

光伏交流 3 芯连接器

3 pin AC Connector For PV System

使用说明书

Instruction Book

(BC01 Cable to Cable)



警告：连接器的插拔操作必须在断电情况下进行！

Warning: Do Not Connect Or Disconnect Under Load!

目录

Contents

1	使用范围及结构特点.....	2
	Application & Structure.....	2
2	产品外形尺寸.....	3
	Product Outline Size.....	3
3	连接器型号.....	4
	Type of the connector.....	4
4	主要技术特征：	5
	Main Technical Features.....	5
5	安全注意事项.....	6
	Safety Precautions.....	6
6	组装工艺.....	6
	For Assembly.....	6
7	连接器使用说明.....	11
	Instruction of Operation.....	11
8	保养及维护.....	12
	Maintenance.....	12
9	声明.....	13
	Statement.....	13

客户您好，首先感谢您选用无锡百祺电子科技有限公司生产的太阳能交流连接器，以下简称连接器，为使您能正确、快速、安全的使用该产品，请您仔细阅读本说明书。

Dear Customer, Thank you for choosing our product “ Multi-pole AC Connectors For PV system”, which are referred to as “Connectors” hereinafter. Please read this instruction book carefully in order to use the product correctly, quickly and safely.

1 使用范围及结构特点

Application & Structure

1.1 本连接器适用于地面用太阳能系统中逆变器设备的连接；

The connectors are specialized for the connection of inverter equipment in terrestrial PV systems;

1.2 接插件与导线的接线形式为螺丝压接式，公头与母头的连接形式为卡扣连接；

The connection of pin and wire is screw type which is easy for field installation , and the connection of the male and the female connector is snap-fit type;

1.3 操作简便，机械、电气性能可靠；

Easy operation, reliable performance on mechanical and electrical properties;

该产品可能使用于其他领域和行业，在本公司没有声明的前提下不承担其在该行业和领域的质量责任。

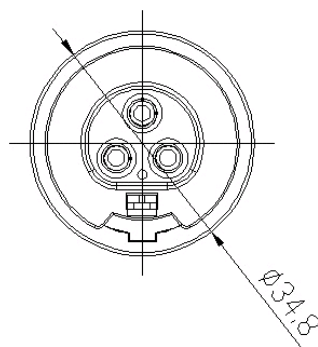
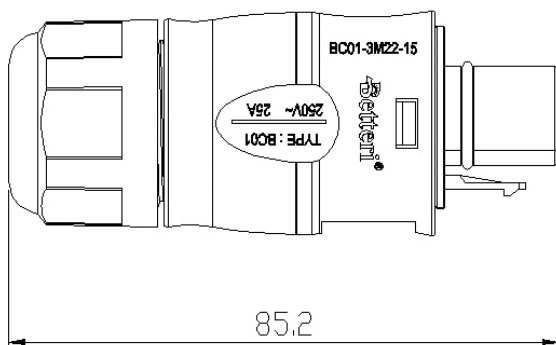
The connector may be used in other areas and industries; we will not assume any unstated quality responsibility if the product is used in other fields and industries.

2 产品外形尺寸

Product Outline Size

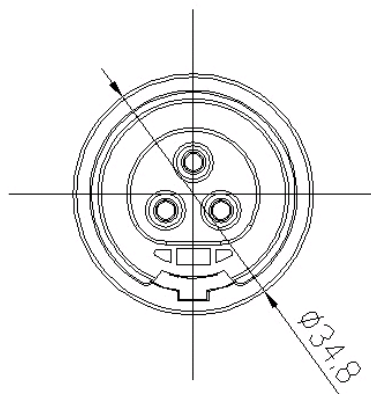
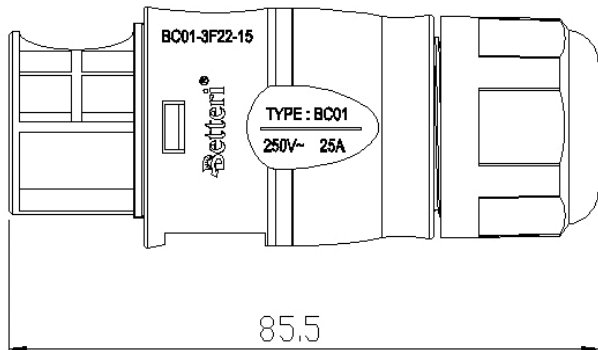
2.1 公头外形:

