Safety Warning

1. Strictly prohibit the use in the environment containing flammable and explosive gases, humidity and condensation, as well as other corrosive metals or damage to insulation.
2. It is strictly prohibited to operate with electricity, and it is necessary to wait for 5 minutes or more after the power has been cut off, and only touch the product after it has been fully discharged.
3. It is strictly prohibited to directly touch the exposed metal parts of the product as well as other parts that can lead to electric shock if they are directly connected to the product.
4. It is strictly prohibited for children to come into contact with the product and its packaging.
5. The product needs to keep enough space for heat dissipation when installing, in order to facilitate the better work of the product.
6. The DC14V output from the product non isolation test OUT 2 is a non safety voltage, and its terminals and the products connected to them all have the risk of electric shock.
7. The product is not suitable for supplying power to highly inductive and highly capacitive loads.
8. When the product is installed and used, the wiring screws should be tightened, the terminals should be safe and reliable, the wires are not easy to loosen and pull out, and the wires should be selected strictly according to the load requirements.
9. Installation and maintenance of the product must be carried out by personnel who have obtained the relevant professional skills certificate.

This is the general warning sign. It is used to alert the user to potential hazards. All safety messages that follow this sign shall be obeyed to avoid possible harm.

1 Main uses and scope of application

The PSU-3 power module (hereinafter referred to as the module) is mainly used with smart home devices, terminal control devices, smart gateway devices, and smart display devices to provide the required DC working power supply. It can be widely used in public, commercial and civil power distribution cabinets and intelligent power distribution cabinets, as well as other required places. The module has the characteristics of wide voltage input, low temperature rise, low power consumption, high efficiency, high reliability, high safety isolation, etc.

2 Series model specifications and their meanings

PSU - 3 X
① ② ③

① Product Model
② series designator
③ Ordering code (default is empty)

3 Normal use, installation and transportation, storage conditions

3.1 Normal conditions of use
- Storage ambient temperature:-40℃~+70℃;
- Storage environment humidity: 5~95% relative humidity, no condensation.
-Operating ambient temperature:-25℃~+70℃;
- Working environment humidity: 5~95% relative humidity, no condensation.
-Cooling method: natural cooling.
- Pollution level: 3.
- Protection class: IP20;
- Installation category:Class II.

3.2 Installation conditions

In line with the safety warning conditions, the module is generally mounted vertically on the guide rail, the installation is free from obvious shaking, shock and vibration.

3.3 Transportation and storage conditions

Modules in the storage, transportation process, shall not fall or rain, corrosive gas attack.

4 Main circuit technical parameters

Table 1 List of technical parameters

IN input requirements	AC 100-250V ; 50/60Hz ; ≥33W
OUT 1 output	DC 14V±0.4V ; 0-1.5A
OUT 1 peak output current	2.3A (lasting for 1 minute)
OUT 2 output	DC 14V±3V; 0-0.5A (unsafe voltage, electric shock risk)
OUT 2 peak output current	1.5A (lasting for 1 minute)
conversion efficiency	≥ 85% (input voltage 230V, full load)
output ripple and noise	≤ 300mV

switching overshoot amplitude	≤ 5%Vin
protection functions	Output short-circuit protection (automatic return to normal operation after removal of faults)

5 Structural features and operating principles

5.1 Physical interface

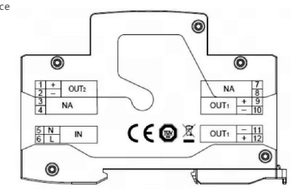

Figure1 Physical interface diagram

5.2 Interface description

Table2 Physical interface description

Marker	Ports	port identification	port meanings
1	OUT2	+	Power Output 2 Connector
2		-	
3	NA		(Functionality reserved)
4			
5	IN	N	Power input connector
6		L	
7	NA		(Functionality reserved)
8			
9	OUT1	+	Power Output 1 connector
10		-	
11	OUT1	-	Power Output 1 connector
12		+	

5.3 Principles of operation

The working principle of the module is that the high efficiency GaN technology is used to convert the AC 100V-250V wide voltage input into two stable DC outputs; One OUT 1 (including two terminal blocks) isolated output DC14V voltage, maximum total output current 1.5A, and one OUT 2 non isolated output DC14V voltage without feedback loop, maximum output current 0.5A. When the module works normally, the Work indicator on the label is always on, and when the module does not work or fails to work, the Work indicator is always off.

