MA231 (cn_en)
安装说明

PV 公电缆连接器 PV-KST4/...-UR
PV 母电缆连接器 PV-KBT4/...-UR

目录

MA231 (cn_en)
Assembly instructions

PV male cable coupler PV-KST4/...-UR
PV female cable coupler PV-KBT4/...-UR

Content

母电缆连接器/Female cable coupler

PV-KBT4/2.5...-UR
PV-KBT4/6...-UR
PV-KBT4/10...


PV-KBT4/5...-UR
PV-KBT4/8II-UR


公电缆连接器/Male cable coupler

PV-KST4/2.5...-UR
PV-KST4/6...-UR
PV-KST4/10...


PV-KST4/5...-UR
PV-KST4/8II-UR


可选件/Optional
PV-SSH4
安全锁扣/Safety lock clip

(见/see www.staubli.com/electrical --> MA252)

保护帽/Sealing caps

PV-BVK4
32.0716

PV-SVK4
32.0717

安全须知

安装说明的重要性

不遵守安装说明和安全须知可能会导致因电击、电弧、火灾或系统故障而危及生命的人身伤害。

- 请完全按照安装说明的要求进行操作。
- 只可按照本安装说明和技术参数使用和安装产品。
- 安全妥善地保管安装说明，并将其移交给后续用户。

应用范围

该连接器对光伏阵列直流 (DC) 电路中的部件进行电气连接。
该连接器可用于光伏阵列以外的用途，例如，可作为低压直流 (LVDC) 部件。如果该部件被用于其他用途，则要求和规格可能与本文件中描述的有所不同。

- 要了解更多信息，请联系史陶比尔。www.staubli.com/electrical

对人员的要求

仅电工或接受过电气指导的人员可以装配、安装和调试该系统。

- 电工是指接受过适当的专业培训，并具有适当的知识和经验的人员，能够识别和避免可能来自电力的危险。电工能够选择和使用合适的个人防护设备。
- 受过电气指导人员是指在电工的指导或监督下，能够识别和避免可能来自电力的危险的人员。

安装和装配的先决条件

- 切勿使用有明显损坏的产品。
- 仅应使用史陶比尔认可的工具和程序。
- 仅经过认证的光伏电缆才可装配到连接器上。

安全装配和安装

隔离或断开连接后，带电部件仍然通电

- 只有在光伏阵列或光伏组串断电的情况下才能安装本产品。

连接或断开连接

- 在连接或断开连接器之前，一定要切断光伏系统的电源。
- 切勿切断有负载的连接器。
- 切勿将史陶比尔连接器的公端或母端与其他制造商的连接器相连接。

切勿调整或修理部件。

- 连接器仅可安装一次。
- 切勿在连接器装配好后进行调整。
- 更换有缺陷的部件。

Safety instructions

Importance of the assembly instructions

NOT following the assembly and safety instructions could result in life-threatening injuries due to electric shock, electric arcs, fire, or failure of the system.

- Follow the entire assembly instructions.
- Use and install the product only according to this assembly instructions and the technical data.
- Safely store the assembly instructions and pass them on to subsequent users.

Intended use

The connector electrically connects components within the DC circuits of a photovoltaic array.
The connector can be used for purposes other than those in a photovoltaic array, e.g., as a LVDC component. If the component is used for other purposes, then the requirements and specifications may be different from the ones described in this document.

- For more information, contact Stäubli www.staubli.com/electrical

Requirements for personnel

Only an electrician or electrically instructed person may assemble, install, and commission the system.

- An electrician is a person with appropriate professional training, knowledge, and experience to identify and avoid the dangers that may originate from electricity. An electrician is able to choose and use suitable personal protective equipment.
- An electrically instructed person is a person who is instructed or supervised by an electrician and can identify and avoid the dangers that may originate from electricity.

Prerequisites for installation and assembly

- NEVER use an obviously damaged product.
- ONLY tools and procedures approved by Stäubli shall be used.
- ONLY approved PV-cables shall be assembled to the connector.

