RPM-100/3N+NPG
100kA Three-phase Power Module SPD Technical Manual

1 Application

RPM-100/3N+NPG belongs to the B-class three-phase AC power surge protector device, which is safe and reliable and has strong adaptability to the power grid. It can be widely used in various electrical occasions. It is used in the power distribution system from LPZ1 to LPZ2 zone to prevent the electrical equipment from being damaged by lightning strikes and transient overvoltage.

2 Features

Features of RPM-100/3N+NPG SPD for Three-phase Power are:

- Parallel, multi-functional modular design, using 3+1 mode, can be applied to TT grid;
- Large flow current capacity, limiting low voltage;
- Operation voltage is appropriate to protect the circuit robust;
- Built-in over temperature, over current protection, no continuous flow, high reliability and safety;
- Integrated modular structure, using 35mmDIN guide rail fixed, easy installation, simple maintenance;
- With failure indication and centralized remote signaling contact;
- Exquisite production process, can work in harsh environment for a long time.

3. Operating Principle

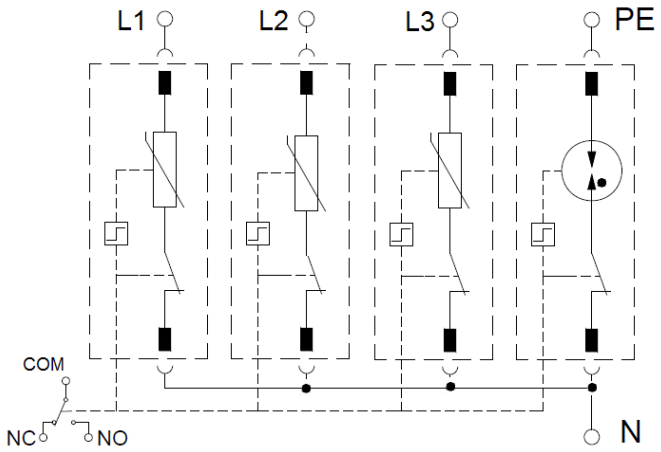

Figure3-1 Operating principle of RPM-100/3N+NPG

4 Technical Data

Parameter \ Model	RPM-100/3N+NPG
SPD classification IEC61643-11	Class II
SPD category GB18802.1	Type II
Protection mode	3+1 mode
Nominal operating voltage, Un	230/400V, 50/60Hz
Maximum continuous operating voltage, Uc	385V~ (Uc: 385V~ for the varistor module, Uc: 255V~ for the GDT module)
Voltage protection level Up, In	L-N≤2.4kV, N-PE≤1.3kV
Nominal discharge current, In (8/20 μ s)	50kA
Max discharge current, Imax (8/20 μ s)	100kA
Leakage current	≤20 μ A

Response time	≤25ns
Internal protection device	The lightning protection unit has a built-in thermal trip device
External protection device	The incoming cables must be connected in series to the C circuit breaker with the rated current not exceeding 63A
Access wire cross section	6 ~ 35mm2
Bare wire crimping length	12.5 mm
Installation torque (max)	3Nm
Deterioration failure indication	The lightning protection module has an indication window, which turns red in the fault state.
Remote communication mode	RSC: Remote Signal contact, NC-COM-NO contact
Remote terminal performance	AC: 250V/0.5A; DC: 250V/0.1A, 125V/0.2A, 75V/0.5A
Remote wire section	Max. 1.5mm2
Installation mode	Standard rail mounting DIN rail 35mm
Housing material	UL94-V0
Case protection class	IP20
Overall dimensions (without contact terminal)	90.0mm×108.0mm×65.5mm (tolerance ± 1mm)

5 Dimensions

This product belongs to one port parallel lightning protection module, adopts modular structure, 35mmDIN guide rail fixed, connection hole can connect up to 25mm^2 flexible wire and 35mm^2 rigid wire.