Outline of male cable connector (2+PE):



2.2 母头外形:

Outline of female cable connector (2+PE)



3 连接器型号

Type

3.1 连接器型号: BC01(CC)

Connector type:BC01(CC)

3.2 公头型号:

Male cable connector type:

TUV, CSA: 250V 25A	BC01-3M22-15
CSA: 350V 25A	BC01-3M32-15



3.3 母头型号:

Female cable connector type:

TUV, CSA: 250V 25A	BC01-3F22-15
CSA: 350V 25A	BC01-3F32-15



4 主要技术特征：

Main Technical Features

项目 Item	参数 Parameter	项目 Item	参数 Parameter
适用环境温度 Applicable environment temperature	-40℃~+85℃	过电压种类 Over-voltage category	III
相对湿度 Relative humidity	≤95%	接线方式 Wiring Connection	螺丝压接 Screw type
电极芯数 electrode number	2P+PE	绝缘电阻 Insulation resistance	≥100MΩ
额定电压 Rated voltage	TUV: 250V AC CSA: 350V AC	工频耐压 Rated impulse withstand voltage	4000V AC
额定电流 Rated current	25A(4mm ²)	防护等级 Degree of protection	IP68 (1.5m,24h)
端子材料 Material of pin	铜合金+表面镀银 Copper alloy & silver plated	插拔力(不带锁扣) Insertion and withdraw force(unlocked)	10~50N
接触电阻 Contact resistance	≤1mΩ	适用导线规格 Applicable wire gauge	2.5/4.0mm ²
污染等级 Pollution degree	2	适用线缆外径 Outer cable diameter	10~13mm
外壳防火等级 Enclosure flame class	UL94-V0	执行标准 Standards	UL6703A EN 61535 PPP 59015A:2013

5 安全注意事项

Safety Precautions

5.1 产品装卸及运输过程中注意轻拿轻放，不要受外力重压，以免造成连接器的损坏；

Please be careful during loading, unloading and transportation. Avoid outer heavy pressure to protect connectors;

5.2 打开包装后，如果发现内部部件与说明书不相符，请立即停止使用并同销售商或我公司直接联系；

If the internal parts do not match the instructions after opening the package, please stop using it immediately and contact sales or our company directly;

5.3 在正式安装连接器时，首先要确认该逆变器系统不在工作状态，以免发生触电事故；

Please ensure the inverter system is not under working conditions firstly when installing connectors, The human body cannot simultaneously contact the connector's positive and negative pole , in order to avoid electric shock accidents;

5.4 安装或维护该产品的操作人员应当得到适当的培训并具备相关的电气安装和维护技能。

The operator who installs or maintains the product shall be trained and have related electrical installation and maintenance skill.

6 组装工艺

For Assembly

6.1 使用工具：

Tools:

