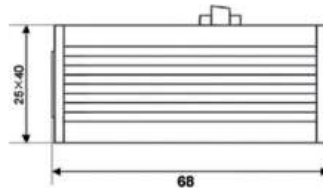
Prosurge D-48/RJ45 Protector is designed for protecting Gigabit Ethernet & Power-over Ethernet (PoE) terminals such as Internet camera, IP Telephone sets, and wireless access point, and are suitable for use in category location B, C (ANSI/IEEE C62.41) or directly at the upstream near the protected devices.

- Data network protector In according with standard IEEE802.3 at/af, UL 497b, EN 50173 Category 6, IEC 61643-21:2012
- PoE compatible, Ethernet CAT6 & CAT5 system protection
- High discharge capacity, total nominal discharge current 10kA 8/20μs and Lightning current up to 1.0kA 10/350μs
- In aluminum housing
- RJ45 connector for CAT6 & CAT5 network technology, 100BaseT, 1000BaseT, 8 wires protection

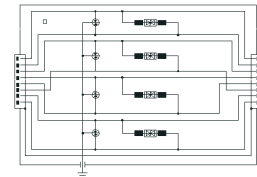


Part No.	D-48/RJ45(B)	
Nominal voltage (vdc) Un	48V	
Max. continuous operating voltage (vdc) Uc	68V	
C2 nominal discharge current (8/20μs) In	2.5kA	
C2 total nominal discharge current (8/20μs)	10kA	
Voltage protection level	@C2 (8/20μs) Up	190V (L-L); 500V (L-G)
	@C3 (1kV/μs) Up	145V (L-L); 600V (L-G)
Lightning Impulse Current (10/350μs) Iimp	1kA	
Nominal Current IL	800mA	
Insertion Loss	≤0.1dB	
Transmission Speed	1000Mbps	
Technology	Two-stage protection circuit, GDT/SAD technology	
Transmission Standards	10BaseT / 100BaseT / 1000BaseT / 1000BaseTX (CAT6) / PoE	
Pinning	1/2, 3/6, 4/5, 7/8 for data; 1&2 / 3&6, 4&5 / 7&8 for PoE	

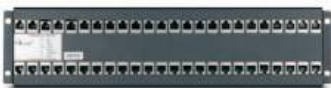
■ Dimension drawing



■ Basic circuit diagram



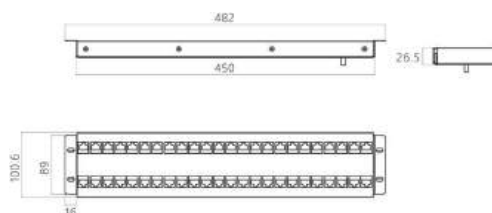
Multiport 1Gb-PoE Protector



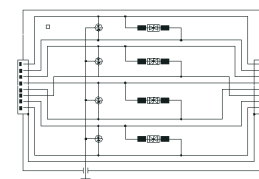
24-ports protector D-48/RJ45-24P 19" bay design

Part No.	D-48/RJ45-24P	
Number of Connection Ports	24	
Nominal voltage (vdc) Un	48V	
Max. continuous operating voltage (vdc) Uc	60V	
C2 nominal discharge current (8/20μs) In	2.5kA	
C2 total nominal discharge current (8/20μs)	10kA	
Voltage protection level	@C2 (8/20μs) Up	190V (L-L); 500V (L-G)
	@C3 (1kV/μs) Up	145V (L-L); 600V (L-G)
Lightning Impulse Current (10/350μs) Iimp	1kA	
Nominal Current IL	750mA	
Series Impedance per Line R	0.5Ω (PTC)	
Insertion Loss	≤0.1dB	
Transmission Speed	1000Mbps	

■ Dimension drawing



■ Basic circuit diagram





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This catalogue is intended as an overview of PROSURGE surge protection devices. More detailed product information can be found at www.prosurge.com or contact us.



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