6 Shape, mounting dimensions

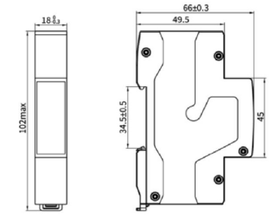

Fig.2 External and mounting dimensions

7 Installation, commissioning and operational use

7.1 Installation instructions

The installation of this product requires professionals who have obtained relevant professional skill certificates. Before installation and use, check whether the module is consistent with the working conditions used. Before power on, check whether the interface wiring is correct and firm; After power on, observe whether the Work indicator of the module displays normal working status (always on).

7.2 The manner of installation

7.2.1 Use TH35-7.5 mounting rail for installation, as shown in Figure 3 below.

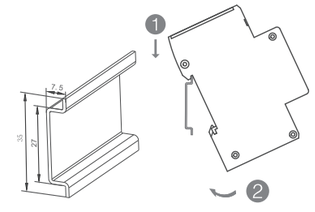

Figure3 Schematic diagram of the installation

7.2.2 Disassembly procedure, as shown in Figure 4 below.

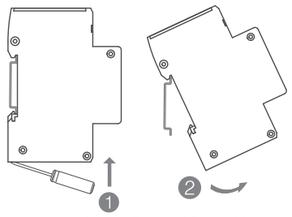

Fig.4 Schematic diagram of disassembly

7.3 Wiring options

In Figure 1, the power input IN interface wiring generally selects copper conductors with a cross-sectional area of (0.5-1) mm^2 . The output wiring of OUT 1 generally selects copper conductors with a cross-sectional area of (1-1.5) mm^2 . Out 2 output wiring generally selects copper wire with a cross-sectional area of (0.5-1) mm^2 . See Fig. 6 for stripping length.

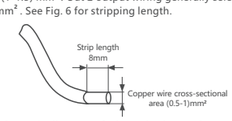

Fig.5 Schematic diagram of wire stripping at the power supply

8 Maintenance

The ambient temperature and humidity of the place of use must comply with the relevant provisions of the instruction manual.

9 Fault analysis and troubleshooting

Table 3 Failure analysis and troubleshooting

Failure phenomena	cause analysis	Methods of elimination
Word indicator does not light up	an input power failure or an output short-circuit failure	Checking the input power supply as well as the input power wiring or unplugging the output loads, the

10 Warranty period and environmental protection and other legal requirements

10.1 Warranty period

In compliance with normal storage and transportation conditions, the product packaging or the product itself is intact, the product from the date of production, the warranty period is 24 months. The following conditions are not covered by the warranty.

1) Damage caused by improper use, storage, and maintenance by the user.
2) Non-company-appointed organizations or personnel, or the user's own disassembly and maintenance caused by the damage.
3) The product exceeds the warranty period.
4) Damage due to force majeure factors.

10.2 Environmental protection

In order to protect the environment, when this product or its components are scrapped, please dispose of them properly as industrial waste; or hand them over to the recycling station for dismantling and recycling in accordance with the relevant national regulations.

CHNT

QC PASS

PSU-3
Power Modules
IEC 62368-1

Check 11

Test date: Please see the packing

ZHEJIANG CHINT ELECTRICS CO., LTD.

CHNT
CHINT ELECTRICS

PSU-3
Power Modules
Manual

Zhejiang Chint Electrics Co., Ltd.
Add: No.1, CHINT Road, CHINT Industrial Zone,North Baixiang, Yueqing, Zhejiang 325603,P.R.China
E-mail: global-sales@chint.com
Website: http://en.chint.com
0463PS1606

NO:2024.01

CHNT
CHINT ELECTRICS

PSU-3
Power Modules

Manual

Standard: IEC 62368-1