

光伏板端连接器使用说明书

PV-Panel Connector user manual

PV-15BMC



修改履历记录表 Revision History Record Form

序号 No.	版本 Version	变更章节 Change Section	变更内容 Change Content	日期 Date	备注 Remark
1	A1	N/A	New version	2025-6-27	New Model

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安全须知 Safety instructions**警告 WARNING**

1. 安装前请先阅读使用说明书，并遵守安装说明和安全须知，否则可能会导致因电击、电弧、火灾或系统故障而危及人身安全。
2. 安装前请先检查产品是否完好，请勿使用损坏或者零件缺失的产品。
3. 安装人员须持电工证或受过电气培训合格的人员。
4. 禁止在带电的情况下安装或拆卸本产品，安装或拆卸前必须先切断电源。
5. 本品只能使用一次，安装后勿再调整使用。如有损坏，请更换。
6. 断开的连接器请使用防尘帽，以免异物进入污染。
7. 本品防水等级为Ip68(1m1h),但是不能置于水中使用，不能将本品置于屋顶表面。
8. 产品禁止在含小分子油、烃、酚、酮、氨合物等与塑料有腐蚀的环境中使用。禁止在连接器里添加或涂抹任何油脂及润滑剂。
9. 产品安装使用符合光伏组件要求。
10. 本连接器公适用于B级和C级绞合铜导体（参见NFPA70,国家电气规范）
11. 请妥善保管使用说明书，并将其移交给后续用户。

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 suitable for use only with Class B and C stranded copper conductors (See NFPA 70, National Electrical Code).
11. Please safeguard the instruction manual and hand it over to a subsequent user.



安全须知 Safety instructions

应用范围 Intended use

本品用于光伏直流 (DC) 电路中的电气连接，亦可用作低压直流 (LVDC) 部件。如果需要作其他用途，则需要符合本品技术参数的前提下使用。

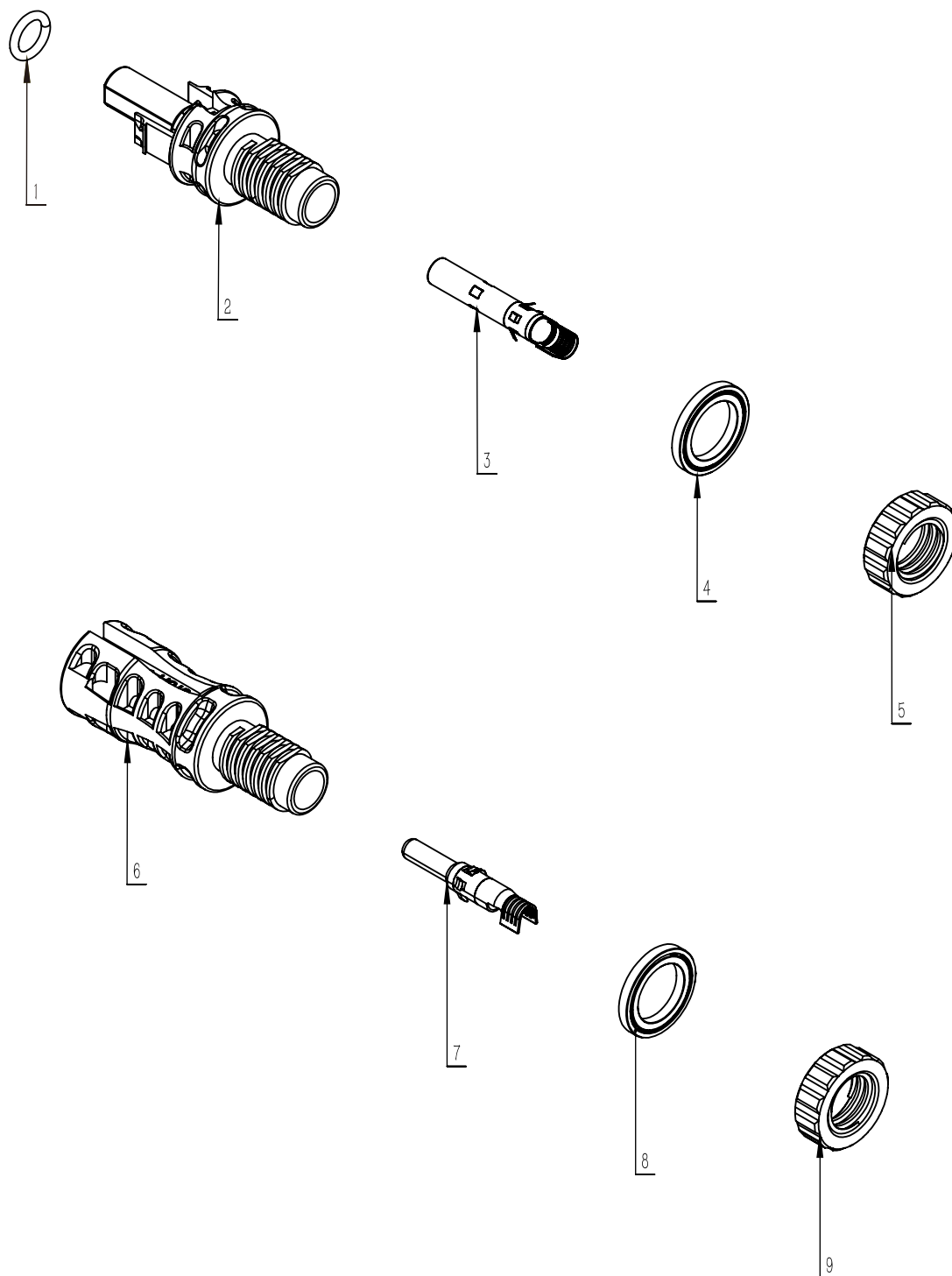
This product is used for electrical connections in PV direct current (DC) circuits, and can also be used as low voltage direct current (LVDC) components. If additional use is required, it shall be used in compliance with the technical parameters of this product.



