MIS480

DIN rail power supplies for 1-phase system
AC-DC 480W

Product Family Features

- Universal Input 85~264VAC;
  Support transient voltage : 305VAC/1H
- Cooling by Free Air Convection
- All Round Protections: SCP/OLP/OVP/OCP/OTP
- LED Indicator for DC Power On ; LED Indicator for DC Low
- Certified UL508/BS EN/EN61000-6-2(BS EN/EN50082-2) /UL62368(Safety)
- Built-in active PFC function
- 150% Peak Load capability

AS/NZS 62368.1 EN IEC62368-1 IEC62368-1 EN IEC62368-1 EN IEC62368-1 TP TC 004/020 UL 508

Models

Model Number	Output Voltage	Input Voltage	Output Current	Efficiency	Ripple
MIS480-24	24V	200-264Vac	20A	93%	240mV
		85 -132Vac	16A	93%	240mV
MIS480-48	48V	200-264Vac	10A	93%	350mV
		85 -132Vac	8A	93%	350mV

Product Datasheet

Input Specifications

Parameter	Min.	Typ.	Max.	Note
Input Voltage Range (AC)	85Vac	-	264Vac	Support transient voltage : 305VAC/1H ; Input voltage for Safety certification: 100-240VAC
Input Voltage Range (DC)	127Vdc	-	370Vdc	
Input Frequency	50Hz	-	60Hz	
Nominal Input Voltage	100 Vac	-	132Vac	
	200Vac	-	240Vac	
Input current	-	-	5.0A	115Vac&full load
	-	-	4.0A	230Vac&full load
Inrush Current Cold Start	-	-	40A	115Vac&full load
	-	-	60A	230Vac&full load
Leakage Current	-	-	1mA	230Vac&full load

Output Specifications

Parameter	Min.	Typ.	Max.	Note
Output Voltage Accuracy	-	±1%	-	
Peak current(Holding time: 3S)	-	-	30 A	MIS480-24
	-	-	15 A	MIS480-48
Line Regulation	-	-	±0.5%	
Load Regulation IOUT=0%~100% of IOUT,Rated	-	-	±1%	
Output Voltage adjust-range	20	-	27	MIS480-24
	44	-	53	MIS480-48

Product Datasheet

General Specifications

Parameter	Min.	Typ.	Max.	Note
Temperature Coefficiency	-	-	±0.03%/˚C	0~50˚C
Turn-on time	-	-	2000mS	115Vac&full load
	-	-	1500mS	230Vac&full load
Hold-up time	-	-	20mS	115Vac&full load
	-	-	30mS	230Vac&full load
Rise time	60mS	-	-	115Vac&full load
	60mS	-	-	230Vac&full load
Recommended External Fuse	-	-	-	
Operating Temperature Range	-30˚C	-	70˚C	
Storage Temperature	-40˚C	-	85˚C	
Storage Humidity	10%	-	95%	non-condensing
Operating Altitude	0m	-	5000m	
Case Material	Stainless steel + aluminum			
Cooling Method	Air convection cooling			
Vibration	Component: 10~500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes (IEC60068-2-6)			
MTBF	230Khrs,MIL-HDBK-217F(25˚C)			
Size	60*130*125mm (2.36*5.12*4.92inch)			
Weight	1250 g			

Safety&EMC Compliance

Safety	TUV Mark	EN 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	In conformance with Electromagnetic Compatibility Regulations 2016 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 1 minute, leakage current 5mA max	Input to Output	3000 vac
	Input to Ground	2000 vac
	Output to Ground	500 vac
	Output to DC OK	500 vac
Isolation Resistance 500VDC, 25°C, 70%RH	I/P-O/P, I/P-FG, O/P-FG: >100MΩ/ 500VDC/25°C/70%RH	
RoHS	RoHS(2011/65/EU) (EU)2015/863	
EMC	CE&RE	Generic Standards: EN 55032:2015+A11:2020 and EN 55035:2017+A11:2020
	ESD	IEC 61000-4-2 Criteria A Air Discharge:8KV Criteria A contact Discharge :4 kV
	RS	IEC 61000-4-3 Criteria A 80 MHz to 1000 MHz 10V/m(unmodulated, r.m.s), 1 kHz, 80%, AM modulated
	EFT	IEC 61000-4-4 Criteria A ±2 kV(peak) 5/50ns Tr/Th 5kHz Repetition Frequency