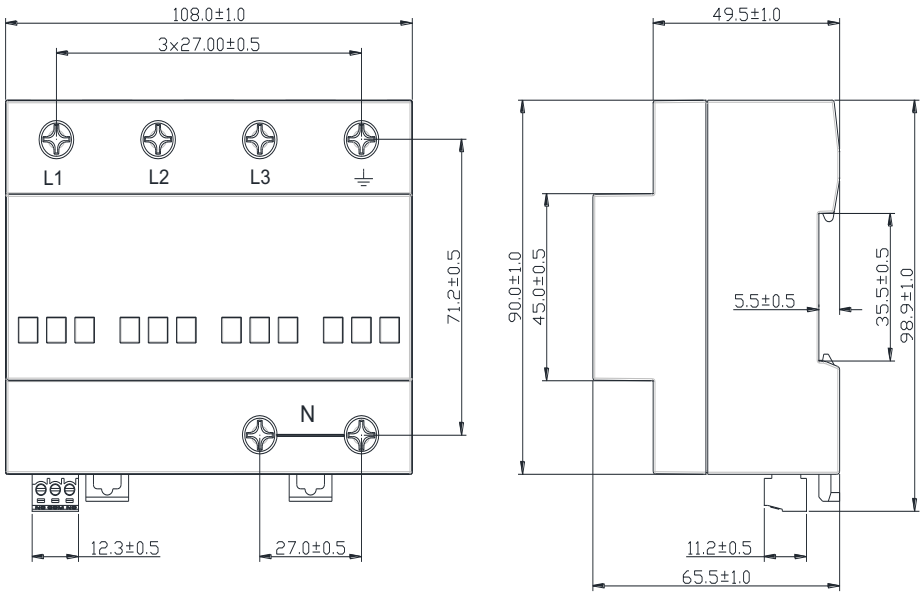

Figure 5-1 Dimensions of RPM-100/3N+NPG (unit: mm)

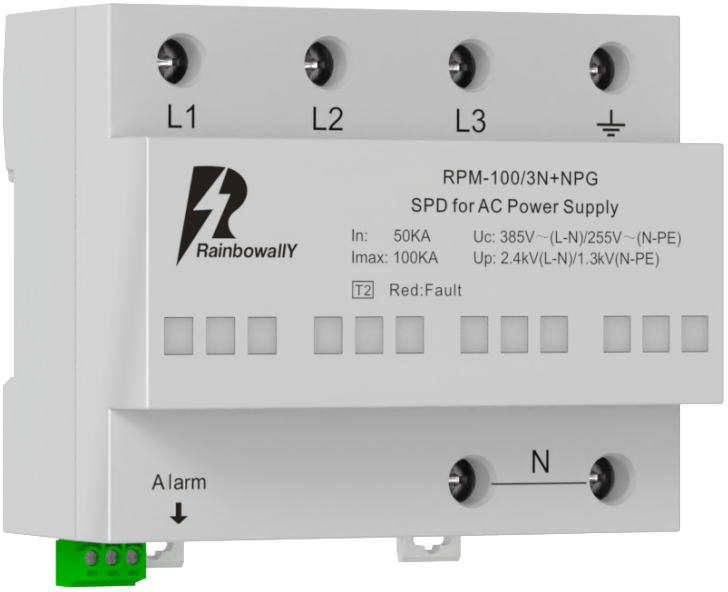

Figure 5-1 Appearance of RPM-100/3N+NPG

6 Installation & Maintenance Precautions

1. The product is installed and fixed with a 35mm standard rail. The recommended wiring method is the V-shaped wiring shown in Figure 7-1. You can also use the conventional direct parallel wiring shown in Figure 7-2. To achieve better protection, when direct parallel wiring is used, the wiring should be as short as possible and the total length should be controlled within 0.5m.

2.When a remote signal is required, Figure 7-3 shows the signal wiring.

3. The front end of the power surge protector should be connected in series with suitable fuses or circuit breakers.

4. During installation, disconnect the power supply and do not operate on the power.

5. After the installation is complete, check whether the work is normal. When the power surge protector works normally, the alarm dry contact NC-COM is in the short-circuit state, and the alarm dry junction NO-COM is in the open state. When the power surge protector fails, the status indicator turns red, the dry contact NC-COM for alarm is in the open state, and the dry junction NO-COM for alarm is in the short state.

