

PIS30

DIN rail power supplies for 1-phase system  
AC-DC 30W



Product Family Features

- Universal Input 85~264Vac 127~370Vdc
- 100% Full Load Burn-in Test
- 22.5mm width compact design
- Cooling by Free Air Convection
- All Round Protections: SCP/OLP/OVP/OTP
- LED Indicator for DC Power On
- LED Indicator for DC Low



Models

| Model Number | Output Voltage | Input Voltage | Output Current | Efficiency | Ripple    |
|--------------|----------------|---------------|----------------|------------|-----------|
| PIS30-5      | 5VDC           | 85-264VAC     | 5A             | 85%        | 80mV P-P  |
| PIS30-12     | 12VDC          | 85-264VAC     | 2.5A           | 88%        | 120mV P-P |
| PIS30-24     | 24VDC          | 85-264VAC     | 1.3A           | 89%        | 150mV P-P |

## Product Datasheet

### Input Specifications

| Parameter                    | Min. | Typ.  | Max.  | Note             |
|------------------------------|------|-------|-------|------------------|
| Input Voltage Range (AC)     | 85 V | 230 V | 264 V |                  |
| Input Voltage Range (DC)     | 127V | -     | 370V  |                  |
| Input Frequency              | 50Hz | -     | 60Hz  |                  |
| Nominal Input Voltage        | 100V | -     | 240V  |                  |
| Input current                | -    | -     | 1.2A  | 115Vac/full load |
|                              | -    | -     | 0.8A  | 115Vac/full load |
| Inrush Current<br>Cold Start | -    | -     | 20A   | 115Vac/full load |
|                              | -    | -     | 35A   | 115Vac/full load |
| Leakage Current              | -    | -     | 1mA   | 115Vac/full load |

\* The power supply can operate with DC input. Please connect the positive terminal to the L terminal and the negative terminal to the N terminal.

### Output Specifications

| Parameter                                        | Min. | Typ.  | Max. | Note     |
|--------------------------------------------------|------|-------|------|----------|
| Output Voltage Accuracy                          | -    | ±0.5% | -    |          |
| Line Regulation                                  | -    | -     | ±2%  |          |
| Load Regulation<br>IOUT=0%~100% of<br>IOUT,Rated | -    | -     | ±2%  |          |
| Output Voltage adjust-<br>range                  | 5    | -     | 6    | PIS30-5  |
|                                                  | 12   | -     | 14   | PIS30-12 |
|                                                  | 24   | -     | 28   | PIS30-24 |

## Product Datasheet

### General Specifications

| Parameter                   | Min.                                                                                     | Typ. | Max.      | Note             |
|-----------------------------|------------------------------------------------------------------------------------------|------|-----------|------------------|
| Temperature Coefficiency    | -                                                                                        | -    | ±0.03%/°C | 0~50°C           |
| Turn-on time                | -                                                                                        | -    | 2000mS    | 115Vac/full load |
|                             | -                                                                                        | -    | 1200mS    | 230Vac/full load |
| Hold-up time                | -                                                                                        | -    | 12mS      | 115Vac/full load |
|                             | -                                                                                        | -    | 30mS      | 230Vac/full load |
| Rise time                   | 20mS                                                                                     | -    | -         | 115Vac/full load |
|                             | 20mS                                                                                     | -    | -         | 230Vac/full load |
| Recommended External Fuse   | -                                                                                        | -    | -         |                  |
| Operating Temperature Range | -30°C                                                                                    | -    | 70°C      |                  |
| Storage Temperature         | -40°C                                                                                    | -    | 85°C      |                  |
| Storage Humidity            | 20%                                                                                      | -    | 95%       | Non-condensing   |
| Operating Altitude          | 0m                                                                                       | -    | 5000m     |                  |
| Case Material               | Plastic Case                                                                             |      |           |                  |
| Cooling Method              | Air convection cooling                                                                   |      |           |                  |
| Vibration                   | 10 ~ 500Hz, 2G 10minutes/cycle,<br>X、Y、Z axis/60 minutes Installation: meet IEC60068-2-6 |      |           |                  |
| MTBF                        | 50,000 hrs (MIL-HDBK-217F, 25°C)                                                         |      |           |                  |
| Size                        | 22.5×95.3×108.0mm                                                                        |      |           |                  |
| Weight                      | 223g                                                                                     |      |           |                  |