Safety&EMC Compliance

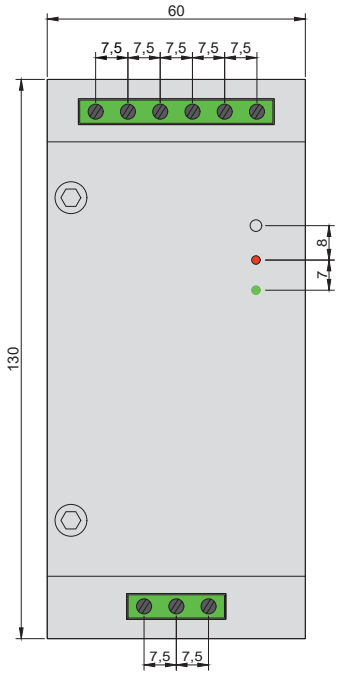
EMC	Surge	IEC 61000-4-5 Criteria A Differential ±2kV(peak)1.2/50(8/20)Tr/Thμs (line to line) ±4kV(peak)1.2/50(8/20)Tr/Thμs (line to earth or ground)
	CS	IEC 61000-4-6 Criteria A 0.15MHz to 10MHZ 10V(unmodulated, r.m.s) 10MHz to 30MHZ 10V to 1V(unmodulated, r.m.s) 30MHz to 80MHZ 1V(unmodulated, r.m.s)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

