

PV Diode Connector Instruction Manual

MC-D



Revision History Record Form					
No.	Version	Change Section	Change Content	Date	Remark
1	A1	N/A	New version	2026-01-06	New Model

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Safety instructions



WARNING

1. Please read the manual before installation and follow the installation instructions and safety notices, otherwise would in life-threatening injuries due to electric shock, electric arcs, fire, or failure of the system.
2. Please check that the product is in good condition before installation. Do not use products that are damaged or have missing parts.
3. The installer must have an electrician's license or a qualified person with electrical training.
4. Do Not Disconnect Under Load: PV plug connections must not be disconnected while under load. They can be placed in a no load state by switching off the DC/AC converter or breaking the AC circuit.
5. This product can only be used once. Do not adjust its use after installation.
6. Broken connectors Please use a dust hat to prevent foreign objects from entering the pollution.
7. This product is IP68 (1M1H) classification of waterproof, but can not be used in water, can not be placed on the roof.
8. The product is prohibited from use in environments containing small molecules of oil, hydrocarbons, phenols, ketones, ammonia, etc. that are corrosive to plastics. It is prohibited to add or apply any grease or lubricant to the connector.
9. The product installation and use meet the requirements of PV modules.
10. This connector is compatible with MC4 series products..
11. Please safeguard the instruction manual and hand it over to a subsequent user.



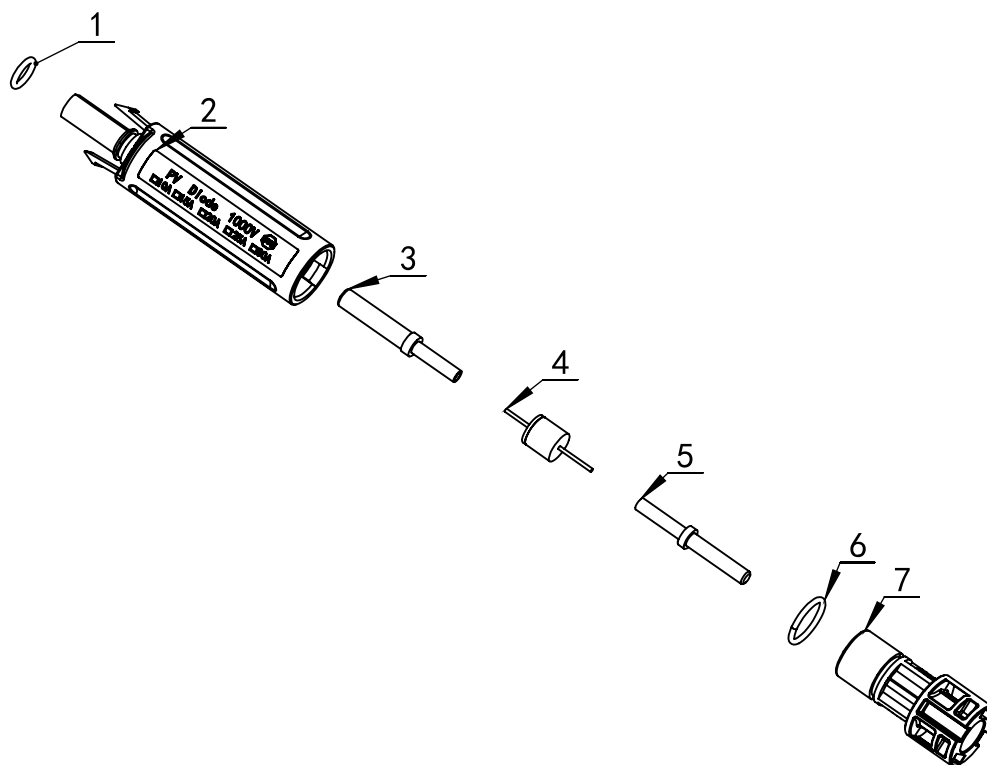
Intended Use

This product is used for electrical connections in PV direct current (DC) circuits, and can also be used as low voltage direct current (LVDC) components. If additional use is required, it shall be used in compliance with the technical parameters of this product.