## Product Datasheet

### Safety&EMC Compliance

|                                             |                               |                                                                                                          |
|---------------------------------------------|-------------------------------|----------------------------------------------------------------------------------------------------------|
| Safety                                      | TUV Mark                      | EN IEC 62368-1:2020+A11                                                                                  |
|                                             | CB scheme                     | IEC 62368-1:2018                                                                                         |
|                                             | SAA                           | AS/NZS 62368.1:2022                                                                                      |
|                                             | EAC                           | TP TC 004/2011                                                                                           |
|                                             | CE                            | In conformance with EMC Directive 2014/30/EU and EN IEC 62368-1:2020+A11:2020                            |
|                                             | UKCA                          | The Electromagnetic Compatibility Regulations 2016 No. 1091 and BS EN IEC 62368-1:2020+A11:2020          |
| Industrial Control Equipment                | UL/cUL listed                 | UL 508 and CSA C22.2 No. 107.1 (File No. E535363)                                                        |
| Isolation Voltage                           | Ip to Op:3kV                  | 1 minute, leakage current 5mA max                                                                        |
| Isolation Resistance<br>500VDC, 25°C, 70%RH | 100M $\Omega$                 |                                                                                                          |
| RoHS                                        | RoHS(2011/65/EU) (EU)2015/863 |                                                                                                          |
| EMC                                         | CE&RE                         | Generic Standards: EN 55032:2015+A11:2020<br>EN 55035:2017+A11:2020                                      |
|                                             | ESD                           | IEC 61000-4-2<br>Criteria A Air Discharge:8KV<br>Criteria A contact Discharge :4 kV                      |
|                                             | RS                            | IEC 61000-4-3<br>Criteria A 80 MHz to 1000 MHz<br>10V/m(unmodulated, r.m.s),<br>1 kHz, 80%, AM modulated |
|                                             | EFT                           | IEC 61000-4-4<br>Criteria A $\pm 2$ kV(peak)<br>5/50ns Tr/Th<br>5kHz Repetition Frequency                |

# Product Datasheet

## Safety&EMC Compliance

|     |       |                                                                                                                                                                                                                                                           |
|-----|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EMC | Surge | IEC 61000-4-5<br>Criteria A Differential<br>±2kV(peak)1.2/50(8/20)Tr/Thµs<br>(line to line)<br>±4kV(peak)1.2/50(8/20)Tr/Thµs<br>(line to earth or ground)                                                                                                 |
|     | CS    | IEC 61000-4-6<br>Criteria A<br>0.15 MHz to 80 MHZ<br>10V(unmodulated, r.m.s),<br>1kHz 80%, AM 150 Ω source<br>impedance                                                                                                                                   |
|     | DIP   | IEC 61000-4-11<br>Voltage dips:<br>Residual voltage<5% Criteria B<br>0.5 cycle<br>Residual voltage<70% Criteria C<br>25 cycle(50Hz), 30 cycle (60Hz)<br>Voltage interruptions:<br>Residual voltage<5% Criteria C<br>250 cycle (50Hz),<br>300 cycle (60Hz) |
|     | PFMFI | IEC 61000-4-8<br>Criteria A 50Hz or 60Hz<br>30A/Meter(r.m.s)                                                                                                                                                                                              |

Protection Functions

|                                                                 | 12V:15-17V                                                                                                                                                                                                                                                            | 24V:28-34V | 48V:60-65V |
|-----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------|
| Over Voltage Protection<br>Hiccup or clamping by<br>Zener diode | Enter the overvoltage protection state, the input power consumption of the power supply is less than its no-load power, there is no output voltage, the fault source needs to be eliminated, and the AC voltage should be restarted to resume normal operation.       |            |            |
| Over Current Protection                                         | Rated output power:105%~ 130%                                                                                                                                                                                                                                         |            |            |
|                                                                 | Protection type: Constant current limiting, recovers automatically after fault condition is removed.                                                                                                                                                                  |            |            |
| Short Circuit Protection                                        | Shut off output voltage, the power supply will recover after the power is turned on again.                                                                                                                                                                            |            |            |
| Over temp protection                                            | (1) When the ambient temperature exceeds above over temperature protection value, the protection will be started and the output voltage will be cut off in order to protect the power supply;<br>(2) The power supply will recover after the power is turned on again |            |            |

All specifications valid at nominal voltage 230VAC, Rated full load and +25°C after warm-up time, unless otherwise stated.