6.1.1 剥线钳 Wire striper



6.1.2 平口螺丝刀和#1十字螺丝刀

Flat screwdriver and #1 cross screwdriver



6.1.3 开口大于3cm的活络扳手或30#呆扳手

Monkey wrench wider than 3cm and 30# solid wrench

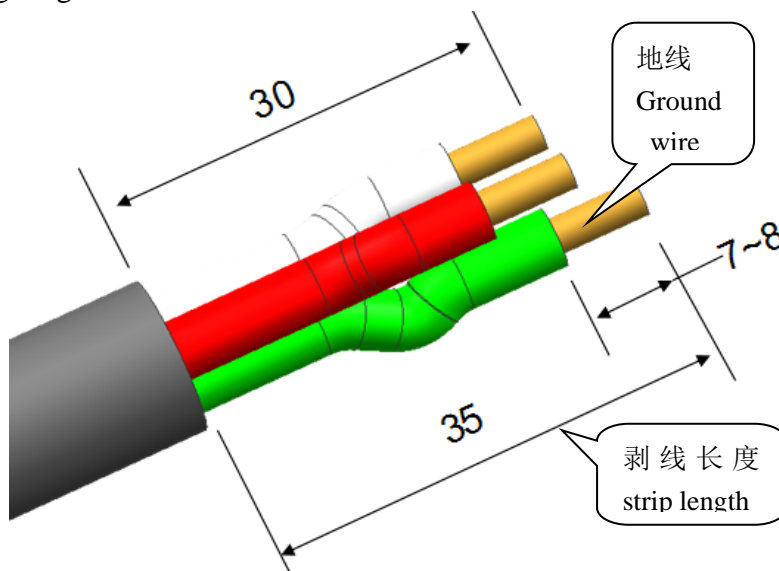


6.2 剥线

Strip cables

仅支持多股铜线。按要求切线、剥线，其中接地线要比零线及火线多留出5mm，剥线长度为7-8mm。

Only multiple strands of copper wire can be used. Please cut and strip the wire according to the requirements, and the ground wire needs to be 5mm longer than live and naught wire, and the applicable stripping length is 7 ~ 8mm.

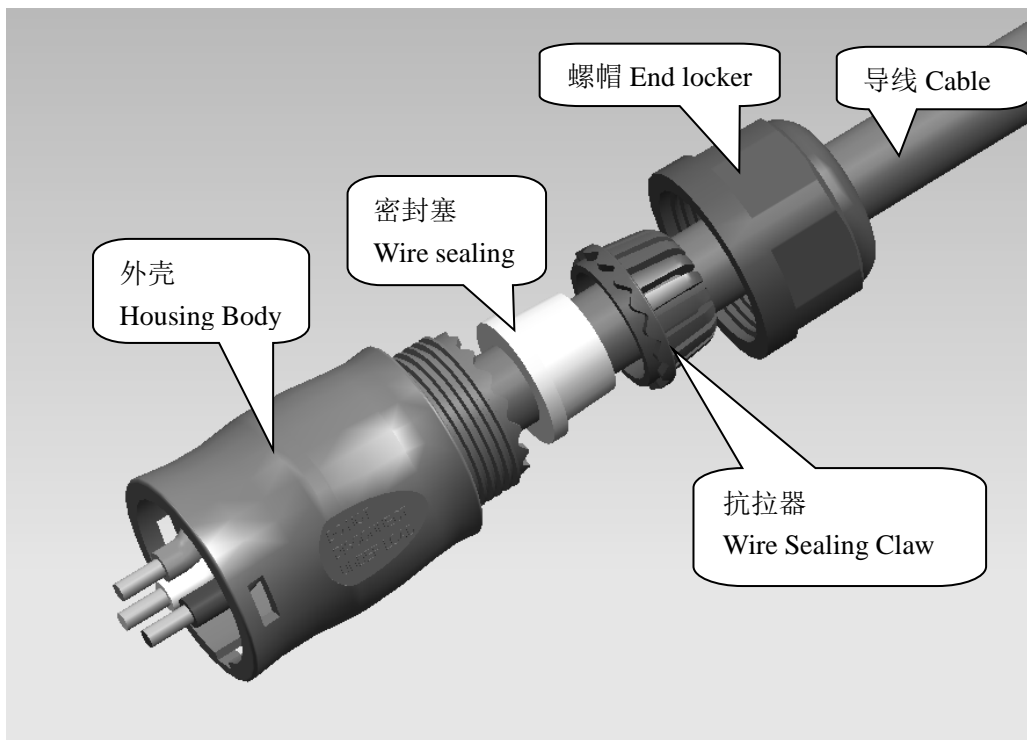


6.3 装配说明:

Instruction of cable connector assembly:

6.3.1 将尾部组件(螺帽、抗拉器、密封塞)从母头组件上旋下，并将切剥好后的导线从后往前依次穿过；

Screwing off the tail parts (End Locker, Wire Sealing Claw and Wire Sealing) from male or female cable connector, and then pulling the wire which was cut and stripped through them in turn.



