

连接器扳手各功能区的使用场景说明

Usage Scenarios for Functional Zones of Connector Wrench



1和5的配合使用用来锁紧带凹槽卡位MC4连接器 Use the combination of Position 1 and 5 to lock grooved MC4 connectors in place



1和4的配合使用用来锁紧MC4连接器 Use Position 1 and 4 together to lock MC4 connectors



2和4的配合使用用来锁紧LEADER连接器，兼容NP4和H4 Use positions 2 and 4 in combination to secure LEADER connectors, compatible with NP4 and H4 types



3插针的使用，用来打开连接好的带锁扣的连接器，兼容MC4 Position 3 release pin unlocks engaged connectors (MC4-compatible)





Product Service

CERTIFICATE

No. B 105361 0005 Rev. 00

Holder of Certificate: **LEADER TECHNOLOGY
(SHENZHEN) CO., LIMITED**

Flat/Rm 1402b 14f
The Belgian Bank Building Nos.721-725 Nathan Road
999077 Kowloon
HONG KONG

Certification Mark:



Product:

Connector

Connectors for Photovoltaic Systems

Model(s):

PV-BN101A

Parameters:

Rated Voltage: 1500VDC
Rated Current: 25A for 2.5mm²
35A for 4mm²
40A for 6mm²
50A for 10mm²
Application Class: A
Protection Class: II
Degree of Protection: IP65/IP68(1m,1h)
Ambient Temperature: -40°C ~+85°C

Tested according to:

IEC 62852:2014
IEC 62852:2014/AMD1:2020
EN 62852:2015/A1:2020

The product was tested on a voluntary basis and complies with the essential requirements. The certification mark shown above can be affixed on the product. It is not permitted to alter the certification mark in any way. In addition, the certification holder must not transfer the certificate to third parties. This certificate is valid until the listed date, unless it is cancelled earlier.

All applicable requirements of the Testing, Certification, Validation and Verification Regulations of TÜV SÜD Group have to be complied. For details see: www.tuvsud.com/ps-cert

Test report no.:

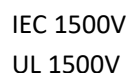
701262407901-00

Valid until:

2026-09-21

Date, 2024-04-25

(Yaqun Alex Liu)



UL: 6703
IEC: 62852



-40°C~90°C



UL94-V0



IP 68

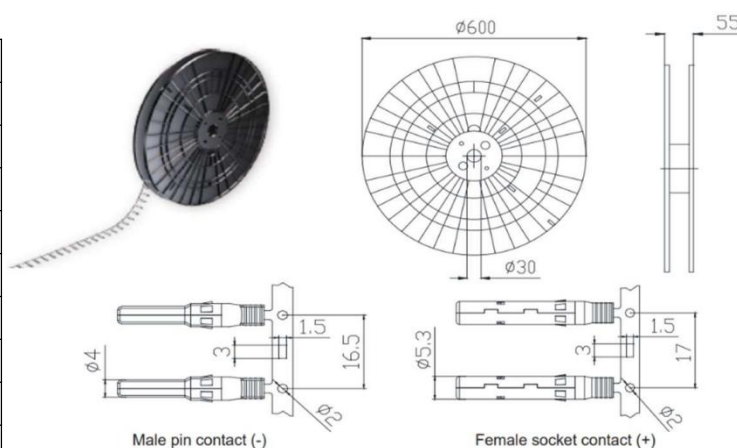


UV Resistance



PV-BN101A connectors use high quality materials that guarantee long-term reliability. Lower contact resistance and higher current transfer capability ensure high product efficiency. PV-BN101A connectors have IP68 water-proof rating and can be used in a wide operating temperature range from -40 °C to 90 °C.

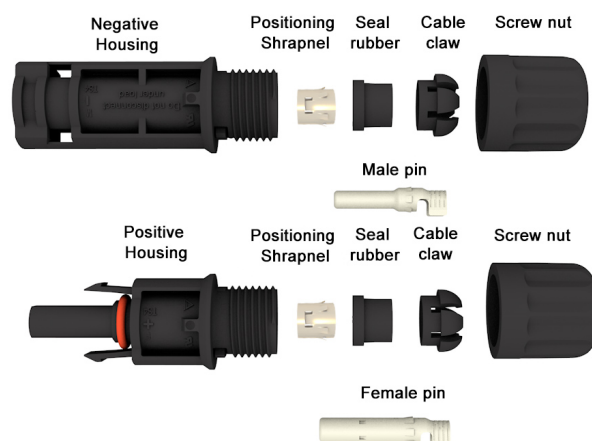
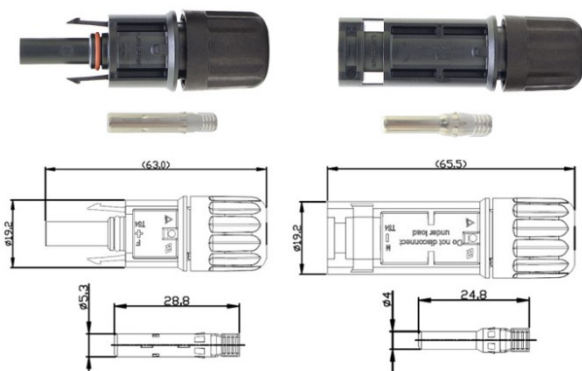
Rated Voltage	IEC 1500V\UL1500V
Certification	IEC 62852; UL 6703
Rated Current	35A/40A/45A/55A
Ambient temperature	-40℃ up to +90℃
Contact Resistance	≤0.25mΩ
Pollution Degree	Class II
Protection Degree	Class II
Fire Resistance	UL94-V0
Rated Impulse Voltage	16KV
Locking System	NEC Locking Type