1.Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with 0.1uf & 47uf parallel capacitor

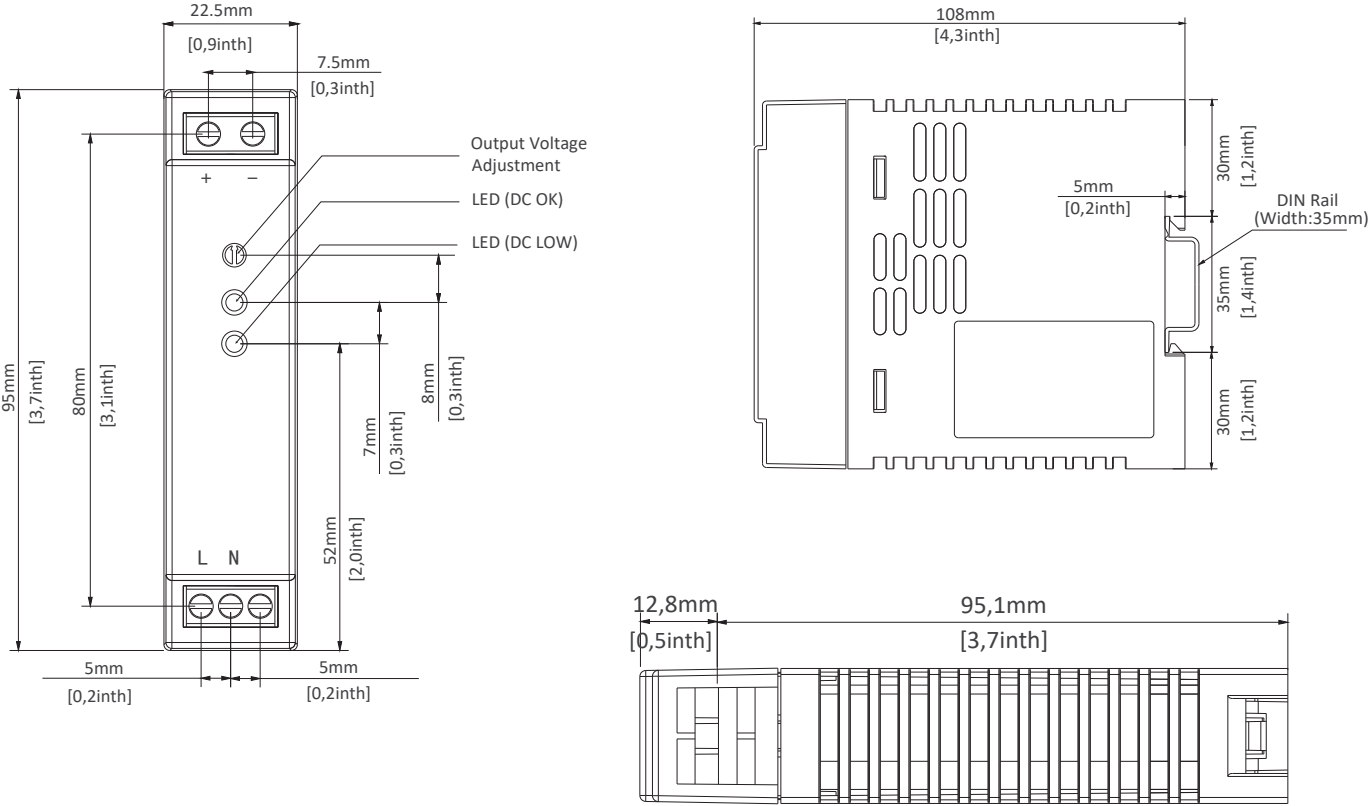
2.Accuracy: include the setting tolerance, line regulation and load regulation.

3.Power supply that is as a part of system, must be test before install in the end of system.