技术参数 Product Specifications

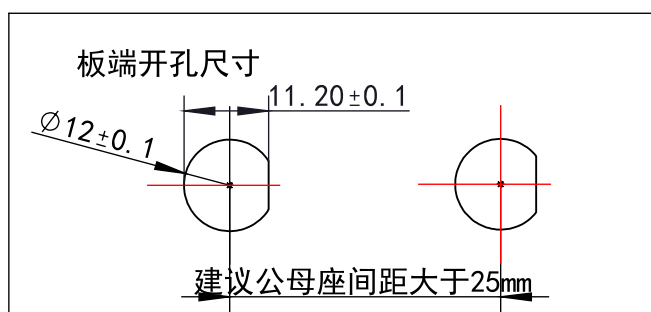
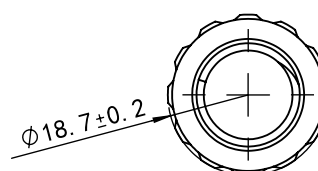
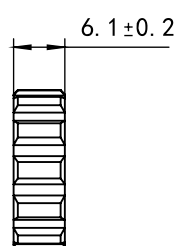
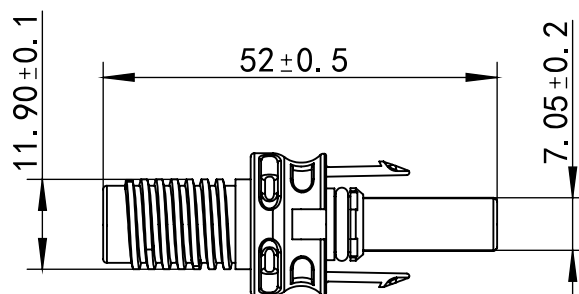
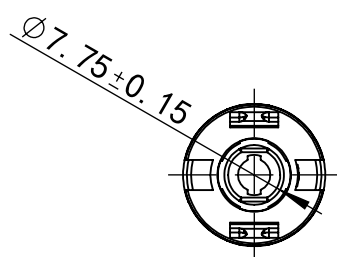
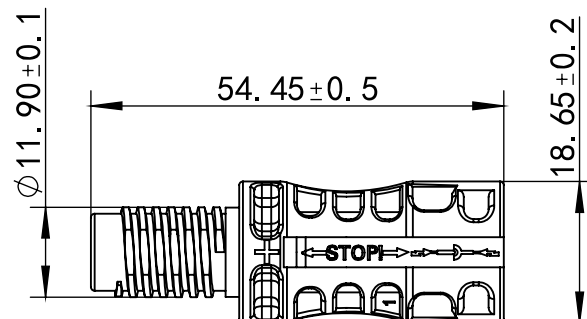
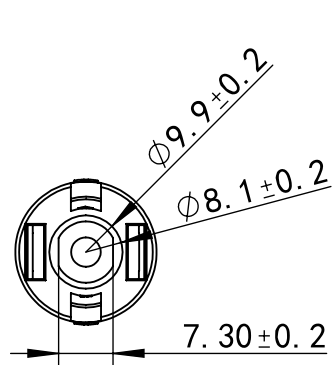
连接器系统 Connector system	Φ4mm
额定电压 Rated Voltage	1500V
额定电流 Rated current	30A/50A
环境温度范围 Operating Temperature range	-40℃~85℃
热变形温度 Heat deflection temperature	130℃
防水等级 Waterproof class	Insertion: IP68; Non-insertion: IP2X
接触电阻 Contact resistance	≤0.5mΩ
安全等级 Safety class	Dc II
连接系统 Connected system	Multipoint connection
连接方式 Wiring	Crimping
导体 Conductor	Copper tin-plated
绝缘材质 Insulation material	PPO
自锁系统 Self-locking system	Embedded
防火等级 Flame class	UL94-V-0
线缆规格 Cable Specification	TUV: 2.5-6mm ²