Part No.	Cable OD Range/mm	Cable Cross Section	Standard Package Unit	Description
PV-BN101A-F1	4.7mm~6.0mm	2.5mm²/4mm² 14AWG/12AWG	500 pairs / Carton	Full Pairs
PV-BN101A-F1-MH			500 pcs / package	F2 Male Housing
PV-BN101A-F1-FH			500 pcs / package	F2 Female Housing
PV-BN101A-MT			500 pcs / package or 2500 pcs / Reel	Male terminal
PV-BN101A-FT			500 pcs / package or 2500 pcs / Reel	Female terminal
PV-BN101A-F2	5.6mm~6.9mm	4mm²/6mm² 12AWG/10AWG	500 pairs / Carton	Full Pairs
PV-BN101A-F2-MH			500 pcs / package	F2 Male Housing
PV-BN101A-F2-FH			500 pcs / package	F2 Female Housing
PV-BN101A-MT			500 pcs / package or 2500 pcs / Reel	Male terminal
PV-BN101A-FT			500 pcs / package or 2500 pcs / Reel	Female terminal
PV-BN101A-F6	6.9mm~8.7mm	10mm² 8AWG	500 pairs / Carton	Full Pairs
PV-BN101A-F6-MH			500 pcs / package	F6 Male Housing
PV-BN101A-F6-FH			500 pcs / package	F6 Female Housing
PV-BN101A-MT			500 pcs / package or 2500 pcs / Reel	Male terminal
PV-BN101A-FT			500 pcs / package or 2500 pcs / Reel	Female terminal



PV-BN101A Solar Connector



How to Order solar cable connector (please choose one code per position, below)

SCC-	X-	X	X	X	
-------------	-----------	----------	----------	----------	--

SCC	Cable Cross Section	Cable OD	Terminals Package	MPQ Housing Package	Variations
Solar Cable Connector	☐ 2.5mm ² (14Awg)	☐ F1 : 4.7~6.0mm	☐ R : Roll	☐ 500 pairs/package	☐ _____
	☐ 4-6mm ² (12Awg-10AWG)	☐ F2 : 5.6~6.9mm	☐ P : Bulk	☐ 50 pairs/package	
	☐ 10mm ² (8Awg)	☐ F6 : 6.9~8.5mm	☐ _____	☐ 5 pairs/package	
	☐ _____	☐ _____		☐ 1 pairs/package	
				☐ _____	

* Customized options available, for more information, please contact LEADER GROUP sales team: info@leadergroup-cn.com

Example:

SCC-6mm-F2-B-500 means the Solar cable connector will match 6mm² cable with 5.6~6.9 OD. The terminals will be packaged with plastic housing together. 500 plastic housing will be packaged in one package.

Standard Package Info:



Carton Dimension (cm)	Pack list	QTY	Gross Weight (kg)
59cm X 39cm X 20cm	Male Housing	500 pcs	15kg
	Female Housing	500 pcs	
	Male terminal	500 pcs	
	Female terminal	500 pcs	
Remark:500 pairs in one carton package			



连接器安装说明书

PV-BN101A Series

Installation Manual For Cable Connector



WWW.LEADERGROUP-CN.COM



ONE-STOP SOLUTION FOR SOLAR CABLE WIRING SYSTEMS

备注:连接器安装过程中操作困难或无法操作,请参照如下联络方式询问、查询:

Notes:If you have any questions during installation, please feel free to contact us as follows:

销售联系方式:

Sales Contact Information

邮箱 E-mail: info@leadergroup-cn.com

技术联系方式:

Technician Contact Information

邮箱 E-mail: steven@leadergroup-cn.com

也可以关注我们YouTube频道, 查阅视频如何安装太阳能连接器。

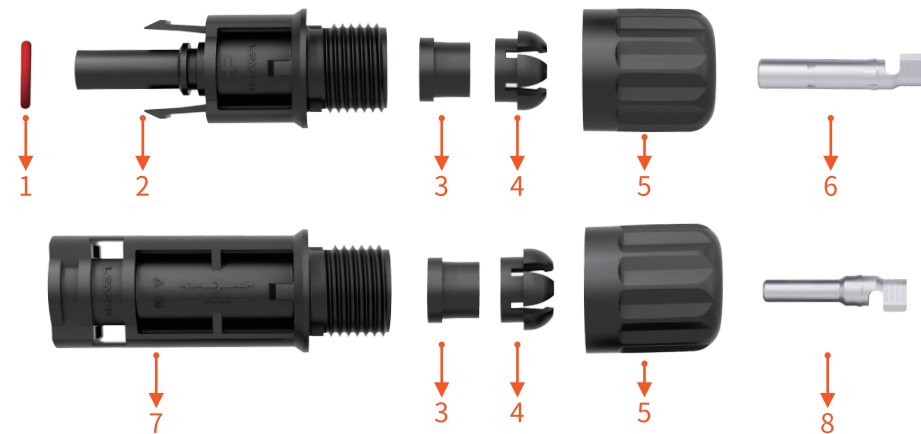
You can also follow our YouTube channel to watch videos on how to install solar connectors.