4.Installation clearances : 25mm on top, 25mm on the bottom, 25mm on the left and right side are recommended when loaded permanently, with full power. In case the adjacent device is a heat source.25mm clearance is recommended.

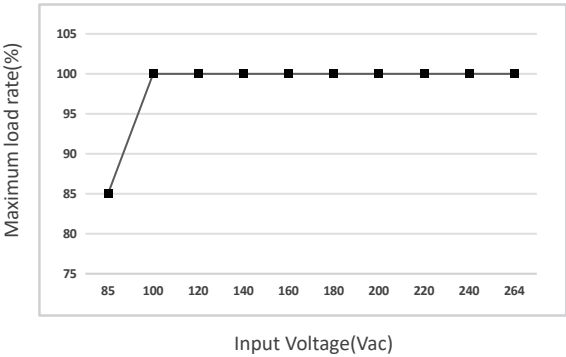
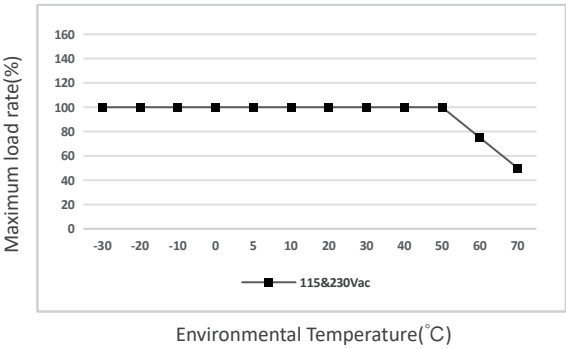
# Product Datasheet

## Dimensions & Interface Definition



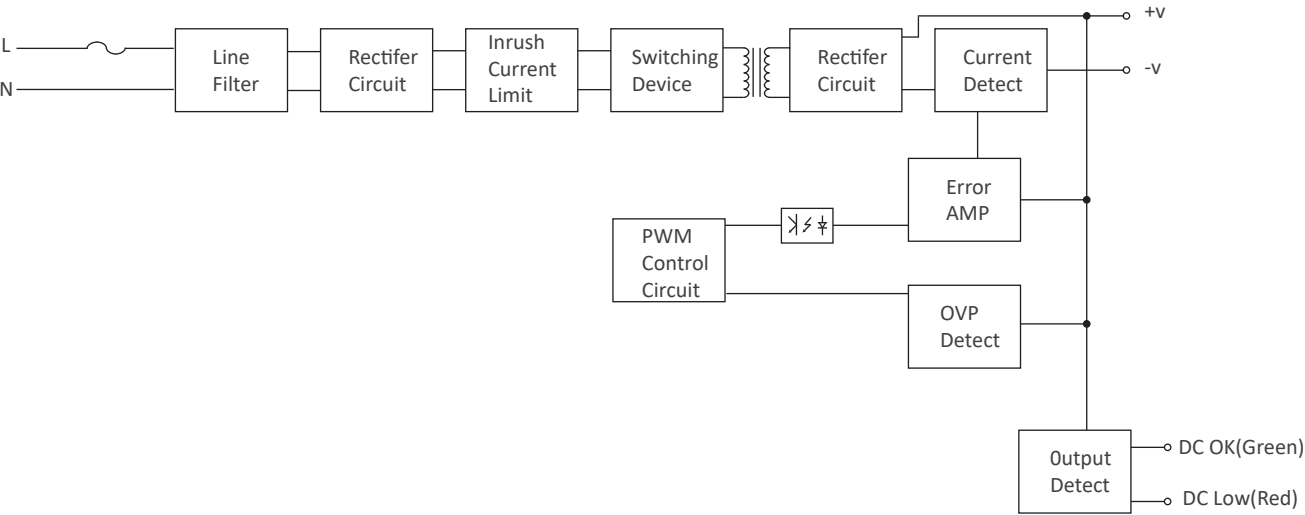
| NO | Marking | Assignment                           |
|----|---------|--------------------------------------|
| 1  | +       | DC(+)Output terminal                 |
| 2  | -       | DC(-)Output terminal                 |
| 3  | AC(L)   | AC(L)input terminal                  |
| 4  | AC(N)   | AC(N)input terminal                  |
| 5  | NC      |                                      |
| /  | V-ADJ   | DC Output voltage adjustment trimmer |
| /  | DC-OK   | DC Output OK indication LED(Geen)    |
| /  | DC-LOW  | DC Output Low indication LED(Red)    |

