RainbowallY

40 kA power module power, source surge protector

product code:

Product model: RPM-40 / P2 + 1

Data version: V1.0

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Revised records:

date	release version	description	fiction
2019-2-21	V 1.0	Initial formulation	Xue-lin liu

statement:

Technical manual is an important data and controlled document for our product design and development, and its main functions are:

1. Important basis for our quality department to inspect the products;
2. Main basis for customer selection, ordering and inspection;

catalogue

1. Product use

RPM-40 / P 2 + 1 belongs to class C single-phase AC power surge protector, which is safe and reliable and has strong adaptability to the power grid. It can be applied to dual-wire single-phase circuit system, which can prevent the rear electrical equipment from lightning strike and transient overvoltage damage.

2. Product reference standards

IEC 61643-1:1998 Surge Pro tective devices connected to low -voltage power distribution system Part 1: Performance requirements and testing met hods

DIN EN 61643-11-2002 + A 11 Low-voltage sure protective devices-Part 11: connected to low-voltage power systems; Surge protector (SPD) for Requirements and tests GB 18802.1-2011 low-voltage distribution system-Part 1: Performance requirements and test methods

G A 173-2002 Computer Information System

Test method of power surge protector for low-voltage distribution system of YD / T 1235.2-2002

Communication Bureau (station)

GB / T 2423.1-2001 Basic test procedures for electrical and electronic products Test Ad: low temperature test method

GB / T 2423.2-2001 Basic test procedures for electrical and electronic products Test Bd: high temperature test method

GB / T 2423.5-95 Electrical and electronic products environmental test-Part 2: Test methods Test Ea and guidelines: Impact

GB / T 2423.6-95 Electrical and electronic products environmental tests-Part 2: Test methods Test Eb and Guidelines: Collision

GB / T 2423.3-93 Basic environmental test procedures for electrical and electronic products Test Ca: constant damp and heat test method

GB / T 2423.10-95 Basic test procedures for electrical and electronic Products Test Fc: Vibration test method

GB / T 3873-83 communication equipment product packaging general technical conditions

3. Product function description

3.1. Brief description

The product has built-in overcurrent protection function, which can provide C (classification test) lightning protection for low voltage distribution system.

Product features:

♦ Large flow capacity, low limit voltage;

♦ Appropriate action voltage, stable protection circuit;

♦ Built-in overtemperature, overcurrent protection, no continuous flow, high reliability and safety;

♦ Module can plug structure, module anti-insertion, can be replaced, convenient maintenance;

♦ With status indication and remote message alarm function;

♦ Exquisite process, can work in a harsh environment for a long time, using 35mmDIN guide rail fixed, convenient installation, simple maintenance.

3.2. Protection principle

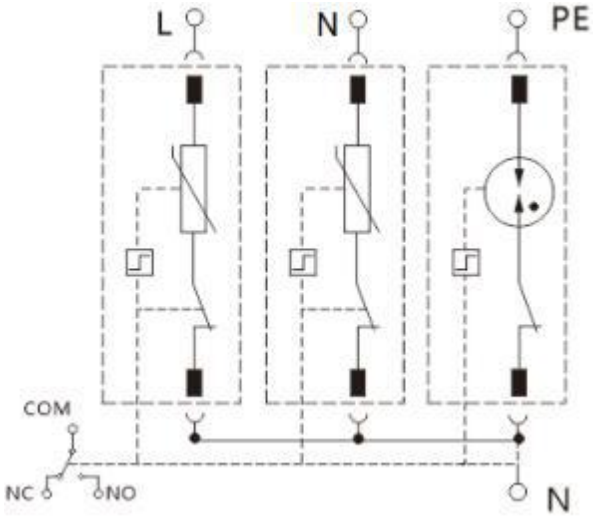


Fig. 3-1 Schematic diagram of the protection principle of the RPM-40 / P 2 + 1 power supply modular surge protector