LEADER CABLE

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1.产品简介 Products Overview



1 O型圈 (O Ring)

2 公头 (Male Housing)

3 防水内塞 (Cable Gland)

4 电缆爪 (Cable Claw)

5 塑胶螺帽 (Gland Nut)

6 插套 (Female Terminal)

7 母头 (Female Housing)

8 插针 (Male Terminal)

2.工具及配件简介 Tools and Parts Overview

Item	Tool Type	Tool Name	Pic.
1	SY-ST001	剥线工具 Stripping Tool	
2	SY-CT002	压接工具 Crimping Tool	
3	SY-CT003	剪线工具 Cutting Tool	
4	SY-THB510	连接器扳手 Connector Spanner	
5	SY-C005	防尘帽 Dust Plug	

3.技术参数 Technical Data

产品型号 Type Name or Model No.	PV-BN101A
额定电压 Rated Voltage (V DC)	1500 V DC (IEC/UL)
额定脉冲电压 Rated Impulse Voltage	16kV
额定电流 Rated Current (A DC)	30 A (2.5mm ² /14AWG) 35 A (4.0mm ² /12AWG) 40 A (6.0mm ² /10AWG) 50 A (10mm ² /8AWG)
应用等级 Application Class	Class A
防护类别 Protection Class	Class II
污染等级 Pollution Class	2
工作温度范围 Ambient Temperature	-40°C to +85°C
温度上限 Upper Limit Temperature	115°C (IEC)
防火等级 Flammability Class	UL94-V0

防水等级 Waterproof Grade	IP68
电缆截面积 Wire Cross Section Area or Cross Section Range	1×2.5mm ² (14AWG) 1×4.0mm ² (12AWG) 1×6.0mm ² (10AWG) 1×10.0mm ² (8AWG)
可否更换电缆 Rewireable	No
电缆线径 Cable Diameter	4.70mm to 8.40mm (IEC) 6.20mm to 7.20mm (UL)
接触电阻 Contact Resistance	≤0.25 m Ω
金属材料 Contact Material	铜, 镀锡 Copper, tin plated
绝缘材料 Insulation Material	PPO/PC
是否封闭 Existence of an Enclosure	封闭式连接器 (不可徒手打开) Enclosed connector
认证标准 Certification Standard	IEC62852 UL6703

4.工具使用说明 Tools Instruction

- ◇ 剪线工具-SY-CT003:适用于2.5mm² (14AWG)、4.0mm² (12AWG)、6.0mm (10AWG) 线缆。
Wire Cutting Tool-SY-CT003: suitable for 2.5mm² (14AWG), 4.0mm² (12AWG), 6.0mm (10AWG) cables.
一套=1把
There is one Cutting Tool SY-CT003 per tool set.
作用:裁剪电缆线。
Function: Cutting cables



Cutting Tool - SY-CT003

◇ 剥线工具-SY-ST001:适用于2.5mm² (14AWG)、4.0mm² (12AWG)、6.0mm (10AWG) 线缆。

The Stripping Tool-SY-ST001: suitable for 2.5mm² (14AWG), 4.0mm² (12AWG), 6.0mm (10AWG) cables.

一套=1把

There is one stripping tool SY-ST001 per tool set.

作用:裁切电缆线绝缘层(使得铜丝外露)。

Function: Cutting the wire insulation (exposing the copper wire).



Stripping Tool - SY-ST001

◇ 压接工具-SY-CT002:适用于2.5mm² (14AWG)、4.0mm² (12AWG)、6.0mm (10AWG) 线缆。

The Stripping Tool-SY-CT002: suitable for 2.5mm² (14AWG), 4.0mm² (12AWG), 6.0mm (10AWG) cables.

一套=1把

There is one crimping tool SY-CT002 per tool set.

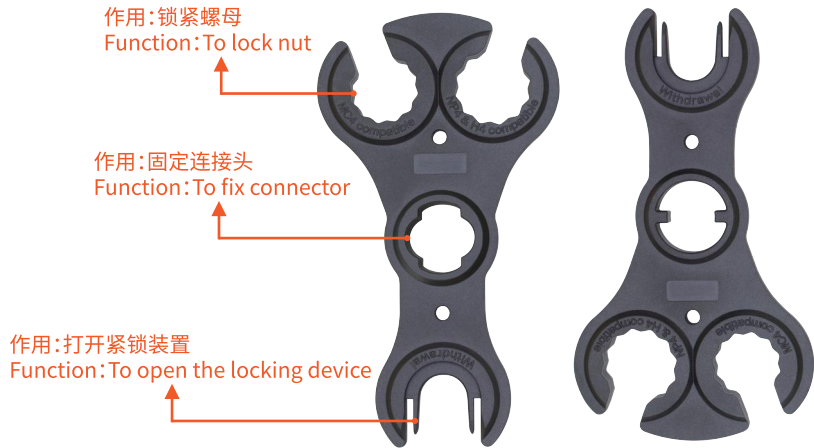
作用:起到铆接功能,使得电缆线铜丝与金属端子之前的连接与固定。

Function: The connection and crimping between the copper wire and metal terminals are all made by the crimping tool.



Crimping Tool - SY-CT002

- ◇ 组装工具-SY-THB510:一套两把。
Assembly Tool -SY-THB510:There are two assembly tools per tool set.
作用:用于组装拆装连接器。
Function: Used for assembling and disassembling connectors



Assembly Tool - SY-THB510

5.安装说明 Installation Instruction

5.1电缆准备 Cable Preparation

- ◇ 根据不同规格的电缆, 请从表1中选择合适的配置:
According to different specifications of cable, please select the appropriate configuration from table 1 :

表1 (Table 1)

导体横截面 Conductor cross section		连接器配置 Connector configuration	
mm ²	AWG	For TÜV	For UL
2.5	14	PV-BN101A	PV-BN101A
4	12	PV-BN101A	PV-BN101A
6	10	PV-BN101A	PV-BN101A
10	8	PV-BN101A-10	PV-BN101A-10

- ◇ 请勿使用无镀锡的或已氧化的导线, 推荐使用镀锡的导线。

Do not use untreated cables. Tinned wires are recommended.

- ◇ 剥去电缆线端部 $L=6.5\pm0.5\text{mm}$ 的绝缘层。

When stripping the cable insulation “L”, $6.5\pm0.5\text{mm}$ in length should be removed on the end of cable.

- ◇ 剥去时请勿切断内部的铜丝。

Do not cut the copper wire inside.



- ◇ 把剥线工具的固定块调至 $6.5\pm0.5\text{mm}$ 处 (控制“L”的长度)。

Fix the stripping tool, cutting length to $6.5\pm0.5\text{mm}$ (the length of L should be fixed).