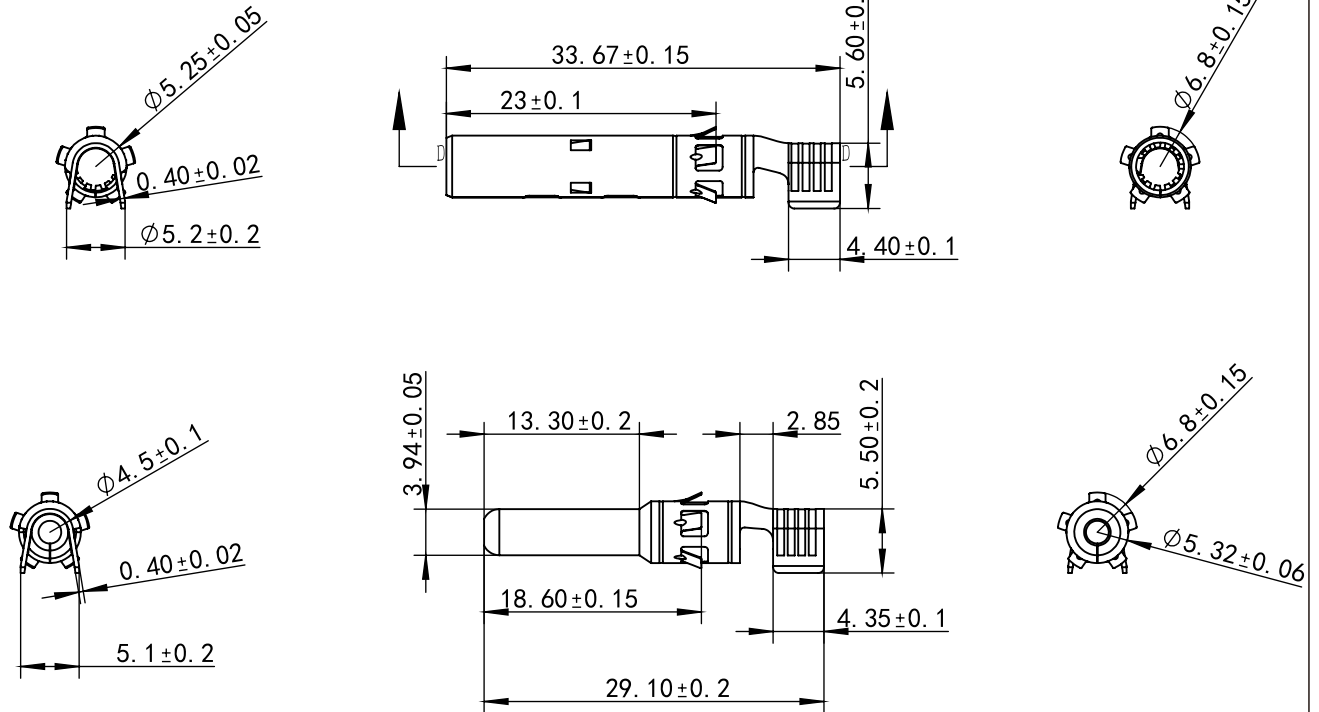