Product Specifications

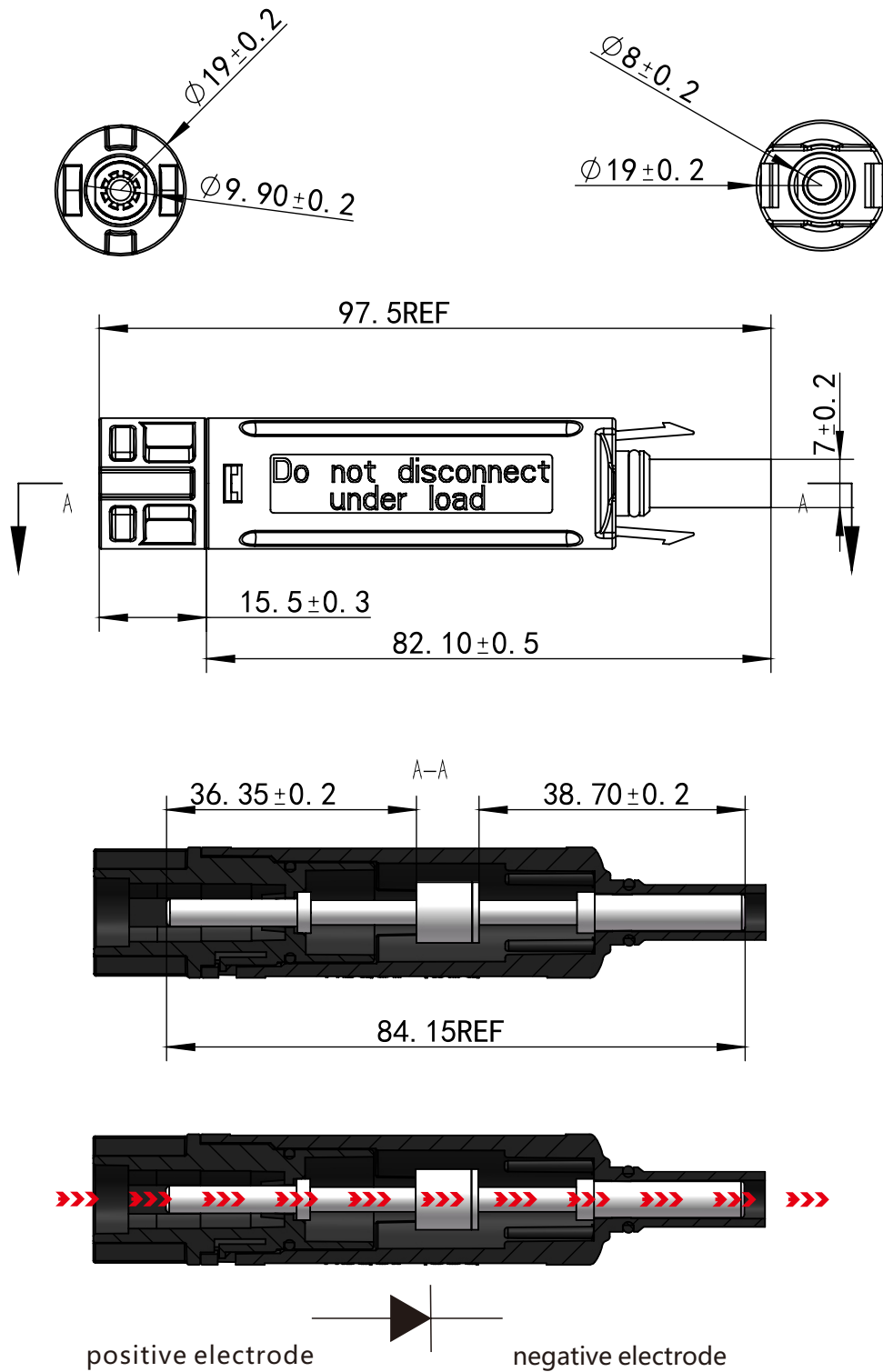
Connector system	Φ4mm
Rated Voltage	1000V
Rated current	5A/10A/15A/20A/25A/30A (Options)
Flame class	UL94-V-0
Operating Temperature range	-40°C~70°C
Self-locking system	Embedded
Waterproof class	Insertion: IP68; Non-insertion: IP2X
Contact resistance	≤1mΩ
Safety class	DcⅡ
Connected system	Multipoint connection
Wiring	Plug-and-play
Conductor	Copper tin-plated
Insulation material	PPO