- ◇ 调节完毕后, 一手拿取电缆, 一手手持剥线工具。

Take the cable one hand and take the stripping tool-SY-ST001 the other hand.

- ◇ 将电缆线的端部放置对应的刀口处, 并使电缆的端部触碰到固定块 (如图 1)

Insert cables until the end touches fixed block.(Fig. 1)

- ◇ 手用力压紧剥线工具的手柄, 最后切除绝缘层 (如图 2)

Spueeze the handle of the stripping tool by hand, then cut and remove the cable insulation.(Fig. 2)



Figure 1



Figure 2

5.2 压接 Crimping

5.2.1 压接工具压接 Manual Tools Crimping

- ◇ 使用专业压接工具（如 SY-CT002）压接时，先将已剥好的线缆线芯放进放端子槽内，并确保所有芯线都在端子槽内，然后将要压接的端子放入压线钳钳口，并对应正确的定位器孔位压接（见图3 至图 7），压接完成后检查压接是否牢固（如图 8），压接后电缆拉力要求需满足表-1 要求。

When crimping with specified Crimping tools (e.g. SY-CT002), insert striped cable into contact barrel and insure all conductor strands are captured in the contact barrel. Crimp contact barrel by using the corresponding crimping die. See below pictures from Fig.3 to Fig.7. Check whether the crimping is firm after crimping is completed.(Fig. 8). The pull-out force has to meet below table-1.

表-1（Table-1）

No.	线缆规格 Cable Size	电缆压接拉力要求 Cable Crimping Pull-Out Force
1	2.5mm ² /14AWG	≥223 N （Min.223 N ）
2	4.0mm ² /12AWG	≥310 N （Min.310 N ）
3	6.0mm ² /10AWG	≥360 N （Min.360 N ）
4	10.0mm ² /8AWG	≥400 N （Min.400 N ）

- ◇ 打开压接工具并按住夹子，把插针/插套放在合适的界面区域，转动插针/插套使开口朝上，松开夹子，插针/插套即被固定（如图 3、4）。

Open the crimping tool and press the clip. Insert the male/female terminal into appropriate groove until fully seated. To make the opening of the male/female terminal face up. (Fig. 3 & 4).

- ◇ 逐渐压压接工具直到插针 / 插套开口完全接触到压接模（如图 5）。
- Squeeze the crimping tool gradually until the male/female terminal touches the lower half of the crimping mold.(Fig. 5).



Figure 3



Figure 4



Figure 5

- ◇ 将电缆线的剥线端插入插针/插套的开口内直到电缆线的绝缘层接触到插针/插套开口处，最后完全压紧压接工具（如图 6、7）。

Insert the stripped wire into the male/female terminal until the cable insulation touches the opening of the male/female terminal. Press the crimping tool completely. (Fig. 6、7).

- ◇ 检查压接完整且牢固（如图 8）。
- Be sure the crimping is complete and fixed. (Fig. 8).



Figure 6



Figure 7



Figure 8

5.2.2 自动压接设备压接 Automatic Machine Crimping

- ◇ 客户用自动铆接设备对线缆进行压接时，建议压接规范如表格-2。
- If customers use the automatic crimping machine, we suggest that the contact crimping spec. should meet the table-2 requirement.
- ◇ 需要定期对压接结构做剖面分析，分析内容应涵盖如下（参考 Fig. 9）
- It is very important to do a micro-cutting test, and the test should contain following items: (REF. Fig.9).
- ◇ 如压缩比率无法达到推荐的技术要求，建议在电缆与导体连接处采用二次加锡工艺固定，确保其可靠连接。
- If the compression rate can't meet recommended technical requirement, we suggest that secondary soldering tin process should be adopted at the cable and conductor connection, to ensure a reliable connection.

表-2 线缆截面分析 (Table-2 Cable cross-sectional Analysis)

No.	截面规格 Cross - Sectional		技术要求 Spec	
			14AWG/4mm ²	10AWG/6mm ²
1	CH	压接高度 Crimp Height	2.30±0.05mm	2.60±0.05mm
2	CB	压接宽度 Crimp Width	4.00±0.05mm	4.25±0.05mm
3	CBm	可测量压接宽度 Measurable Crimp Width	1.0*CB≤CBm≤1.1*CB	1.0*CB≤CBm≤1.1*CB
4	D	羽翼尖端间距 Crimp Face Ends	D≤0.35mm	D≤0.35mm
5	GH	毛刺高度 Burr Height	GH≤0.7mm	GH≤0.7mm
6	GB	毛刺宽度 Burr Width	GB≤0.5mm	GB≤0.5mm
7	CH/CB	高度/宽度比率 Crimp Height/Crimp Width	50%≤(CH/CW)≤70%	50%≤(CH/CW)≤70%
8	C/R	压缩比率 Compression Ratio	75%≤C/R≤85%	75%≤C/R≤85%
9	P	孔隙率 Void Ratio	≤1.00%	≤1.00%

注意：上述剖面分析仅针对 12AWG/4mm² & 10AWG/6mm² 线缆。

Note: The above cross-sectional analyses are only for 12AWG/4mm²&10AWG/6mm² cable.