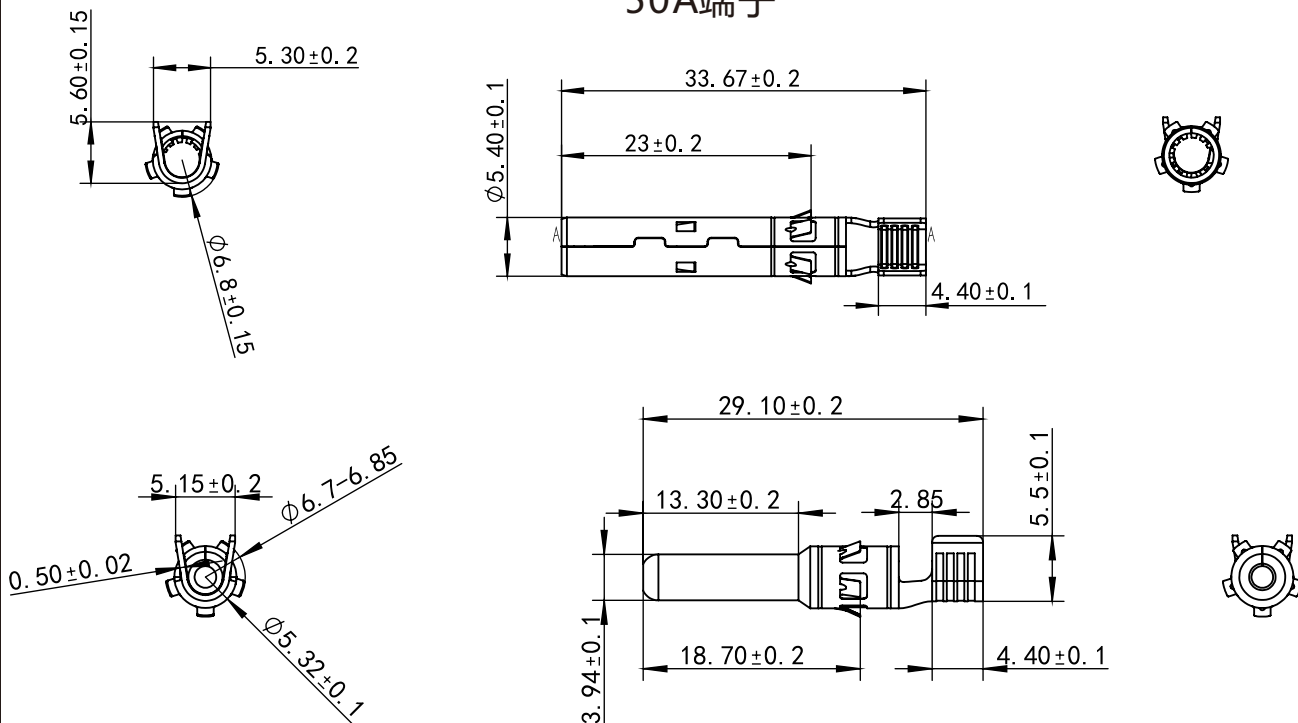
产品爆炸图 Exploded Views



