RPH440-50/1N+NPE
Single-Phase Power Surge Protector

1 Application

The RPH440-50/1N+NPE product is a Class I single-phase power surge protector with large current capacity, strong grid adaptability, safety and reliability. It can be widely used in various electrical occasions. When used in the power distribution system from LPZ0 to LPZ1, it can prevent subsequent electrical equipment from being damaged by lightning strikes and transient overvoltage.

2 Features

Features of RPH440-50/1N+NPE backup protector are:

- Parallel, multifunctional modular design, adopting 1+1 mode, applicable to TN and TT power grids;
- Adopt high-performance lightning protection devices with strong follow-current interruption capability;
- Built-in over-temperature protection, safe and reliable, fully sealed design, no arcing;
- Large flow current and low voltage protection level;
- Integrated module structure, fixed with 35mm DIN rail, easy to install and maintain;
- With failure indication and centralized remote signal alarm contacts;
- The shell protection level is IP20 and the flame retardant level is UL94V-0;
- Exquisite production process, able to work for a long time in harsh environment.

3 Technical Data

Parameter \ Model	RPH440-50/1N+NPE
Technical parameter	**T1**
Protect mode	L-PE、N-PE
Nominal operating voltage Un	230V , 50/60Hz
Maximum continuous operating voltage Uc	440V , 50/60Hz
Impulse current Iimp（10/350μs）	50kA
Protection Voltage Up	2.5kV
Response time	≤100ns
Internal protective devices	Lightning protection unit built-in thermal trip device
Maximum backup protection fuse	315A gL/gG
Access conductor cross section	6～35mm^2
Bare wire crimp length	12.5mm
Installation wiring torque (max)	3Nm
Failure indicator	The lightning protection module has an indicator window, and the indicator light is green under normal conditions.
Remote signaling contact/ RSC	Alarm contact (RSC: Remote Signal Contact), NC-COM contact
Performances of remote signal contact	Maximum open circuit voltage: 300V; Maximum load current: 100mA; Node equivalent resistance: 50Ω Insulation voltage with main circuit: 3750Vac
Remote signaling wire cross section	Maximum 1.5mm^2
Installation	35mm standard DIN rail
Enclosure material	UL94-V0
Enclosure rating	IP20
Operating condition	Working temperature: -40℃～+80℃, relative humidity ≤95% (25℃), altitude ≤3000m
Dimension (without contact terminal)	90mm×144mm×66mm
Test standard	IEC61643-11-2011

4 Dimensions

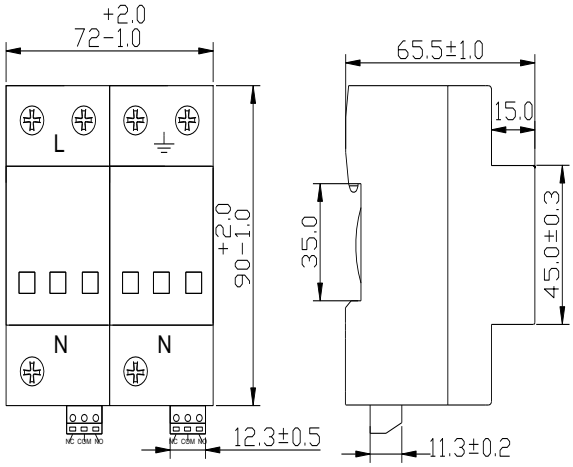


Figure 5-1 Dimensions of RPH440-50/1N+NPE (unit: mm)

5 Installation & Maintenance Precautions

1. It is best to use the V-shaped wiring method as shown in Figure 6-1 for the single-phase power supply surge protector. When it is difficult to achieve V-shaped wiring due to actual conditions, the conventional direct wiring method as shown in Figure 6-2 can also be used. Parallel wiring, in order to achieve better protection effect, when using direct parallel wiring, the wiring should be as short as possible, and the total length should be controlled within 0.5m.

2. The connecting wire should use multi-core copper wire above 16mm2.

3. The front end of the single-phase power surge protector should be connected in series with a suitable circuit breaker or fuse.

4. The power supply must be disconnected during installation, live operation is strictly prohibited, and the connecting wires must meet the requirements.

5. After the power is turned on, the indicator light is green and the remote signal NC-COM is in a closed state. When the surge protector deteriorates, the indicator light goes out and the remote signal NC-COM is in a disconnected state. Note that the node is a bidirectional PN junction with a maximum open circuit voltage of 300V and a maximum load current of 100mA.

6.The single-phase power surge protector does not require special maintenance. Only need to regularly check whether the module wiring is loose and whether the status indication is normal.

If one of the following situation occurs, it can be determined that the power surge protector has failed and needs to be replaced in time:

1) The status indication of the power surge protector turns off;

2) The alarm dry contact NC-COM of the power surge protector becomes open circuit.

6 Wiring

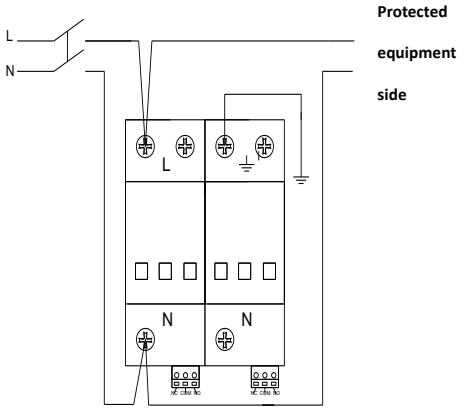
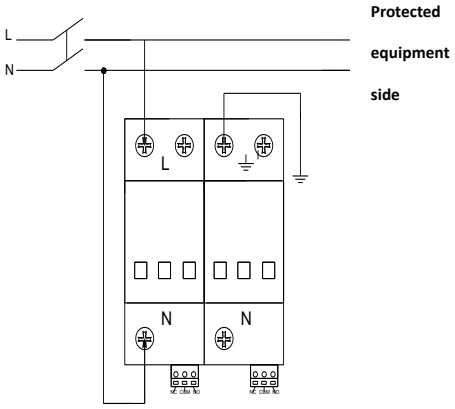


Figure6-1 Wiring diagram - V-shaped wiring Figure



6-2 Wiring diagram - conventional wiring

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