◇ 压接刀具图纸参考 (如图 10&11)
Crimping Tool Drawing (Fig 10&11)

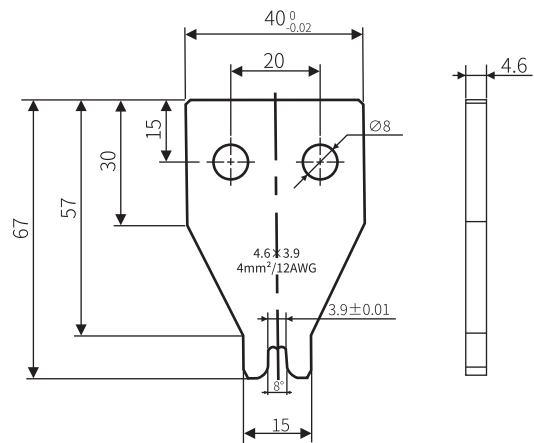


Figure 10 上刀模 (Up Blade)

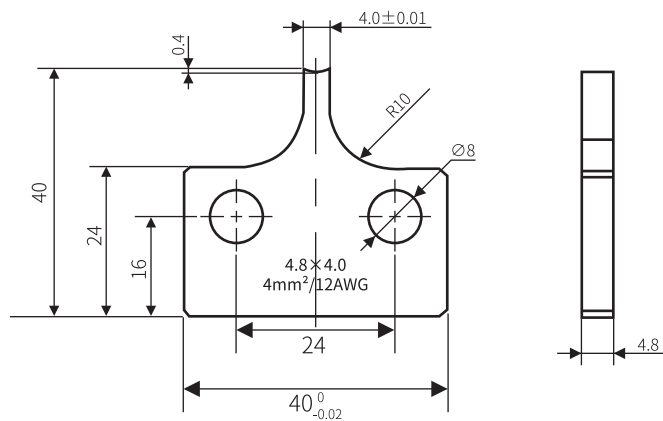


Figure 11 下刀模 (Down Blade)

注意: 上述压接刀具仅针对 12AWG/4mm² 线缆。
Note: The above crimping tool drawings are only for 12AWG/4mm² cable.

◇ 压接刀具图纸参考 (如图 12&13)
Crimping Tool Drawing (Fig 12&13)

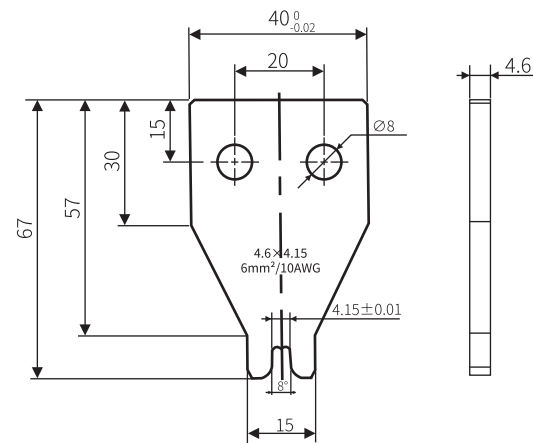


Figure 12 上刀模 (Up Blade)

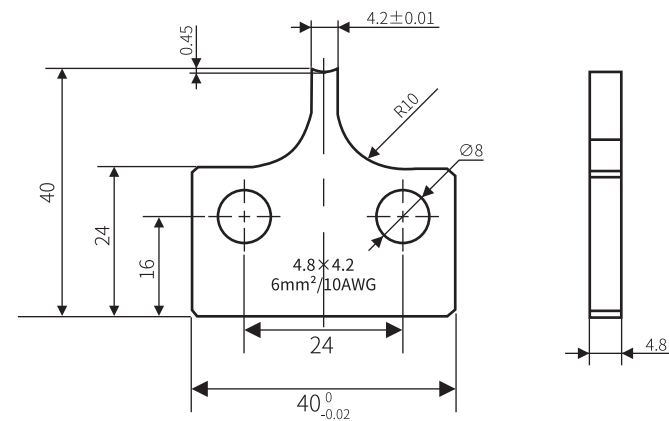


Figure 13 下刀模 (Down Blade)

注意: 上述压接刀具仅针对 10AWG/6mm² 线缆。
Note: The above crimping tool drawings are only for 10AWG/6mm² cable.

5.3插针/插套安装 Male/Female Terminals Installation

- ◇ 压接好的插针/插套插入到公端电缆连接器/母端电缆连接器内 (如图14)。插入时听到滴答声说明安装到位 (如图15)。

Insert the crimped male or female terminal into corresponding male or female cable connector (Fig. 14). Installation is complete when an audible click sound is heard. (Fig. 15).



Figure 14



Figure 14

- ◇ 锁螺帽：使用一个扭矩扳手-17mm 的开口处固定螺帽，另一个开口扳手固定公/母端电缆连接器 (如图 16)。
To fix the gland nut by the torque wrench-17mm of the assembly tool, and to fix the male cable connector or female cable connector by the another assembly tool, then tighten the gland nut with the specified tightening torque.(Fig. 16).
- ◇ 顺时针旋转扭紧螺帽，作用的拧紧力矩必须合适于每个具体情况下使用的光伏电缆。(如表2)
Spin clockwise to tighten the gland nut. The acting tightening torque must be adapted to the solar cables used in each specific case. (Table2).

- ◇ 使用工具或扭矩扳手顺时针扭紧螺帽，参考下表扭力值以及确保将螺帽拧至防松脱处并能扣住即可，考虑不同电线厂家的制作工艺及绝缘/护套材料软硬度，不可将螺帽强拧至本体底部 (建议留0.4~1.1mm间隙)，避免损坏螺帽及防止变形 (如图 17)。

Tighten the gland nut clockwise by using a tool or a torque wrench, refer to the torque values in the table below and ensure that the nut is screwed to the anti-loosening position and can be buckled. Take into consideration of the production process of different wire manufacturers and the softness and hardness of insulation/sheath material. To avoid damage to the nut and prevent deformation, do not screw the nut to the bottom of the body (It is recommended to leave a gap of 0.4~1.1mm) (see Figure 17).