Exploded Views



- 1.O-ring
- 2.Male panel receptacle
- 3.Male terminal
- 4.PV Diode
- 5.Female terminal
- 6.O-ring
- 7.Female panel receptacle

Parts Size(mm)



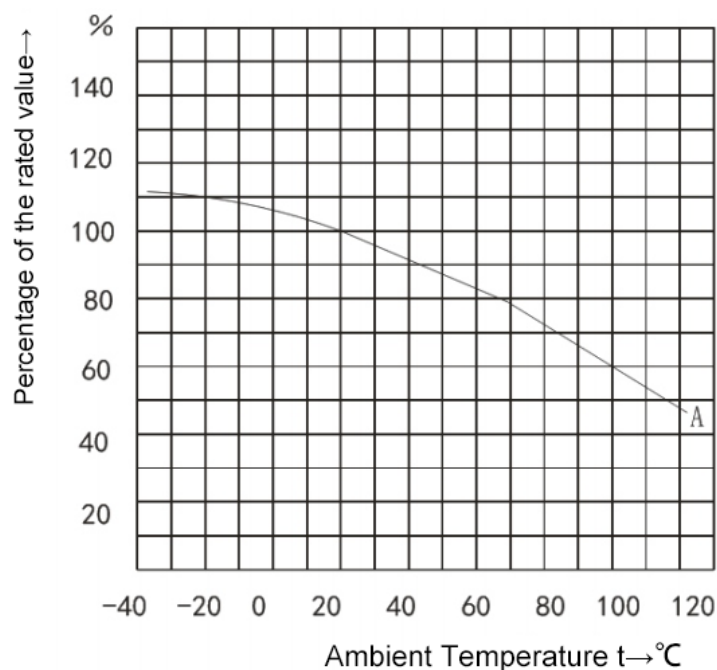
Function introduction

This PV diode connector is suitable for a rated voltage of DC 1000V and a rated current ranging from 5A to 30A (selectable). It primarily utilizes its unidirectional conductivity to protect photovoltaic equipment. The connector is compatible with MC4 connectors.

The influence of the environment on current and its correction

1. Current correction values for use at different ambient temperatures:

At an ambient temperature of 20°C, we recommend that the actual operating current of the diode should not exceed its rated current value. When selecting a diode, environmental and operating conditions should be considered, such as the degree of enclosure, air flow, connecting cable dimensions (length, cross-section), and transient peaks. The current-carrying capacity test of the diode is conducted at an ambient temperature of 20°C, and its actual use is affected by changes in ambient temperature. The higher the ambient temperature, the higher the operating temperature of the diode, and the shorter its lifespan. Conversely, operating at lower temperatures will extend the lifespan of the diode.