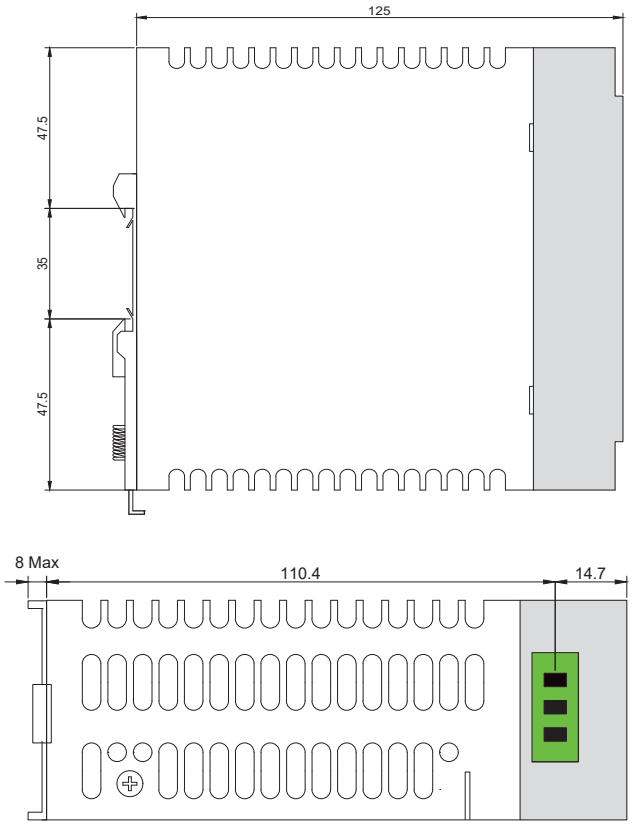
Protection Functions

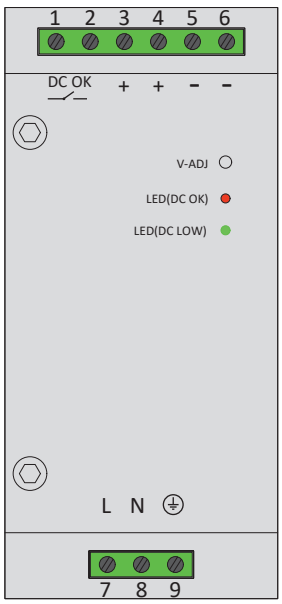
Over Voltage Protection	24V:28-35V 48V:55-67V
	(1)When the output voltage meets the above values, it will enter the protection mode. (2)Protection mode: Hiccup and auto-restart mode, it will recover automatically after output voltage goes down.
Over Load Protection	Generally speaking, within the voltage range of 100 volts to 240 volts, when the load current reaches 110% or more of the rated output power, the protection mode will be activated and the continuous working time should not exceed 3 seconds.
Short Circuit Protection	(1)When the V+ output line and the V- output line are shorted, it will enter the protection mode. (2)Protection mode: Hiccup and auto-restart mode, it will recover automatically after fault condition is removed.
Over Current Protection	(24V)Output current: 90V-132V≥17.6A / 200V-264V≥22A (48V)Output current: 90V-132V≥8.8A / 200V-264V≥11A
	(1) When the output current reaches the above-mentioned range, it is not advisable to work for more than 3 seconds. (2)Protection mode: Hiccup and auto-restart mode, it will recover automatically after output current goes down
Over Temperature protection	Protection mode: Hiccup and auto-restart mode, it will recover automatically after temperature goes down.

1. All parameters are measured at 230VAC input, rated full load and 25°C of ambient temperature, unless otherwise stated.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1μf & 47μf parallel capacitor.
3. Accuracy: includes set up tolerance, line regulation and load regulation.
4. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives.
5. Installation clearances : 40mm on top, 20mm on the bottom, 5mm on the left and right side are recommended when loaded permanently with full power. In case the adjacent device is a heat source. 15mm clearance is recommended.
6. Please refer to “Protection & Safety: Over Load Protection”.
7. Derating may be needed under low input voltage. Please check the "derating curve" for more details.
8. After 10 minutes of burn-in.
9. The ambient temperature derating of 3.5˚C/1000m with fan-less models and of 5˚C/1000m with fan models for operating altitude higher than 2000m(6500ft).

Dimensions & Lnterface Definition

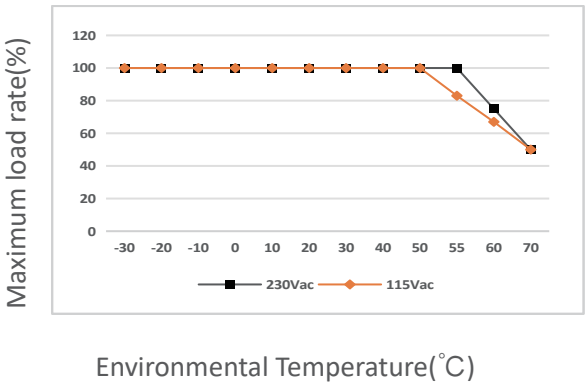




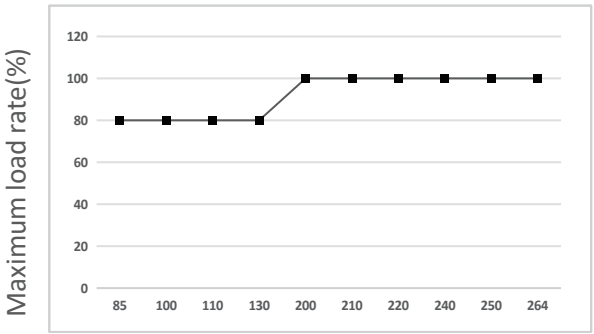


NO	Marking	Assignment	Terminal Wire
1	DC OK	Relay Contact	24-16AWG
2			
3,4	+	DC(+) Output Terminal	24V:16-10AWG 48V:18-10AWG
5,6	-	DC(—) Output Terminal	
7	L	AC(L) Input Terminal	26-10AWG
8	N	AC(N) Input Terminal	26-10AWG
9	⏚	AC Grounding Terminal	12-10AWG
/	V-ADJ	DC Output voltage adjustment trimmer	/
/	(LED)DC OK	DC Output OK LED(Green)	/
/	(LED)DC LOW	DC Output Low LED(Red)	/