Figure 16



Figure 17

2.5mm²-6mm² reserve 0.4~0.6mm
10mm² reserve 0.9~1.1mm

电缆直径 Cable diameters		拧紧扭矩 Tightening torque
mm ²	AWG	Nm
2.5	14	3.0
4	12	3.5
6	10	4.0
10	8	4.0

- ◇ 公母电缆连接器插合：在螺帽锁紧后将公母电缆连接器对插，对插时发出滴答声说明插合到位，拉拔电缆线，检查公母电缆连接器是否完全连接好 (如图18、19)。

Insert the female cable connector into the male connector when the gland nut is fully tightened. The connection of female and male cable connector is complete when an audible click is heard. (Fig.18-19).



Figure 18



Figure 19

5.4连接器拆卸 Disconnecting Cable Connector

- ◇ 使用通用工具带有插销的一端插入连接器的卡扣位置 (如图20)

Insert the forks into the buckle of the cable connector by the universal tool. (Fig. 20)

- ◇ 用左右手分别拉拔连接器, 即可分开公母电缆连接器 (如图 21-22)。

Pull the connectors with both hands, one with the left hand and one with the right hand, to separate the male and female cable connectors.(Fig.21 to 22)



Figure 20



Figure 21



Figure 22

5.5安装提示 Installation Warning

- ◇ 在自行安装时, 如果所用的部件和工具不是 LEADER 官方指定的, 或者没有按照官方要求进行准备和安装操作, 我们将不保证产品的安全性和技术参数的一致性。

If parts and tools used are not specified by LEADER or not prepared and assembled as LEADER described during installation, the uniformity of safety and technical data on products are not guaranteed.

- ◇ 连接器只有按照安装说明指定的方式组装时, 才被认定符合UL 6703。

The connector is considered to be in compliance with UL 6703 only when assembled in the manner specified by these assembly instructions.

- ◇ 在安装过程中, 应避免接触机械油、油脂、溶剂等可能会造成连接器功能失效的物质, 同时需注意施工人员的手套不能带有以上物质。被污染的连接器的不能插合使用。

During the installation process, avoid contact with mechanical oil, grease, solvents and other substances that may cause the connector to fail. At the same time, it is necessary to pay attention to the gloves of construction workers. Cannot use contaminated connectors.

- ◇ 该说明书中的所有操作不允许在带电或者负载下进行。

All operations in this manual are not allowed to be performed under power or load.

- ◇ 在负载的情况下, 连接器不允许断开。在带电压的情况下不允许插拔。

The connector is not allowed to be disconnected when under load, and plugging or unplugging is not allowed when voltage is on.

- ◇ 长期不对插连接或者断开连接时必须盖上防尘塞, 以防止灰尘和湿气。

When the connection is not plugged in or disconnected for a long time, the dust plug must be covered to prevent dust and moisture.

- ◇ 插合状态后的连接器符合IP68水密性的标准。但是它们不适合长期在水下使用。请勿将连接器直接放置在屋顶表面。

The connectors meet IP68 watertightness standards when mated. However, they are not suitable for long-term underwater use. Do not place the connectors directly on the roof surface.

- ◇ 连接器电缆不能承受持续的机械拉伸。电缆应该由扎带固定。

The connector cable cannot withstand continuous mechanical tension. The cable should be secured with a cable tie.

- ◇ 出于安全原因, 强烈建议不要使用PVC 导线或无镀锡电缆。

For safety reasons, the use of PVC conductors or non-tinned cables is strongly not recommended.

匹配测试报告 Compatible Testing Report

测试日期 Test Date: 2024-01-20

测试标准 Standard Test:

☒ IEC62852

测试地 Test Site: LEADER LAB

测试产品 Test Product:

光伏连接器 Photovoltaic connector

产品型号 Product Model:

LEADER

防护等级 Protection Class: IP68

额定电压 Rated Voltage(V): 1500V

温度范围 Temperature Range :

-40℃ to +85℃

额定电流 Rated Current(A): /

IPX8 测试 IPX8 Test

测试方法 Testing Method: 依据标准 According to the standard IEC62852

测试人 Tester: 胡慧芳

日期 Date : 2024.01.20

审核 Audit: Jason 乐俊

信息记录 information record:

1、样品生产日期 Sample production date: 2024.01.08

连接器 Connector List :

1.1 LEADER PV Connector;

1.2 Staubli MC4;

1.3 Staubli EVO2;

1.4 Trina TS4;

1.5 Canadian Solar T4(CSI T4);

1.6 Jinko JK03M

1.7 TE PV4-S

1.8 Longi PV-LR5

1.9 QC 4.10

2、测试项目 Test List

2.1 IP68 (1m, 1h) Water Proof Compatible Test IP68 防水匹配测试

2.2 Resistance Compatible Test 电阻匹配测试

2.3 Mechanical Match Compatible Test 机械对插匹配测试

3. 测试结果 Test Results

3.1 IP68 Water Proof Compatible Test 防水匹配测试

结论 conclusion: Pass

IP68 Water Proof Compatible Test 防水匹配测试

Compatible Test	Leader Female	Staubli-MC4 Female	Staubli-EVO2 Female	Trina-TS4 Female	CSI-T4 Female	Jinko-JK03M Female	TE-PV4-S Female	Longi-PV-LR5 Female	QC-4.10 Female
Leader Male	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Staubli MC4-Male	Pass	-							
Staubli-EVO2-Male	Pass		-						
Trina TS4-Male	Pass			-					
CSI T4-Male	Pass				-				
Jinko JK03M-Male	Pass					-			
TE PV4-S-Male	Pass						-		
Longi LR5-Male	Pass							-	
QC 4.10-Female	Pass								-

3.2 Resistance Compatible Test 电阻匹配测试

结论 conclusion: Pass

Resistance Compatible Test 电阻匹配测试									
Compatible Test / mΩ	Leader Female	Staubli-MC4 Female	Staubli-EVO2 Female	Trina-TS4 Female	CSI-T4 Female	Jinko-JK03M Female	TE-PV4-S Female	Longi-PV-LR5 Female	QC-4.10 Female
Leader Male	0.08	0.10	0.10	0.12	0.12	0.13	0.12	0.10	0.10
Staubli MC4-Male	0.10	-							
Staubli-EVO2-Male	0.10		-						
Trina TS4-Male	0.09			-					
CSI T4-Male	0.12				-				
Jinko JK03M-Male	0.11					-			
TE PV4-S-Male	0.09						-		
Longi LR5-Male	0.09								
QC 4.10-Female	0.09								