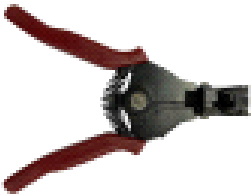
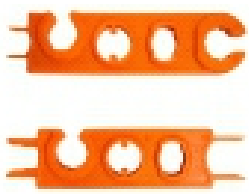
1. O形圈 /O-ring;
2. 母座面板座/Female panel receptacle
3. 母座适配端子/Female terminal
- 4./8. 防水垫片/Waterproof gaskets
- 5./9. 螺母/Nut
6. 公座面板座/Male panel receptacle
7. 公座适配端子/Male terminal

零件尺寸 Parts Size(mm)



零件尺寸 Parts Size(mm)
30A端子

50A端子


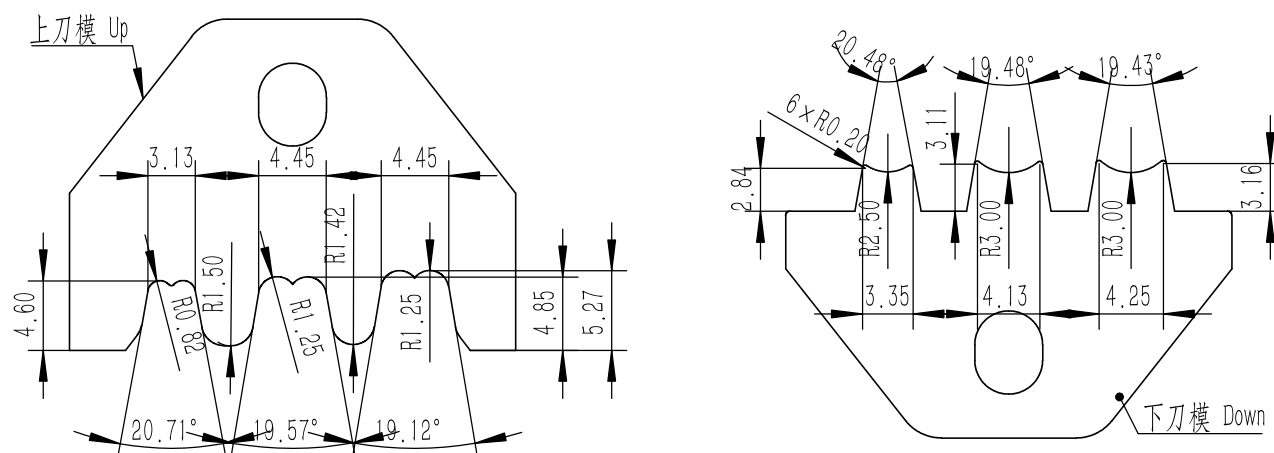
安装工具 Tools required

	名称：剪线钳 型号：MHT-WC8AWG 厂家：东莞市美桦电子有限公司 Name: PV cutting pliers Model: MHT-WC8AWG Manufacturer: Dongguan Maywah Electronics Co., Ltd.	剪线钳：剪线范围： 8AWG(16mm²)以下 Wire cutting pliers: wire cutting range: 8 AWG (16mm²) below
	名称：剪线钳 型号：MHT-WS10-16AWG 厂家：东莞市美桦电子有限公司 Name: PV stripping pliers Model: MHT-WS10-16AWG Manufacturer: Dongguan Maywah Electronics Co., Ltd.	剥线长度：≤30mm， 剥线线径范围： 10/12/14/16AWG/(0.9-6 mm²) Stripping length: ≤ 30mm, stripping wire diameter range: 10 / 12/ 14/ 16AWG/ (0.9-6 mm²)
	名称：压线钳 型号：LY2546B 厂家：东莞市美桦电子有限公司 Name: PV crimping pliers Model: LY2546B Manufacturer: Dongguan Maywah Electronics Co., Ltd.	压线范围： 14AWG/12AWG/10AWG(2.5/4/6 mm²)，长度：270mm，重量：0.74kg Crimping range: 14AWG/ 12AWG/ 10AWG (2.5/ 4/ 6mm²), Length: 270mm, Weight: 0.74 kg
	名称：多功能光伏扳手 型号：sunny twins 厂家：东莞市美桦电子有限公司 Name: multi-function PV wrench Model: sunny twins Manufacturer: Dongguan Meihua electronics Co., Ltd.	多功能光伏扳手-Sunny twins，材质：PA Multifunctional PVwrench - Sunny twins, Material: PA