3.3. Technical parameters

model / parameter	RPM -40/P2+1
The SPD classification, IEC6164311	Clas s II
The SPD classification is GB18802.1	II class
protected mode	2+1 pattern
Nominal operating voltage, Un	230V, 50/60Hz
Maximum continuous operating voltage, Uc	MOV Module: 385 V ~ GDT Module: 255V~
Voltage-protection level Up, In	MOV Module 1.8kV GDT module 1.0kV
Nominal discharge current, In (8 / 20 μ s)	20kA
Maximum discharge current, I max (8 / 20 μ s)	40kA
leakage current	≤20 μ A
response time	≤25ns
Internal protection device	The lightning protection unit has a thermal stripping device
External protection, protection device	The incoming line shall be connected with the C characteristic circuit breaker whose rated current does not exceed 32A
Access wire section	6~35mm^2
Naked line press length	12.5mm
Install the wiring moment (max)	3Nm
Inferior failure indication	The lightning protection module has an indicator window, and the indicator window turns red in the fault state
Far letter way	Alarm dry contact point (RSC: Remote Signal Contact), NC-COM-NO contact point
Remote letter terminal performance	AC ： 250V /0.5A ； DC ： 250V/0. 1A ， 125V/0.2A ， 75V/0.5A
Distance letter wire section	Maximum size of 1.5mm^2

way to install	Standard guide rail installation of DIN rail 35mm
sheathing material	UL 94-V0
Shell protection, protection grade	I P 20
Overall dimensions (excluding wiring terminals)	89.5mm 53.6mm 65.2mm (tolerance ± 1 mm)
The lightning protection module can be inserted and drawn	Plug-in

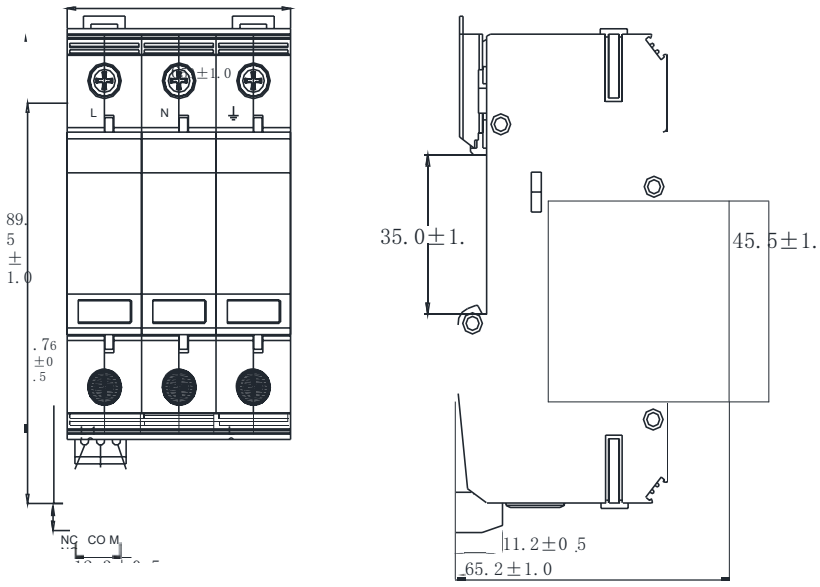
4. Structure and appearance

.1.4 Brief description

This product belongs to one port parallel lightning protection module, using modular structure, 35mmDIN guide rail fixed, the maximum wiring hole can be connected to 25mm^{2}Flexible wire and 35mm^{2}Rigid wire.

4.2 Appearance and structure

.2.1outline dimension



graph 4-1RPM-40/P2+1 outline dimensional drawing

5. Application environment of the products

project	Parameter specifications	remarks
working temperature	Normal temperature range: -5℃ ~ + 40℃	Cto 2.1,2.2 in the GB 18802.1-2011 standard
	Ultimate temperature range: -40℃ ~ + 70℃	Cto 2.1,2.2 in the GB 18802.1-2011 standard
relative humidity	At room temperature (25℃): 30%~90%	Cto 2.1,2.2 in the GB 18802.1-2011 standard
atmospheric pressure	70kPa ~ 106kPa	Cto 2.1,2.2 in the GB 18802.1-2011 standard
above sea level	≤3000m	Cto 2.1,2.2 in the GB 18802.1-2011 standard

6. Notes for product installation and use

.1.6. Product installation instructions

The product is installed and fixed by 35mm standard guide rail, and the wiring is recommended to use Figure 6-1. When the V-shaped wiring is shown, the conventional wiring can also be directly used as shown in Figure 6-2. In order to achieve better protection effect, when the direct connection line is used, the wiring should be as short as possible, and the total length should be controlled within 0.5m.