3.3 Mechanical Match Compatible Test

机械结构匹配测试

结论 conclusion: Pass

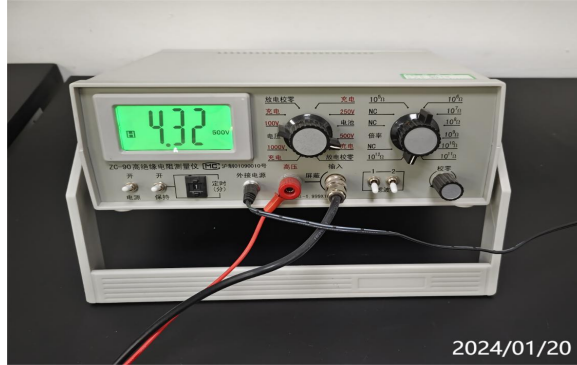
Mechanical Match Test 机械结构匹配测试									
Compatible Test	Leader Female	Staubli-MC4 Female	Staubli-EVO2 Female	Trina-TS4 Female	CSI-T4 Female	Jinko-JK03M Female	TE-PV4-S Female	Longi-PV-LR5 Female	QC-4.10 Female
Leader Male	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Staubli MC4-Male	Pass	-							
Staubli-EVO2-Male	Pass		-						
Trina TS4-Male	Pass			-					
CSI T4-Male	Pass				-				
Jinko JK03M-Male	Pass					-			
TE PV4-S-Male	Pass						-		
Longi LR5-Male	Pass								
QC 4.10-Female	Pass								

4 Test Process 匹配测试步骤

4.1 IP68 Water Proof Compatible Test Process 防水匹配测试步骤

1. 使用浸水试验装置（深度 1M，1h），通过绝缘电阻测试仪（ $\geq 400M\Omega$ ）测试后，检验产品内腔是否进水；

Use the immersion test device (1m, 1h), through the insulation resistance test ($\geq 400M\Omega$), OK, check whether the product cavity water;



IPX7 测试 IPX7 test:

2024/01/20	2024/01/20
PIC 1	PIC 2
LEADER PV M & Trina TS4 F	LEADER PV F & Trina TS4 M \





PIC 3

LEADER PV M & CSI T4 F



PIC 4

LEADER PV F& CSI T4 M



PIC 5

LEADER PV M & MC4 F



PIC 6

LEADERPV F& MC4 M





PIC 7

LEADERPV M & JINKO F



PIC 8

LEADER F & JINKO M



PIC 9

LEADER M & EVO2 F



PIC 10

LEADER F & EVO2 M



PIC11

LEADER M & TE PV4-S F

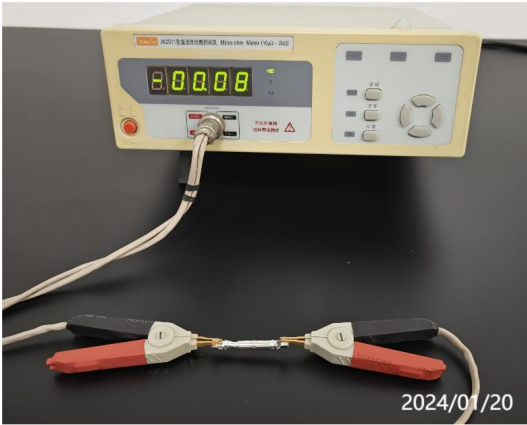
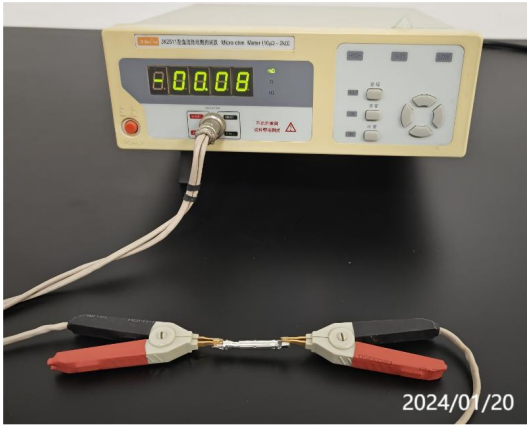


PIC 12

LEADER F & TE PV4-S M

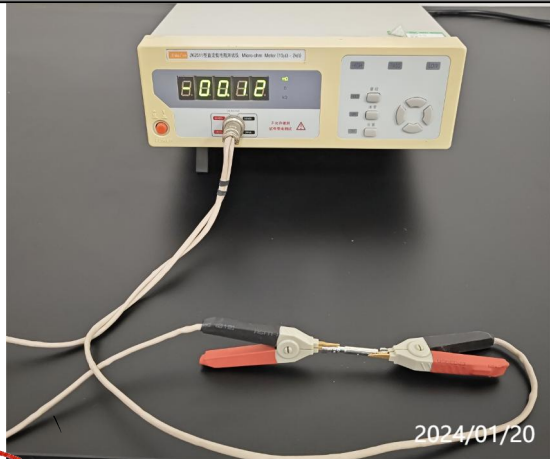
 2024/01/20	 2024/01/20
PIC 13	PIC 14
LEADER M & Longi LR5-Female	LEADER F & Longi LR5-Male
 2024/01/20	 2024/01/20
PIC15	PIC 16
LEADER M & QC 4.10 F	LEADER F & QC 4.10 M