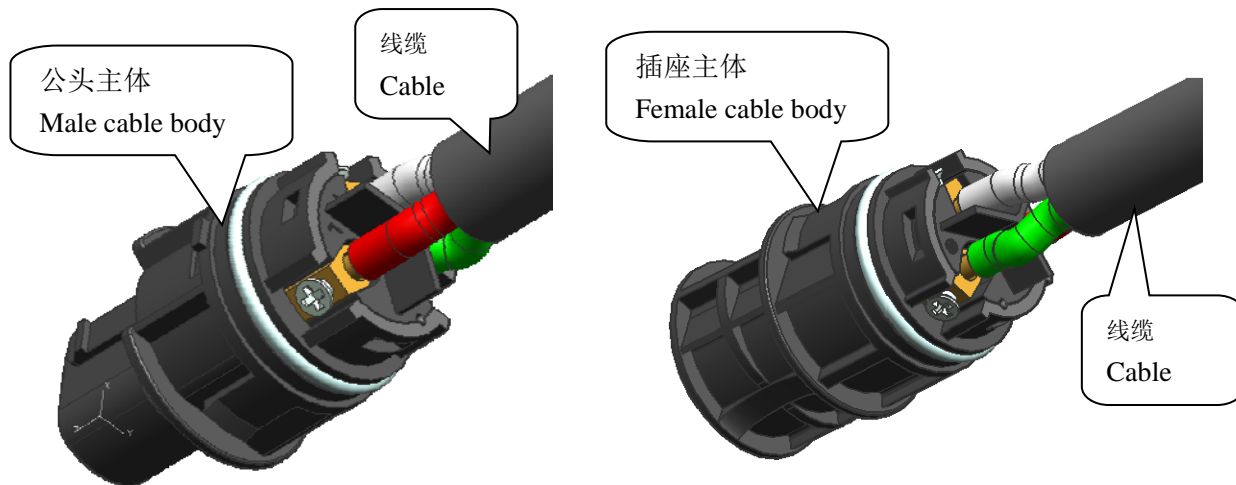
6.3.2 压接导线

Crimp the wire

将线缆芯线按标识正确的插入各接线端子内。螺丝压紧导线，再反向轻拉导线（10N左右的力）验证压接效果。螺钉扭矩 $0.4 \pm 0.1 \text{ N} \cdot \text{m}$ 。注意不能损伤端子和接线芯锁。压接后其抗拉强度应满足下表要求：

Inserting the stripped wires correctly into the corresponding pin holes according to the identification and then tightening all screws firmly, Screw twisting torque $0.4 \pm 0.1 \text{ N} \cdot \text{m}$. after it , giving a reverse pull force lightly (about 10N) by manual to test crimping result. Please pay attention to avoiding damage of pins and pin-holder. After crimping, The tensile strength shall meet the requirements listed in the following table:

线芯横截面积 mm ² Conductor cross-section area (mm2)	抗拉试验载荷 (N) Required tensile strength (N)
2.5	>50
4.0	>60