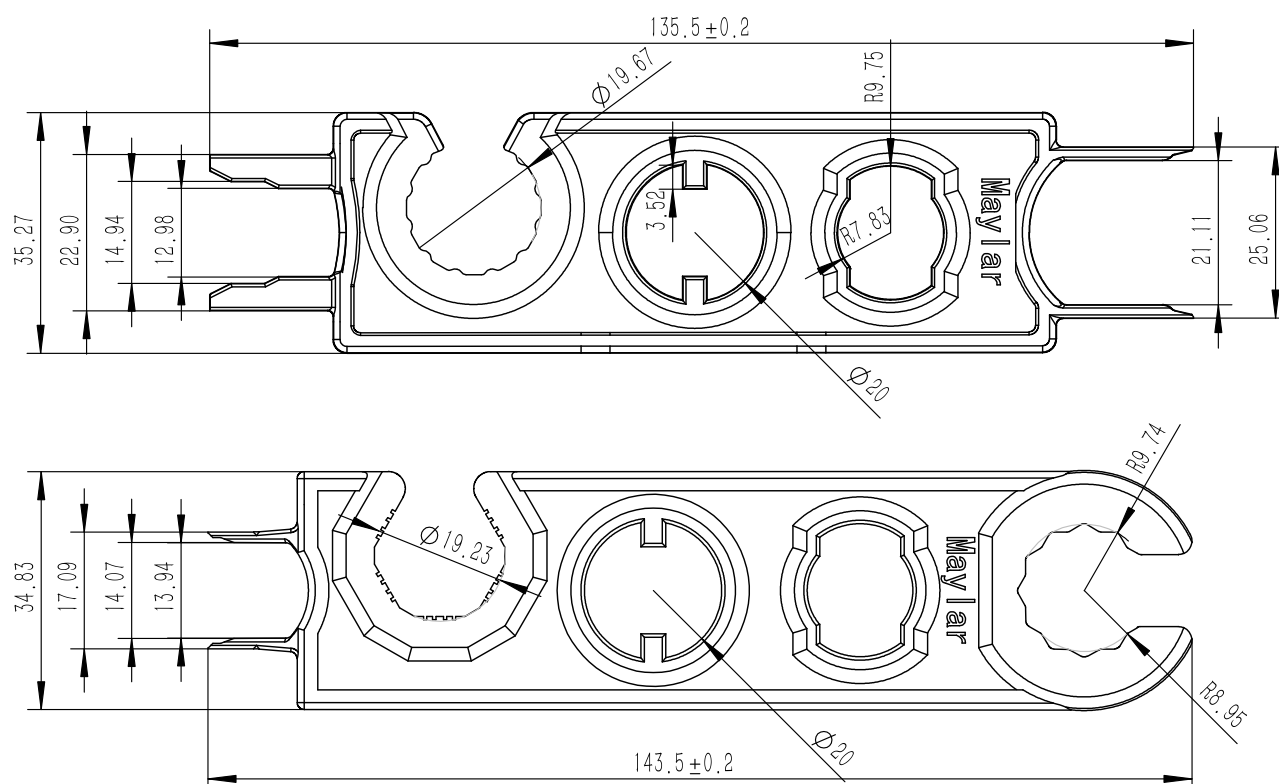
工具主要尺寸 Tools main size(mm)