4.2 Resistance Compatible Test 电阻匹配测试

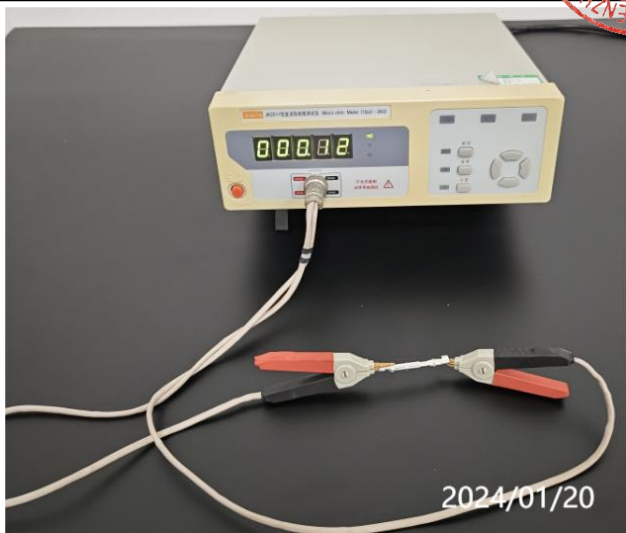
 2024/01/20	 2024/01/20
PIC 1	PIC 2
LEADER PV socket & pin	LEADER PV pin & socket



PIC 3
LEADER socket & TS4 pin



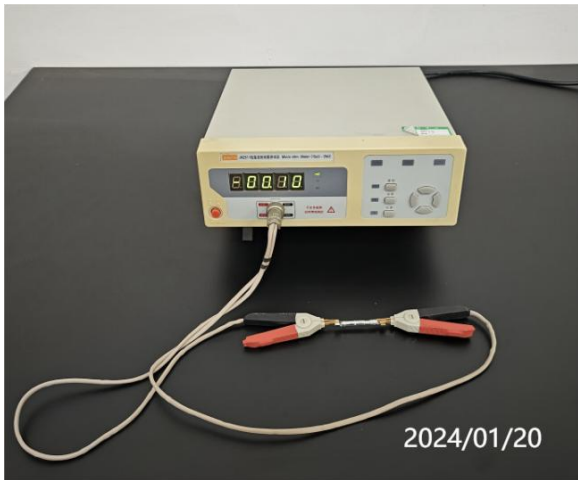
PIC 4
LEADER pin & TS4 socket



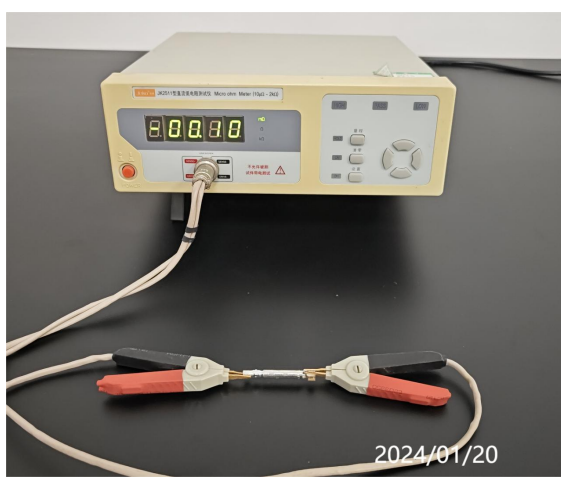
PIC 5
LEADER socket & T4 pin



PIC 6
LEADER pin & T4 socket



PIC 7
LEADER socket & MC4 pin

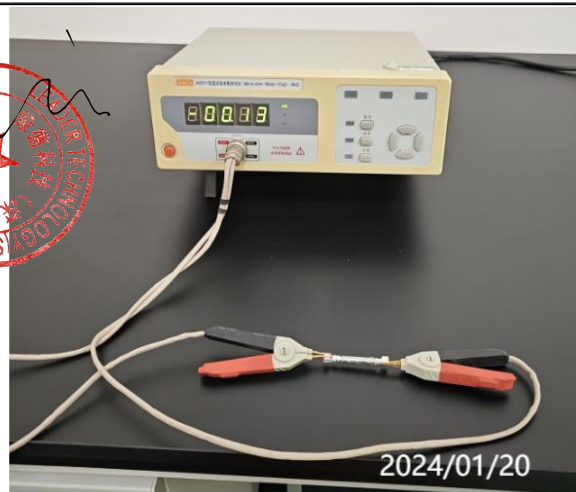


PIC 8
LEADER pin & MC4 socket



PIC 9

LEADER socket & JINKO pin



PIC 10

LEADER pin & JINKO socket



PIC 11

LEADER socket & EVO2 pin



PIC 12

LEADER pin & EVO2 socket



PIC 13

LEADER socket & TE PV4-S pin



PIC 14

LEADER pin & TE PV4-S socket



PIC 15

LEADER socket & Longi LR5 pin



PIC 16

LEADER pin & Longi LR5 socket



PIC 17

LEADER socket & QC 4.10 pin



PIC 18

LEADER pin & QC 4.10 socket

4.3 Mechanical Match Compatible Test

机械结构匹配测试



PIC 1

LEADER M & TS4 F



PIC 2

LEADER F & TS4 M





PIC 3

LEADER M & T4 F



PIC 4

LEADER F & T4 M



PIC 5

LEADER M & MC4 F



PIC 6

LEADER F & MC4 M



PIC 7

LEADER M & JINKO F



PIC 8

LEADER F & JINKO M





PIC 9

LEADER M & EVO2 F



PIC 10

LEADER F & EVO2 M



PIC 11

LEADER M & Longi LR5 F



PIC 12

LEADER F & Longi LR5 M



PIC 13

LEADER M & TE PV4-S F



PIC 14

LEADER F & TE PV4-S M



	
PIC 15	PIC 16
LEADER M & QC 4.10 F	LEADER F & QC 4.10 M