Electrical Curve



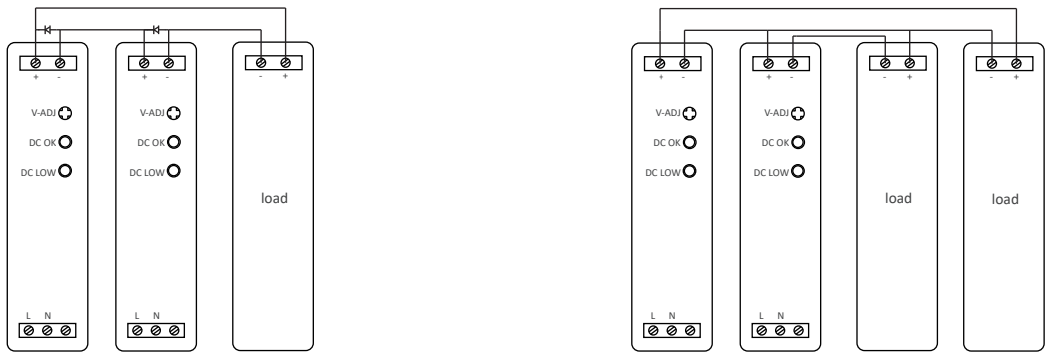
- 1.If the power supply is continuously used outside the range specified by the derating curve, it may cause degradation or damage to its components. For details, please refer to Figure 1.
- 2.The power supply will have a relatively long rise time when the ambient temperature is between -30°C and -40°C.
- 3.To ensure normal functionality, the power supply must maintain a safe distance from other equipment.
- 4.If the ambient temperature is higher than 50°C, attention must be paid to power derating.

Block diagram



Application Note

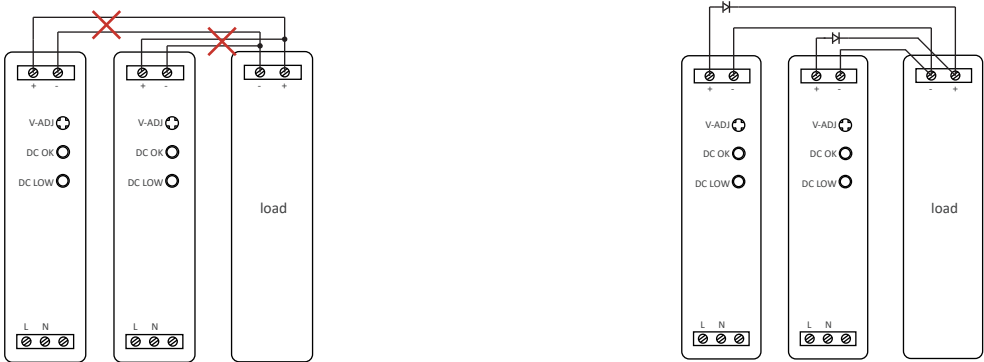
1.Series Operation



Note:

- 1. Series operation can be connected as shown in above;
- 2. Load current should be less than the current value of the product with the lowest output current specified at the product specification with the power supply at series connection.

2.Series Operation



Parallel  
Operation A  
(Unable to use)

Parallel Operation B  
(Backup)

Note:

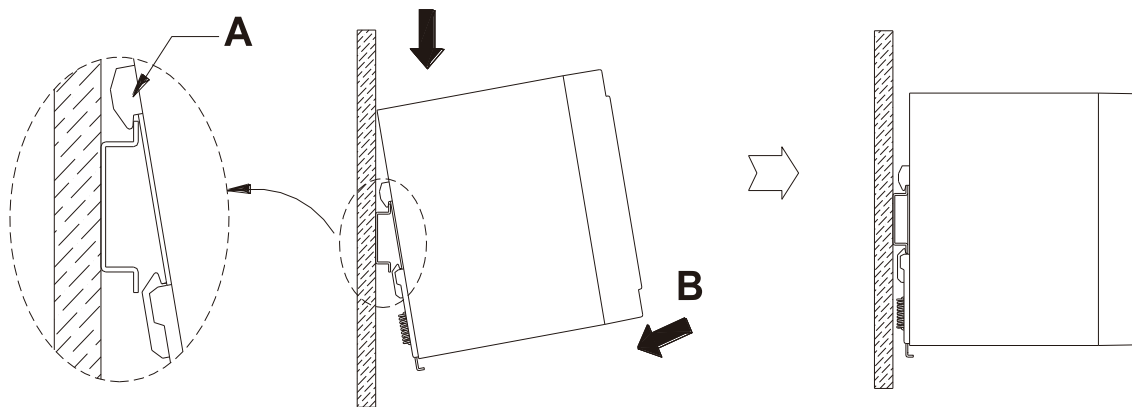
- 1. Parallel operation should be composed with the same products, while the connection should be as shown as “Parallel operation B”;
- 2. In parallel operation B, current capacity cannot be increased, while it should be used for backup only. Moreover, diode that is to be added during parallel operation should be selected after considering it’s voltage drop, output voltage and current capacity.

## Application Note

### 3. Mounting Method

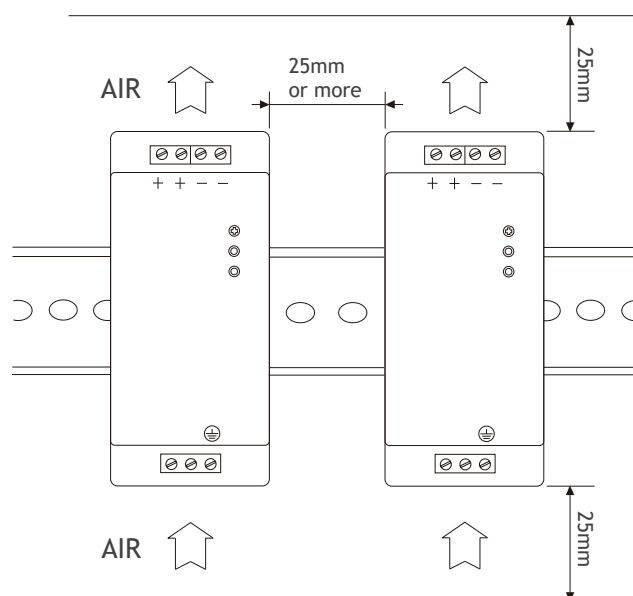
#### (1) How to fix

Firstly hang A part on the top of Rail as shown in below, then push the power supply into B direction to fix it.



#### (2) Mounting Spacing

Mounting method should be considered with airflow. Leave enough space between the units when several units are mounted together. Forced air cooling makes protection against heat better.