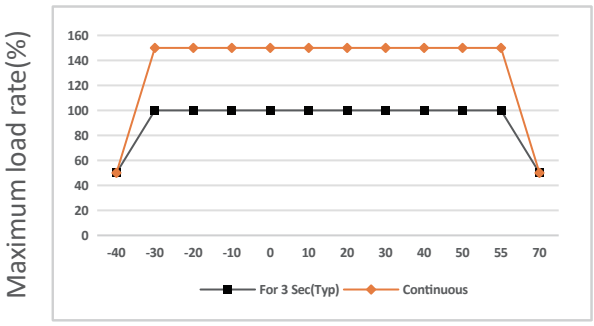
Electrical Curve



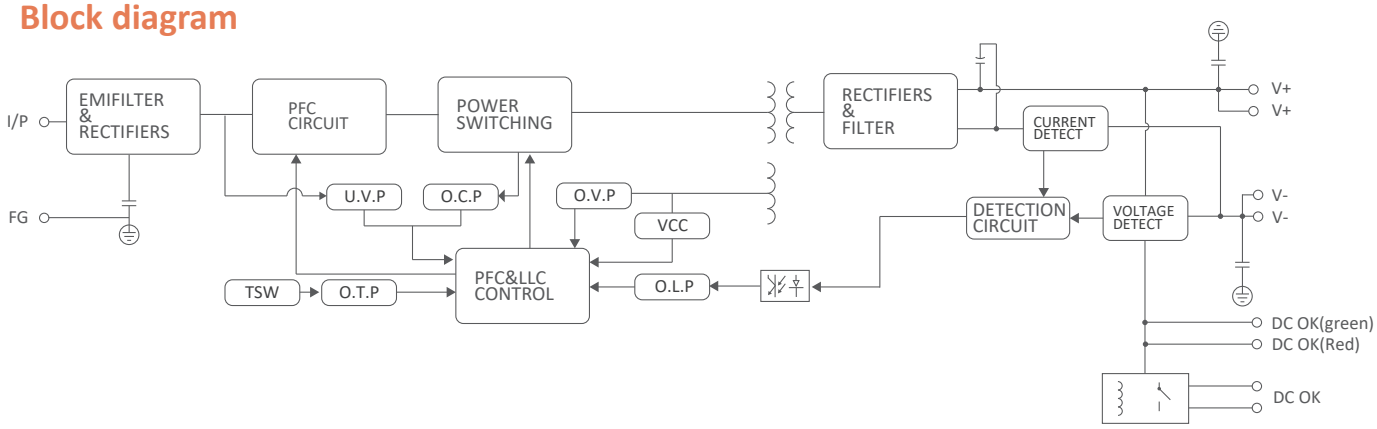
1.If the power supply is continuously used outside the range specified by the derating curve, it may cause degradation or damage to its components. For details, please refer to Figure 1.
2.The power supply will have a relatively long rise time when the ambient temperature is between -30°C and -40°C.
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.