•压接刀模尺寸 Tools size



Model No.	Wire range (AWG)	Crimp tool identification				Crimp dimensions LxH (mm)	Number of crimps
		Manufacturer name	Crimp tool type	Upper die number	Lower die number		
Locking Type Cable Connectors, Models PV-MC (male and female)	10awg	Dongguan Maywah Electronics Co., Ltd.	LY-2546B	10 AWG	6 mm□	4.5□2.6	1

•光伏扳手(sunny twins)尺寸 PV Spaner(sunny twins) size





快速安装 Quick installation

安装前请检查产品是否完好，零件是否齐全，图1为产品预安装状态：

Please check that the product is in good condition and parts are complete before installation. Figure 1 shows the pre-installation status of the product:

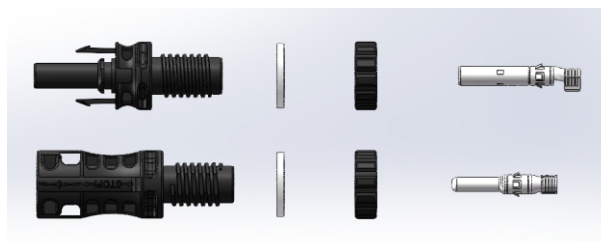


图1 Figure 1

步骤1：剥除电缆绝缘层，剥除的长度为 6.5 至 7.5 mm。

Step1:Strip cable to dimension 6.5 to 7.5 mm.



剥线长度X: $6.5 \leq X \leq 7.5 \text{ mm}$



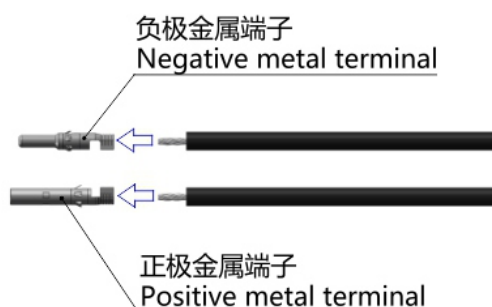
注意不要切断铜丝。

Do not cut individual strands when stripping!



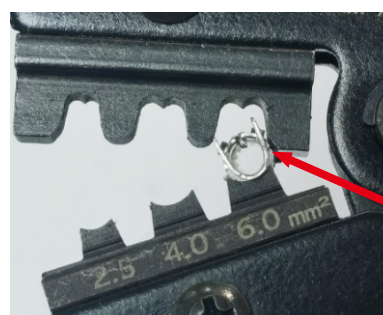
步骤2：压接。

Step2:Crimping.



将插针置入适当截面范围的压线口，并确保插针完全端正地插入到压线口。

Insert the contact in the appropriate cross-section range, and make sure the contact is inserted fully correctly into the wire port.

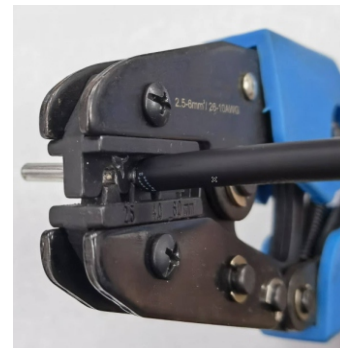


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快速安装 Quick installation

插入剥皮后的电缆末端，使电缆导体与插针的压接套充分接触，压紧(参考拉拔力 $\geq 300\text{N}$)后取出电缆。

Insert the stripped lead end until the lead strands come up against the locator, press tight (Reference pull tension $\geq 300\text{N}$) and remove the cable.