## Application Note

### 4. Cautions

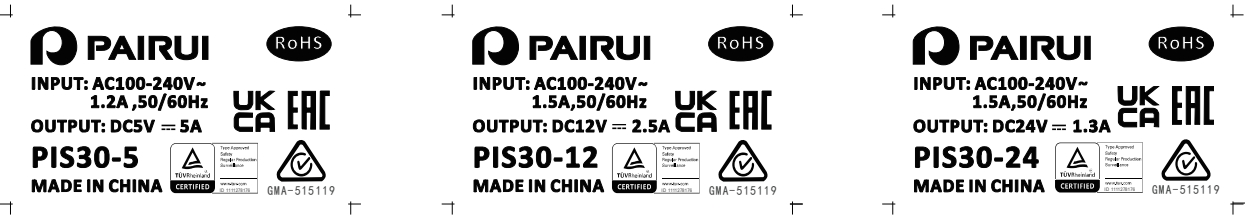
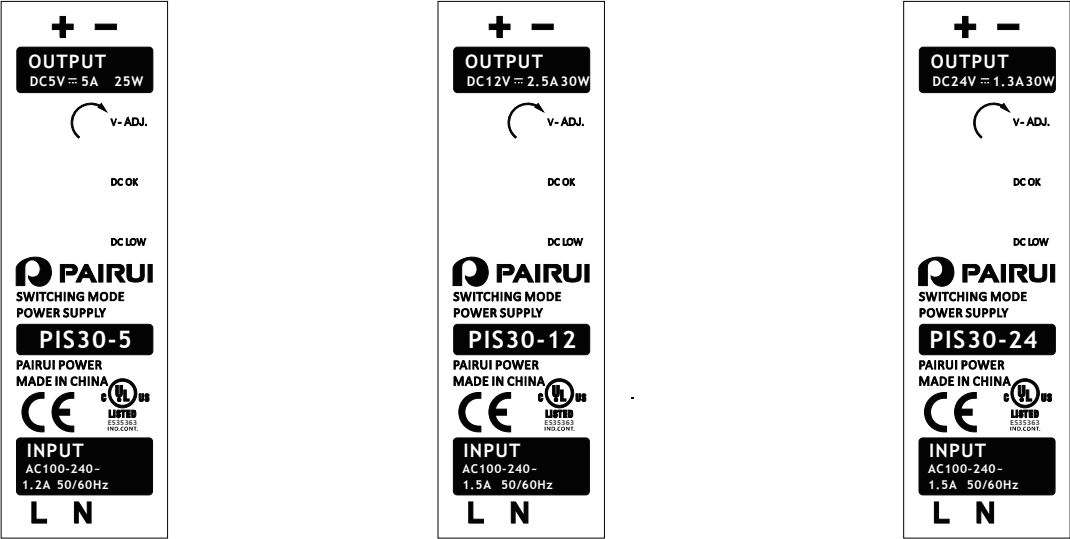
- (1) Please confirm if the capacity of the product is suitable for your intended application before putting it in use;
- (2) Only the rated input voltage specified on the product should be used;
- (3) Only the wires with rated capacity should be connected to this product, as allowable voltage and current is varied according to each type of wire;
- (4) Ground terminal of the power supply must be grounded before use to prevent electric shock or electromagnetic interference;
- (5) Be cautious to keep the product clean as foreign matter near the input & output terminal or inside if the product could cause serious damages;
- (6) If a fuse installed in the product blows off, the product should experience damages not only to the fuse but also to other parts as well. Therefore, the product is to be required for maintenance work from customer service department as well as replacement of the fuse;
- (7) Due to constant leakage current flows within the product, extra caution should be made if multiple number of products are used connecting to each other as total leakage current could be amounted beyond the capacity;
- (8) Be sure to avoid any physical contact with the product since some of the parts inside of the product are being functioned at high voltage, which could cause serious electric shock;
- (9) For the purpose of safety as well as reliability of the product, please avoid using the product at the following sites:
  - A place near water or fire
  - A place with high room temperature and poor ventilation
  - A place with a presence of foreign subject or dust
  - A place near volatile or flammable compounds
  - A place with high humidity
  - A place vulnerable for vibration or shock
- (10) Do not inspect or repair the product while the power is applied;
- (11) Unauthorized modification should be avoided in order to prevent serious injury or physical loss due to any malfunction;
- (12) In case of power outage while in operation, be sure to turn off the power supply.

### 5. Warranty

- (1) Repair service will be provided for free upon any mechanical, technical or functional defects during the guaranteed warranty, however, any defects or malfunction due to intentional infliction or negligence by customers will be repaired at the customer's expense;
- (2) Guaranteed warranty of the product runs for 3 years, while appearance and specification of the product is subject for change without any prior notification for the purpose of quality improvement of the product.

Product Datasheet

Label



Attention: Used in controlled environments. For environmental conditions, please refer to the manual.  
REMARQUE: Implementing Resource Utilization in Environmental Control

Packaging Information

| Quantity per box<br>(PCS) | Outer Box Size<br>L * W * H (mm) | Net Weight<br>(kg) | Gross Weight<br>(kg) |
|---------------------------|----------------------------------|--------------------|----------------------|
| 36                        | 425*320*200                      | 8.0                | 10.2                 |

# Product Datasheet

## Change History

|            |                                                                                                                                                   |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| 2024.06.8  | Publication and distribution                                                                                                                      |
| 2025.03.25 | 1.Add the Voltage Adjustment Range<br>2.Adjust the input voltage range                                                                            |
| 2025.8.27  | 1. Increase EMC project testing standards and levels<br>2. Change the input voltage to 85-264Vac<br>3. Modify the temperature curve to -40~+80 °C |