Peak-Load & Continuous-Load Derating Curve

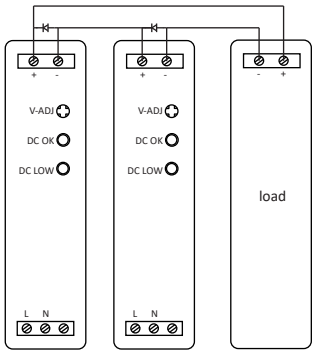


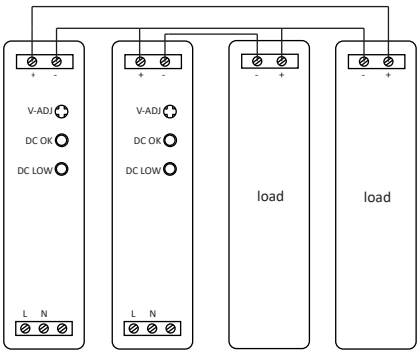
Block diagram



Application Note

1.Series Operation

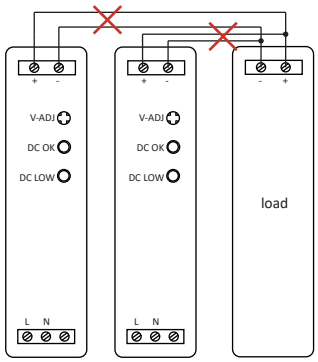




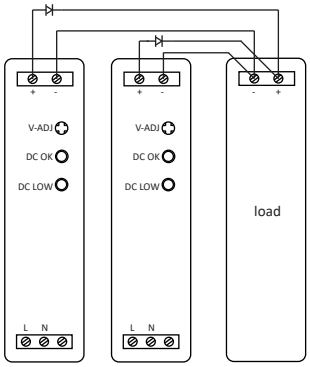
Note:

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.Parallel Operation



Parallel Operation A
(Unable to use)



Parallel Operation B
(Backup)

Note:

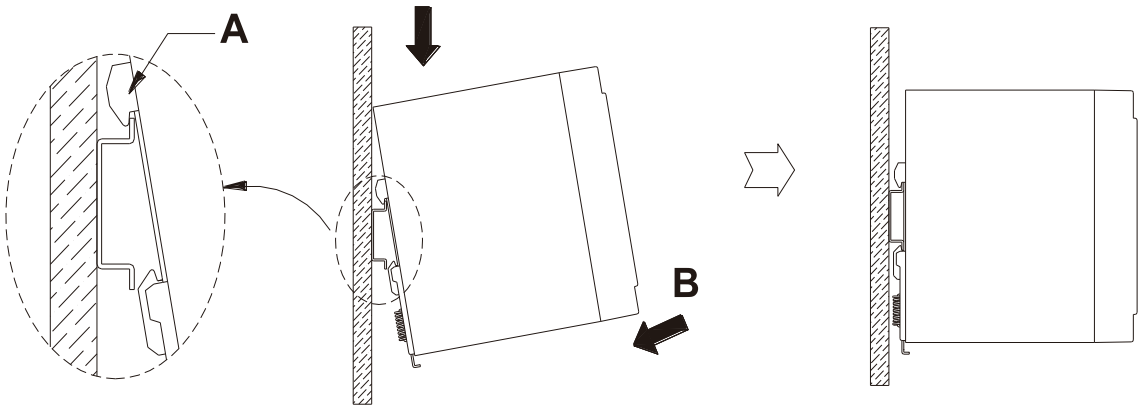
1. Parallel operation should be composed with the same products, while the connection should be as shown as “Parallel operation B”;
2. In parallel operation B, current capacity cannot be increased, while it should be used forbackup only. Moreover, diode that is to be added during parallel operation should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