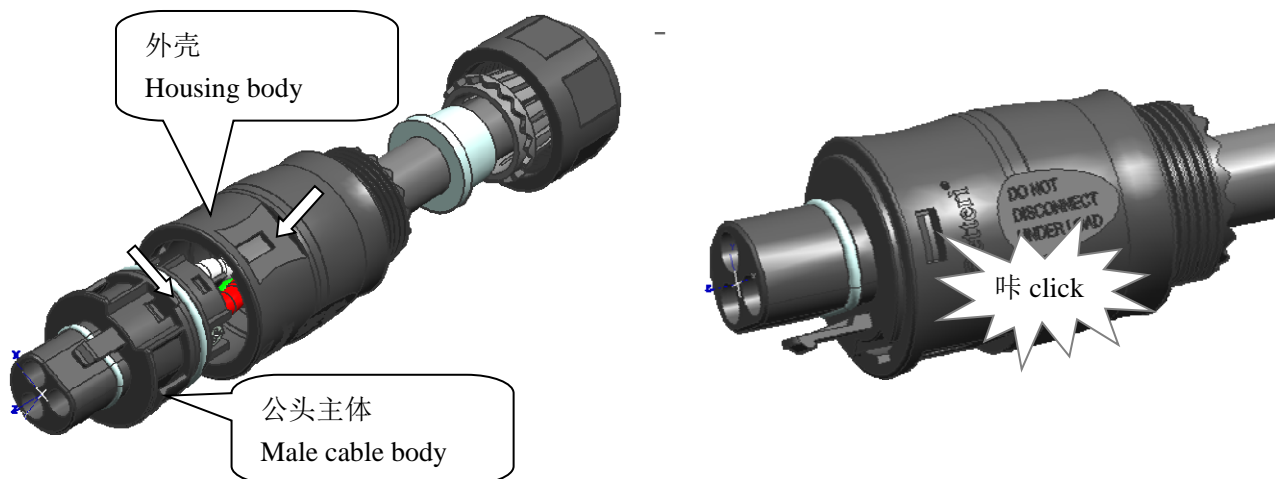


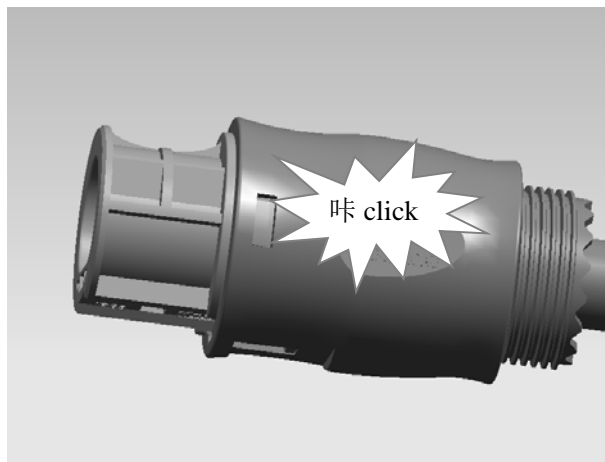
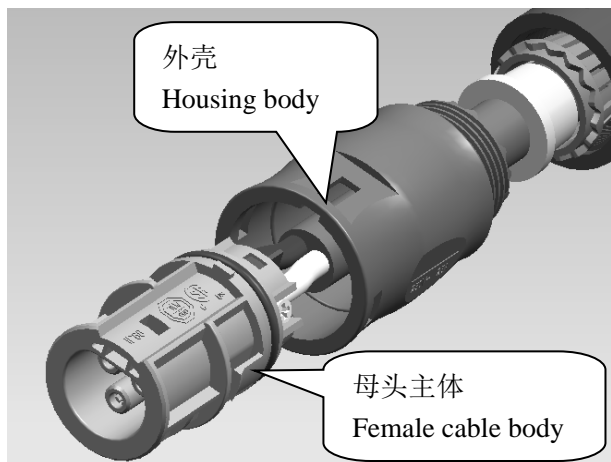
6.3.3 公头、母头安装塑壳

Install male & female cable body to plastic housing

将塑壳按卡槽位置正确的压入外壳，压接到位会听到清脆的“咔”声。

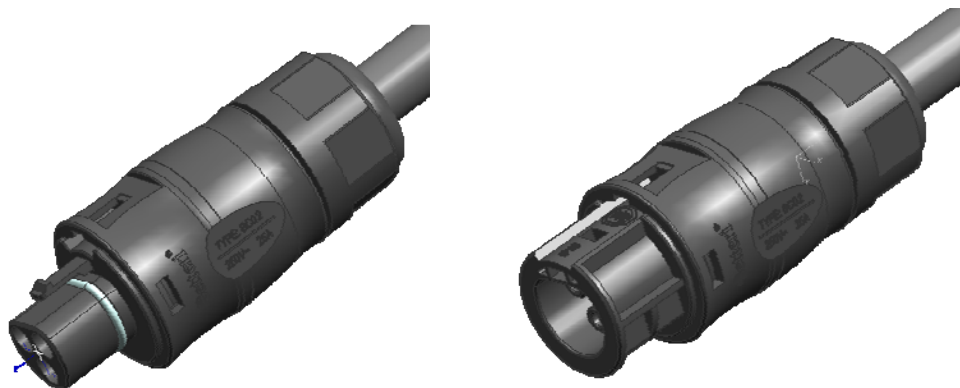
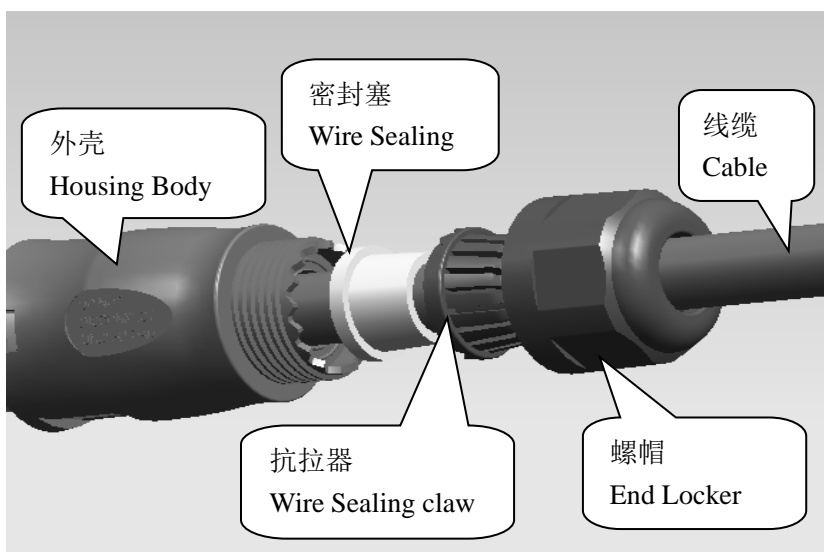
Push the male or female cable body into housing body correctly according to the position of the clamping groove, and will hear a crisp “click” sound in place.