6. The power surge protector does not require special maintenance, and only needs to check regularly whether the module wiring is loose and the status indicator is normal.

7. If either of the following situations appears, the SPD fails and needs replacement.
   1) The indicators of the SPD turn red.
   2) The remote signal contact NC-COM becomes open-circuit, or NC-COM becomes closed-circuit.

7 Wiring

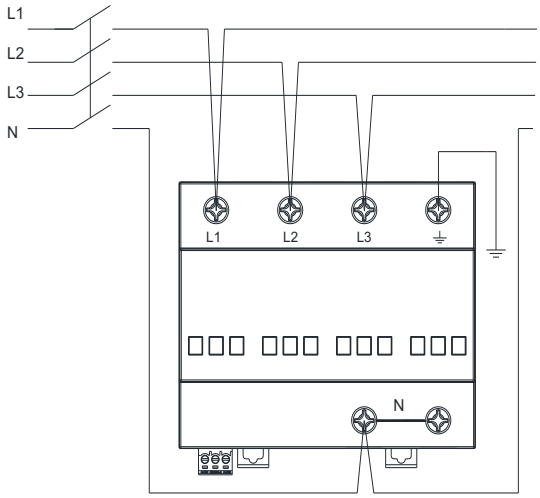

Figure 7-1 RPM-100/3N+NPG wiring diagram-'V' shape wiring

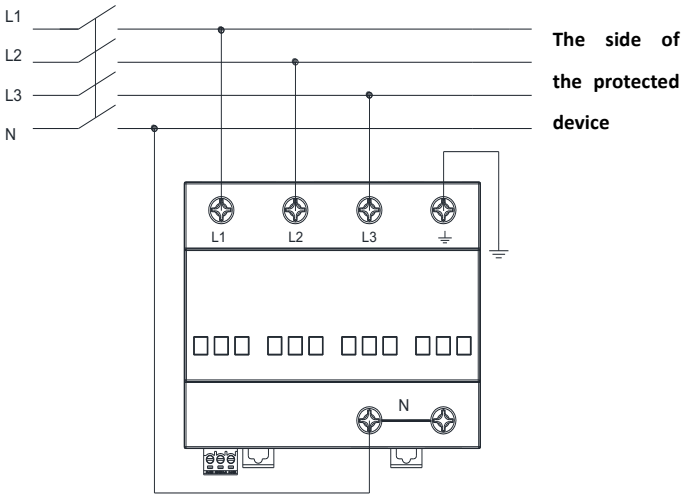

Figure 7-2 RPM-100/3N+NPG wiring diagram-routine wiring

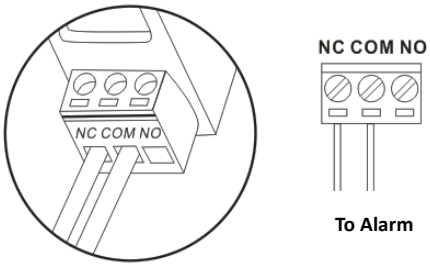

Figure -7-3 Remote alarm wiring diagram

(Normal: Closed Failure: Open)

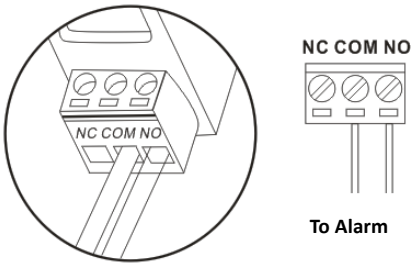

Figure 7-4 Remote alarm wiring diagram

(Normal: Closed Failure: Open)

Chengdu Pedaro Technology Co., Ltd

Add.: B-7-5, No.8 of Tongcheng Rd., Qingyang Industrial District, Chengdu-610092, P.R.C

Tel: 86 28 87079970 Fax: 86 28 87079979

All Rights Reserved.