注意： * 所有铜丝都须被压接在压接套内

* 端子的压线套与电缆绝缘层的距离 x ；
端子压线套与电缆铜丝的距离 y 。

* 压接套没有破损或变形。

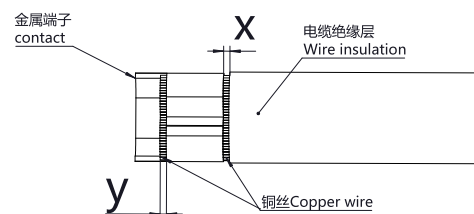
* 压接形状对称。

NOTE: * All of the strands must be captured in the crimp sleeve.

* The distance x between the crimped contact and the wire insulation must be maintained;
the distance y between the crimped contact and the copper wire must be maintained.

* the crimp sleeve is not deformed or missing any portion of the crimp faps.

* The crimp is symmetrical.



$$0 \leq x \leq 1$$

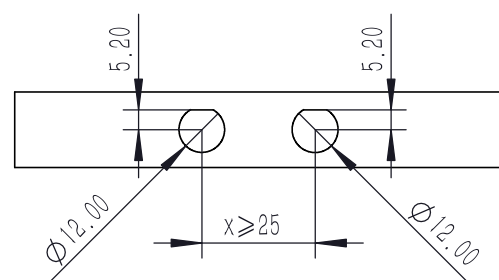
$$0.5 \leq y \leq 2$$

步骤3：组装

Step3: Assembly

3.1 面板的开孔尺寸参考示意图，具体客户根据需求自行验证。建议两孔之间的距离 x 大于25mm。

Refer to the diagram for the dimensions of the openings in the panel; customers are advised to verify these details based on their specific requirements. It is recommended that the distance between the two holes be greater than 25 mm.



3.2.将公母座分别插入面板孔中，注意防呆位。必须有防水垫片，否则达不到IP65和IP68的防水等级。

Insert the male and female connectors into the corresponding holes on the panel, paying careful attention to the locking mechanisms. It is essential to use waterproof gaskets, as failure to do so will result in a lack of compliance with the IP65 and IP68 water-resistance standards.



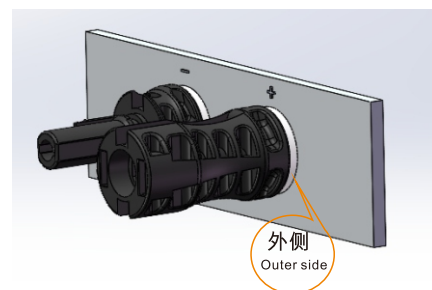
快速安装 Quick installation

3.3.注意防呆位，将公母座分别插入面板孔中，然后用扳手锁紧螺母，典型扭距为2n.m，需要用户根据不同的外壳去验证合适的扭矩。

Be cautious to avoid mistakes. Insert the male and female connectors into the corresponding holes on the panel, then use a wrench to tighten the nuts. The typical torque required is 2 N·m; users should verify the appropriate torque for their specific enclosure.



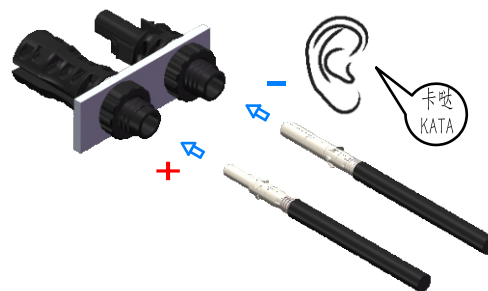
1. 注意防水胶垫安装在外壳的外侧。
2. 面板上应该标明正负极。
3. 检查连接器没有出现裂痕等不良的情况。
1. Ensure that the waterproof gasket is installed on the outer side of the casing.
2. The positive and negative terminals should be clearly marked on the panel.
3. Examine the connector to ensure there are no signs of damage, such as cracks.



3.3.将压接好线的端子插入公/母面板座中，直至啮合。轻轻拉动线缆以检查金属芯是否正确啮合。

Insert the terminals with the crimped wires into the male and female panel sockets until they are properly aligned.

Gently pull on the cable to ensure that the metal core is properly aligned.



感谢阅读

Thanks for reading