SP2 Series

Application

SP2 series SPD for power supply is a single terminal voltage limiting SPD for indoor installation, suitable for TT, IT, TN-S, TN-C, TN-C-S power supply system with AC 50/60Hz, 230/400V and below, suitable for protection of low voltage power grid system and various kind of electrical equipment and control system, to limit the instant over voltage that is higher than the equipment's withstand impulse voltage, to discharge the surge energy, and by make voltage limiting to all kind of surge over voltage, thus to protect the system circuit and equipment.

Standard: GB18802.1, GB18802.12, IEC61643-1, IEC61643-21, UL1449 ed.2

Model Meaning

SP 2 – □ / □ – □ – □

① ② ③ ④ ⑤ ⑥

①	Surge Protection Device (SPD)
②	Design code
③	Max. discharge current (KA)
④	Combine mode (1P/2P/3P/4P)
⑤	Max. continuous operating voltage (V)
⑥	"X" remote signaling contact

Usage And Working Conditions

- Failure disconnect device

  SP2 module equipped with failure disconnect device, when protector failure due to overheating or punctured, the failure disconnect device will automatically disconnect it from the power grid, and meanwhile make indication signal. When protector is normal the label shows green color, if failure it shows red color.

- Remote signaling contact

  SP2 can be made with remote signaling contact, if one module or more module failure, contact will close to send failure signal.

- Normal operating conditions of protector:

  a. Altitude not exceed 2000m

  b. Ambient air temperature: normal range between -5℃ ~+40℃ , extend range between -40℃ ~+80℃ ;

  c. Atmosphere relative humidity: indoor temperature 30%~90%;

  d. At the place without obviously vibration or shock impact.

  e. No explosion danger medium, no corrosion gas or dust (including conductive dust) that can make corrosion to the metal and damage the insulation.

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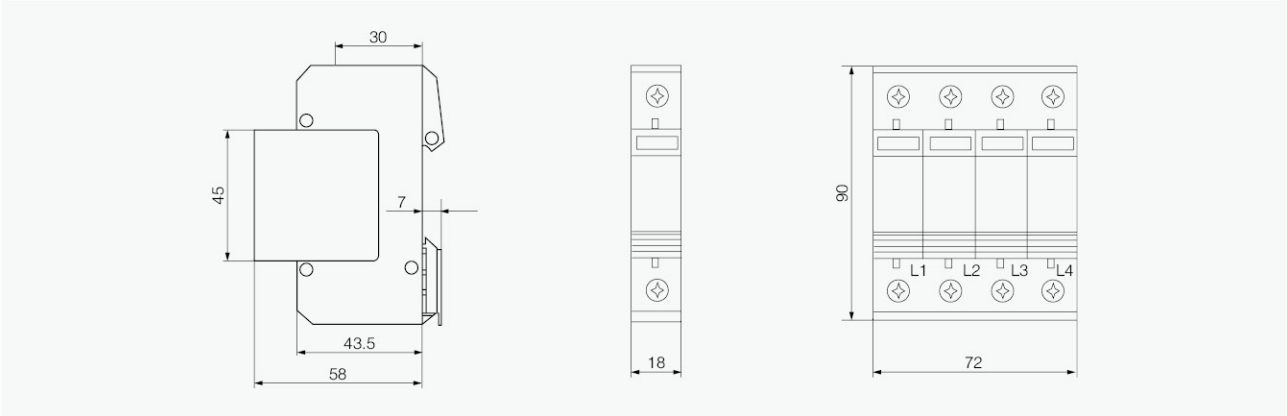
Outline And Installation Size (mm)



Selection Principle

- The continuous applied voltage on the two terminals of SPD should not more than the maximum continuous operating voltage Uc value;
- The voltage protection level Up of SPD should less than the maximum impulse withstand voltage of the protected equipment;
- As per to the different earthing system and protection mode to select the specification accordingly;

Classification

- As per Nominal Discharge Current: 5, 15, 25, 40KA(8/20μs)
- As per Maximum continuous operating voltage: 275V, 320V, 385V, 460V
- As per to poles: 1P, 1P+N, 2P, 3P, 3P+N, 4P
- As per auxiliary functions:

  a. With remote signal output (remote alarm function)

  b. Without remote signal output

Remote Signaling Data

Terminal type	Active type
Rated capacity of terminals	AC: 250V/0.5A DC: 250V/0.1A 125V/0.2A 75V/0.5A
Conductor cross section	1.5mm^2 Single conductor

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Installation Notice

The installation distance between each level SPD should not more than 10m, the distance between the SPD which connect to the front of the protected equipment and the protected equipment should as short as possible, not more than 10m. If due to limitation of installation position, can't guarantee the installation distance, then need to install decoupling component between each level SPD, make the after class SPD can be protected by the prior class SPD. In the low voltage power supply system, connecting an inductor can achieve the decoupling purpose.

Main Technical Parameters

Classification / Item & Data		SP2															
Poles		1P, 2P, 1P+N, 3P, 3P+N, 4P															
Rated Operating Voltage Un(V)		230/400															
Nominal Discharge Current In(8/20μs)KA		5				15				25				40			
Max. Discharge Current Imax(8/20μs)KA		15				40				60				100			
Max. Continuous Operating Voltage Uc(V)		275	320	385	460	275	320	385	460	275	320	385	460	275	320	385	460
Protection Level Up(KV)		<1.0	<1.4	<1.6	<1.8	<1.2	<1.6	<1.8	<2.0	<1.5	<1.8	<2.0	<2.2	<1.6	<1.8	<2.2	<2.4
Front end fuse		25AgL				50AgL				80AgL				80AgL			
Response time (ns)		<25															
Leakage Current 75% Uc 1mA		<20μA															
Test classification		Class II															
Protection Degree		IP20															
Max. Ambient Temperature		-40℃ ~+80℃															
Insulation enclosure material		PBT/PA66															
Flame Resistance Grade, confirm to UL94		VO															
Installation Mode		35mm Standard Rail															
Enclosure Color		Red															
Suggested Fuse or circuit breaker (A)		40~63															
Conductor cross section (mm^2)	Phase line, Neutral line	1.5-3.5 Hard wire															
	Earthing Line	1.5-3.5 Dual color															
Standard		GB18802.1 GB18802.21 IEC61643-1 IEC61643-21 UL1449 ed.2															