Typical curve of the influence of ambient temperature on current-carrying capacity

The influence of the environment on current and its correction

2. Current correction coefficients used at different altitudes:

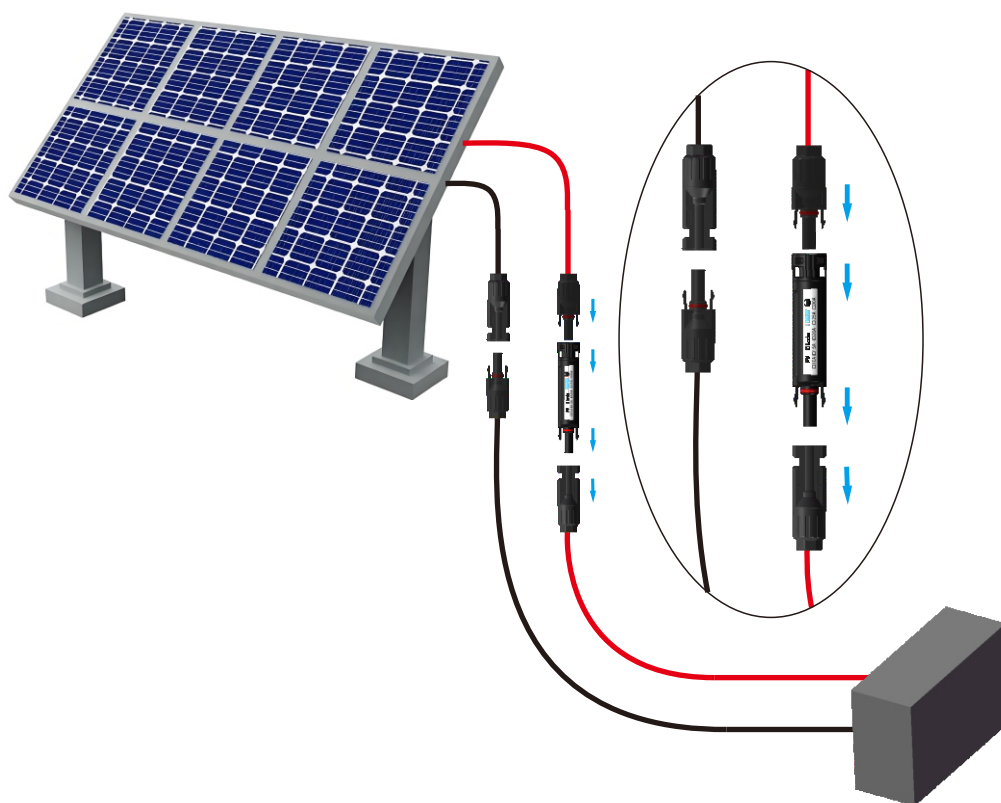
altitude	≤2000m	2000m~3000m	≥3000m	List
Current correction factor	1	0.9	0.8	For a product with a rated current of 10A, after derating for use at an altitude of 2500m, the rated current is $0.9 \times 10 = 9A$ For a product with a rated current of 10A, when used at an altitude of 2500m, the derated current is $0.9 \times 10 = 9A$

Material conditions and storage

1. Insulating housing: PPO;
2. Terminal: copper tin nickel;
3. Waterproof ring: Silicone;
4. Product storage environment.
 - ①. No entry of snow or rain ;
 - ②. With air circulation/ventilation ;
 - ③. Relative humidity (RH) less than 70%;
 - ④. Ambient temperature not exceeding +40°C, with a 24-hour average temperature below +35°C and a low temperature above -5°C;
 - ⑤. The surrounding atmosphere shall be free of acidic, alkaline, or other corrosive gases.

Quick installation

Before installation, make sure the product is undamaged and the current amperage matches your requirements.



Install the diode connector in the positive circuit of the photovoltaic system and connect it using a PV connector.

Plug the male and female of the connector together until they are locked. Check correct engagement by gently pulling the connector (maximum pulling force ≤ 20 N).

Cable routing and wire management



When using connectors, employ cable ties or wire clamps for fixation.



Correct wiring diagram



Prohibit the use of connectors with dangling (unterminated) ends



Incorrect wiring diagram

NOTE: *Do not allow connectors to be contaminated by the environment;
*Do not allow that the connector is directly on the roofing surface;
*Do not allow that the connector is in standing water;
*Do not subject the connector to mechanical stress.