When remote alarm is required, select open circuit alarm port or short circuit alarm port according to different alarm system, as shown in Figure 6-3.

The front end of the power surge protector shall be connected in series with suitable fuses or with open opening.

The power supply must be disconnected during the installation, and the live operation is strictly prohibited.

After installation, insert the surge protector module in place to check for normal operation. When the power surge protector works normally, the working state indicator should be green, the alarm dry contact NC-COM is short circuit, the alarm dry node NO-COM is open; when the power surge protector fails, the status indicator is red, and the alarm dry contact NC-COM is open, and the alarm dry junction NO-COM is short circuit.

.2.6. Product maintenance and precautions

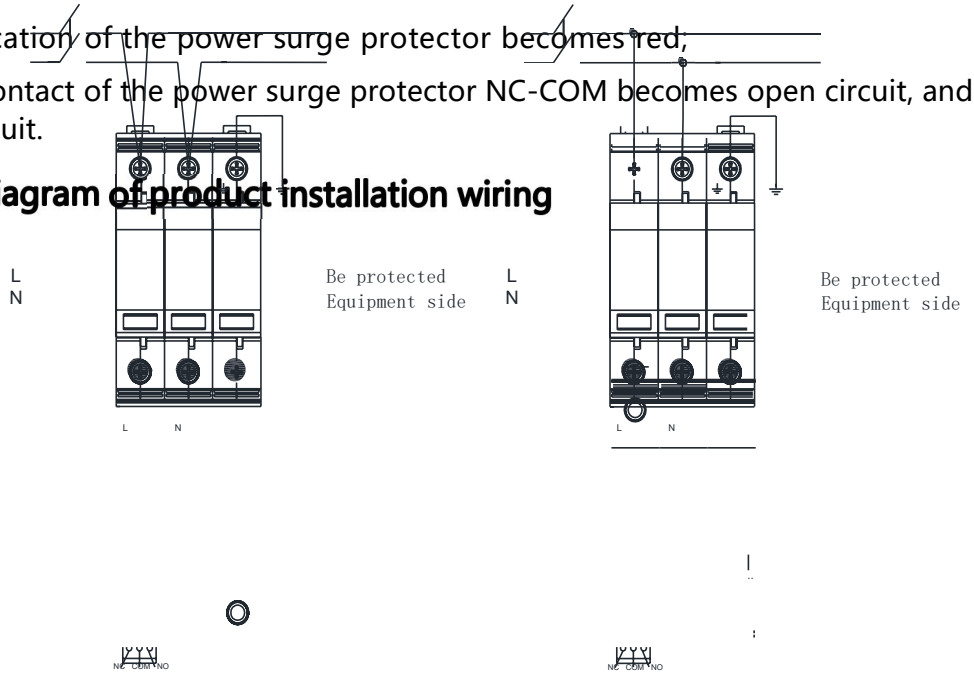
The power surge protector does not need special maintenance, only regularly check whether the module is loose and the status indication is normal.

If one of the following phenomena occurs, the power surge protector can be judged as invalid and should be replaced in time:

1) The status indication of the power surge protector becomes red;

2) The alarm dry contact of the power surge protector NC-COM becomes open circuit, and NO-COM becomes short circuit.

.3.6 Schematic diagram of product installation wiring



graph 6-1 RPM-40 / P 2 + 1 wiring diagram-V-shaped wiring

graph 6-2RPM-40/P2+1Wiring diagram-

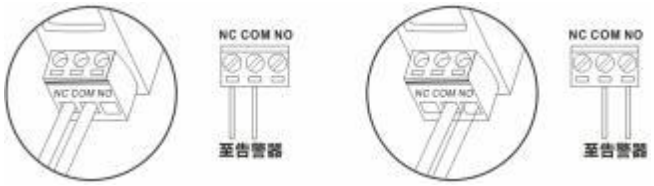


Figure 6-3 Distal alarm response 1 is often closed, fault open distal alarm connection 2 is often open, fault short circuit