6.3.4 将密封塞、抗拉器推至外壳尾部空腔内，再把螺帽锁紧，扭矩 $4.0\pm 0.5\text{N}\cdot\text{m}$

Push the sealing body and sealing claw into the housing body, and then tighten the end locker, torque $4.0\pm 0.5\text{N}\cdot\text{m}$.



7 连接器使用说明

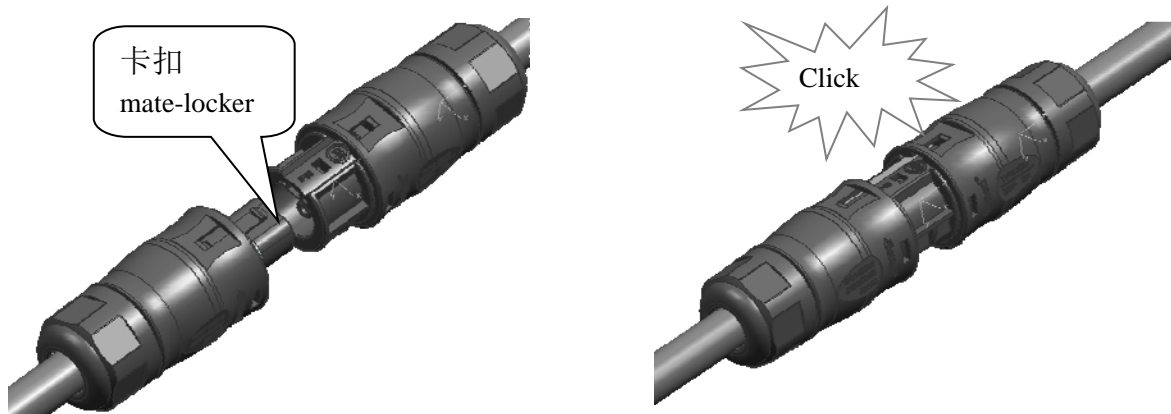
Instructions of Operation

7.1 使用前请切断电源并核实公头与母头是否属同一型号；

Please switch off the system power and ensure the male and female connector are of the same type before using;

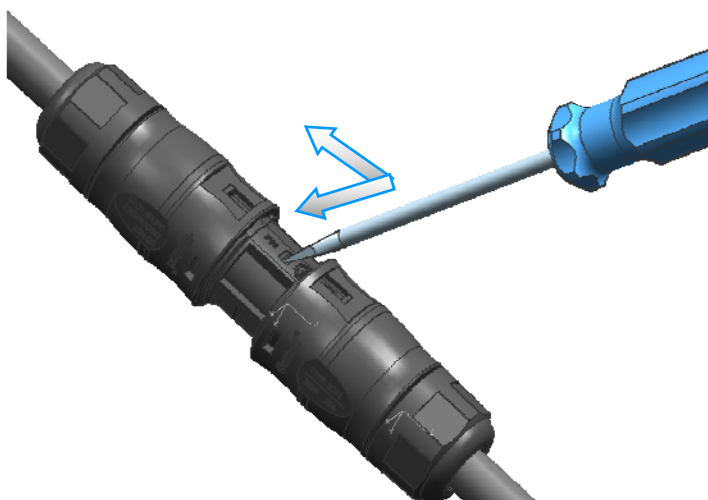
7.2 公头和母头连接时，将公头上的卡扣与母头上的凹槽对准插入，连接到位时会有清脆的响声；

When mating connectors, align mate-locker on the male connector with grooves on the female connector, and insert gradually .Connected in place, there will be a sound of "click";



7.3 连接器分离时，用相应规格的平口螺丝刀抵住锁扣台阶并稍用力向内向前推，待锁扣脱离卡位即可，再沿轴向方向用力，直至分离。

If the connectors are separated, choose a corresponding flat screwdriver to push mate-locker step slightly out of position, and then give a force along the axial direction until separation.



