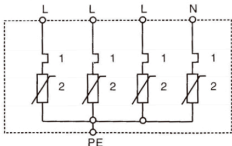


5、 Main Structure and Working Principle

In a three-phase four-wire system, three phase lines and one neutral line are all equipped with protectors connected to the ground. Under normal conditions, the protectors are in a high-resistance state. When the power grid experiences surge overvoltages due to lightning strikes or other reasons, the protectors will rapidly conduct within nanoseconds, diverting the surge overvoltage into the earth, thereby protecting the electrical equipment on the grid. Once the surge voltage passes through the protector and disappears, the protector returns to a high-resistance state, thus not affecting the normal operation of the power grid. The electrical schematic of the surge protector is shown in the figure below.



NOTE: 1, Thermal Disconnect 2, Metal Oxide Varistor

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6、 Installation Methods and Precautions

(1). The connecting wires should be of the same capacity as or greater than the power supply lines, and the total length should be controlled within 0.5 meters, with shorter lengths being preferable.

(2). A corresponding circuit breaker or fuse must be connected in series at the front end of the surge protector.

(3). Power must be disconnected during installation.

(4). Surge Protector Troubleshooting

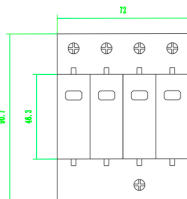
① The indicator window of the module is green (normal); when the module deteriorates, the indicator window turns red and must be replaced promptly.

② Surge protectors can be equipped with (FS) remote telesignal alarm systems. The telesignal contact points consist of one normally open and one normally closed contact. If a module or multiple modules of the surge protector fail, the contact points will close, triggering a fault alarm signal, indicating that the module has malfunctioned and needs to be replaced.

③ Regularly inspect the circuit breakers or fuses connected in series with the line.

7、 Outer dimensions (length × width × height).

small size mold: 90x72x65.5
medium size mold: 90x108x65.5
large size mold: 90x144x65.5



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Surge protection

Instruction manual

1、 Principle of Application

Surge protection modules (surge protectors) are mainly suitable for electrical lines with a frequency of 50Hz (or 60Hz) and a surge current capacity not exceeding 200kA. They limit the amplitude of transient overvoltages, absorb, consume, or discharge the energy of surge currents, so that in locations with high overvoltage categories, the protected electrical components can be transitioned from one overvoltage category to a lower one. They are applicable for protecting home and similar venue appliances against induced lightning overvoltages and operational overvoltages in the lines.

2、 Normal Operating Conditions and Installation Conditions

- ① Ambient Temperature is: -40°C~+80°C.
- ② Altitude not exceeding 2000m.
- ③ Relative Humidity not exceeding 90%(25°C).
- ④ Installation method is compatible with TH35mm wide rail.
- ⑤ Suitable Grounding Pump Flow "IT" "TT,TS,TN-N-S"
- ⑥ The tilt angle with the vertical plane does not exceed 50 degrees.
- ⑦ A place without shock vibration or shaking."
- ⑧ In a medium without the risk of candle explosion, and free from gases and dust that are sufficient to corrode metals and damage insulation.

-1-

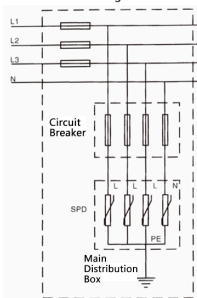
3、 Main Technical Specifications are shown in Table 1 (for example)

Model								
Rated current(v~)	220/380							
Maximum Continuous Operating Voltage Uc(V)	385-420							
protection level	B		C		D			
Nominal Discharge Current In(8/20)(KA)	30	40	60	80	150	20	5	10
Maximum Discharge Current Imax(8/20)(KA)	60	80	100	150	200	40	10	20
Level of Protection up(KA)	2.2	2.4	2.5	3.5	3.5	2.0	1.2	1.8
Response Time(NS)	≤25							
Ambient Temperature	-40°C~+80°C							
Cover Color Module /Base	Red/ Gray-white		Gray/Yellow/ white/Gray-white					
Maximum Wire Size (mm ²)	35 Solid Wire or Stranded Wire							
Suggested Connection (mm ²)	4-25							
Suggested Circuit Breaker Selection	32A	40-63A	25A	10A				
Installation	Electrical Track							

-2-

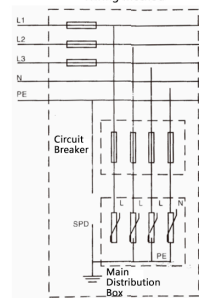
4、 Wiring Diagram

TT system Surge Protection Device Wiring Method

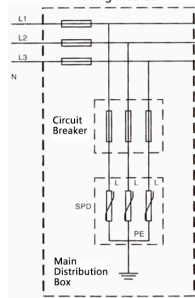


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TN-S system Surge Protection Device Wiring Method



IT system Surge Protection Device Wiring Method



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