Application Note

3.MountingMethod

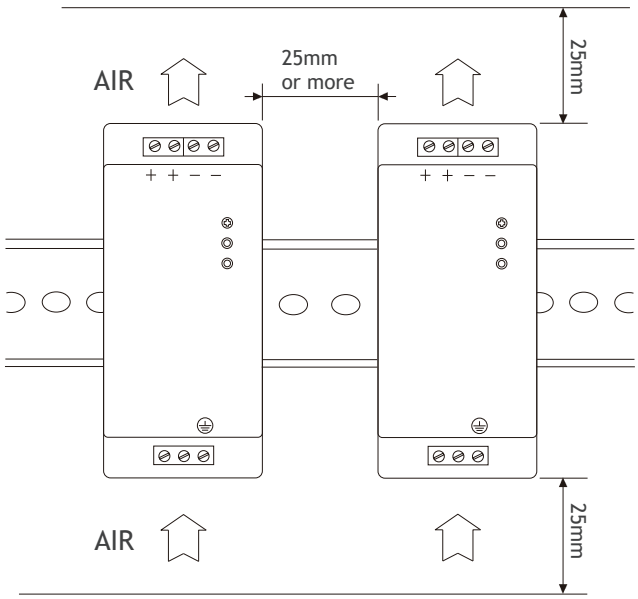
(1) How to fix

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

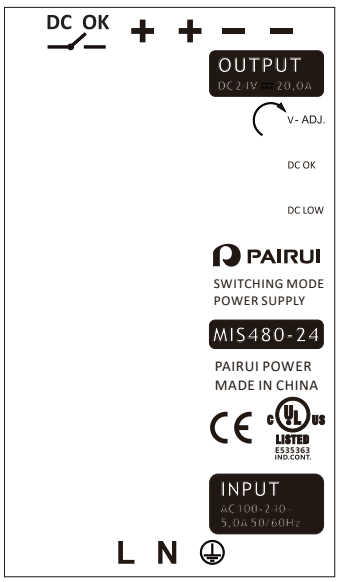
(1) Please confirm if the capacity of the product is suitable for your intended application beforeputting it in use;
(2) Only the rated input voltage specified on the product should be used;
(3) Only the wires with rated capacity should be connected to this product, as allowable voltage and current is varied according to each type of wire;
(4) Ground terminal of the power supply must be grounded before use to prevent electric shock or electromaganetic interference;
(5) Be cautions to keep the product clean as foreign matter near the input & output terminal or inside if the product could cause series 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 substances or dust
- A place near volatile or flammable compounds
- A place with high humidity
- A place vulnerable for vibration or shock

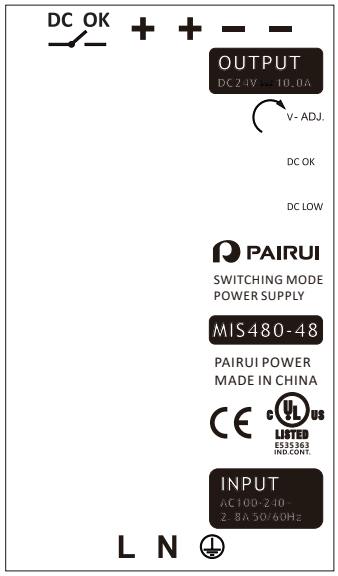
(10) Do not inspect or repair the product while the power is applied;
(11) Unauthorized modification should be avoided in order to prevent series injury or physical loss due to any malfunction;
(12) In case of power outage while in operation, be sure to turn off the power supply.

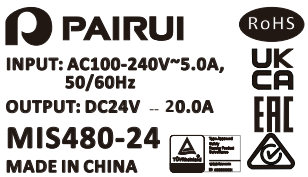
5. Warranty

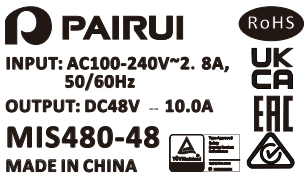
(1) Repair service will be provided for free upon any mechanical, technical or functional defects during the guaranteed warranty, however, any defects or malfunction due to international infliction or negligence by customers will be repaired at the customer’s expense;
(2) Guaranteed warranty of the product 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.

Label









Attention: Used in controlled environments. For environmental conditions, please refer to the manual.

Packaging Information

Quantity per box (PCS)	Outer Box Size L * W * H (mm)	Net Weight (kg)	Gross Weight (kg)
10	425*320*200	12.5	13.7

Change History

2024-6-8	Publication and distribution
2025-10-10	1.Revise the testing standards for safety and EMC (Electromagnetic Compatibility) items. 2.Add packaging information