7.4 若公头或母头需要拆卸重新接线，按下列步骤进行：

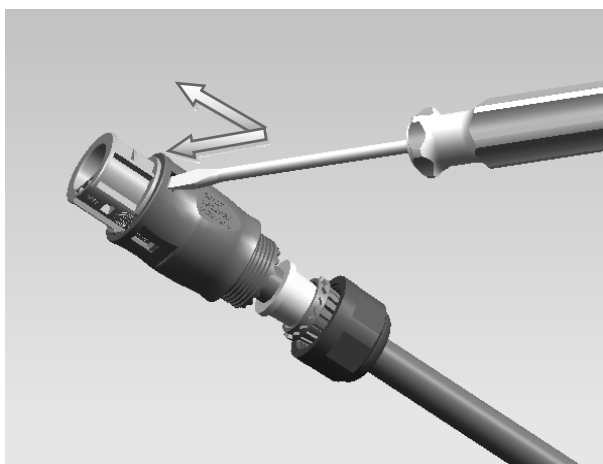
If the connector to be disassembly for rewire, please according to the following steps:

7.4.1 松开尾部组件（螺帽、抗拉器、密封塞）；

Loosen tail parts (End Locker, Wire Sealing Claw and Wire Sealing body);

7.4.2 用平口螺丝刀抵住弹片卡子台阶并稍用力向内推，待台阶明显脱落即可，然后用同样方法将卡子另一边台阶推出，再沿轴向方向用力，直至分离。

Use a suitable flat screwdriver to press the elastic tongue on the male or female cable body inward and push forward slightly, and when the tongue comes off a little, use the same method to the tongue on other side. Give a force along the axial direction until separation.



8 保养及维护

Maintenance

用户应根据自身产品的使用环境和使用频率定期对连接器进行保养和维护，如发现产品损坏请及时更换。如果不是修理维护原因，请不要频繁进行连接器系统的插拔，这样可能会降低系统的机械和电气性能！

The user should do maintenance work according to the different operating environments and frequencies. If discovering any damage of connector systems, please stop using and change it immediately. Please do not separate and mate the connector system frequently if not for repairing or maintenance reason which may reduce the waterproof performance of the system.

9 声明

Statement

如本说明书所述内容如与您收到的产品不符，请以实收产品为准。本说明书的配发方法为一个标准箱一本，如果您需要更多的说明书，请来电与我们联系或登陆公司网站注册后下载，所有公司技术资料仅作为使用产品时的参考用，不得利用它进行其他的商业活动。

无锡百祺电子科技有限公司拥有本说明书著作权及最终解释权。

无锡百祺电子科技有限公司有权随时对本说明书中可能出现的打印错误、产品技术改进、创新等方面做出修改，这些改动恕不另行通知，同时各语言版本翻译的不详之处以中文版为准。

If this instruction is inconsistent with the received product, the received product shall prevail. One instruction book will come with one standard box. Please contact us or view our company's website for downloading if you need more copies. All technical data is for reference only when using the product. Any commercial purpose application is forbidden.

Wuxi Betteri Electronic technology Co., Ltd. owns the copyright and the right of final interpretation.

Wuxi Betteri Electronic technology Co., Ltd. is entitled to conduct any further modification to the print error, technical improvement and innovation without prior notice, and all the translations shall be subject to Chinese Edition.



Your better choice

无锡百祺电子科技有限公司

Wuxi Betteri Electronic Technology CO.,LTD.

电话 (Tel): 0086-0510-88771606

传真(Fax): 0086-0510-88770676

邮编(Zip code): 214037

地址(Add): 无锡光电新材料科技园金山四支路 11 号 5-1

Wuxi Optoelectronic Materials Science&Technology Park

5-1,#11,JinShan Rd.Branch#4,Wuxi,China