Safe assembly and mounting

Live parts can remain energized after isolation or disconnection

- ONLY Install the product when the photovoltaic-array or -string is de-energized.

Mating and disconnecting

- ALWAYS de-energize the photovoltaic system before mating and disconnecting the connectors.
- NEVER disconnect the connectors under load.
- NEVER connect male or female part of Stäubli connector with connectors of other manufacturers.

Do NOT modify NOR repair component

- Mount connector only once.
- Do NOT modify connectors after assembly.
- Replace defective connectors.

所需工具

(图 1)
剥线钳 PV-AZM...

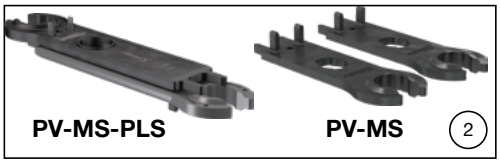
Tools required

(ill. 1)
Stripping pliers PV-AZM...

导线截面积 Conductor cross section		型号 Type	订货号 Order No.
mm²	AWG		
1.5/2.5/4/6	–	PV-AZM-156	32.6027-156
4/6/10	–	PV-AZM-410	32.6027-410

注意:
操作说明 MA267,
www.staubli.com/electrical

Note:
Operating instructions MA267,
www.staubli.com/electrical



(图 2)
组装和解锁工具
PV-MS-PLS, 订货号 32.6058
或
开口扳手套件 PV-MS
订货号 32.6024

(ill. 2)
Assembly and unlocking tool
PV-MS-PLS, Order No. 32.6058
or
Open-end spanner set PV-MS,
Order No. 32.6024

注意:
操作说明 MA270,
www.staubli.com/electrical

Note:
Operating instructions MA270,
www.staubli.com/electrical

(图 3)
压接钳 PV-CZM...包括定位块和压接模具。

(ill. 3)
Crimping pliers PV-CZM... incl. locator and crimping die.

注意:
操作说明 MA251,
www.staubli.com/electrical

Note:
Operating instructions MA251,
www.staubli.com/electrical

选择压接钳

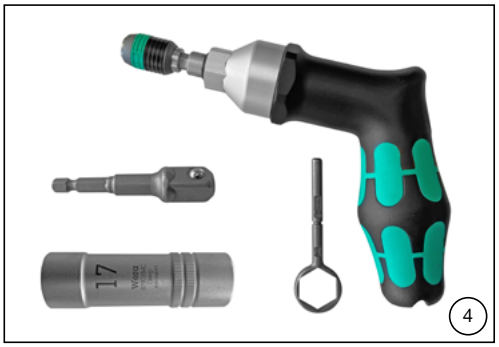
Assign the crimping pliers die and locator according to the connector chosen

Tab. 1
表1

型号 Type	导线截面积 Conductor cross section	压接钳 Crimping pliers				
		PV-CZM-19100 32.6020-19100	PV-CZM-22100 32.6020-22100	PV-CZM-23100 32.6020-23100	PV-CZM-20100 32.6020-20100	PV-CZM-21100 32.6020-21100
PV-KBT4/2,5...-UR, PV-KST4/2,5...-UR	2.5 mm²	•				
	14 AWG	•				
PV-KBT4/6...-UR, PV-KST4/6...-UR	4 mm²	•	•		•	
	12 AWG	•	•		•	
	6 mm²	•	•			•
	10 AWG	•	•			•
PV-KBT4/5...-UR, PV-KST4/5...-UR	14 AWG			•		
	12 AWG			•		
	10 AWG			•		
PV-KBT4/8II-UR, PV-KST4/8II-UR	8 AWG		•	•		
PV-KBT4/10II, PV-KST4/10II	10 mm²				•	•

注意:
有关定位块和压接模具的相关信息, 请查看操作说明 MA251,
www.staubli.com/electrical

Note:
For crimping die and locator information, please see the operating instructions MA251, www.staubli.com/electrical



(图 4)
PV-WZ-Torque-Set,
订货号 32.0065

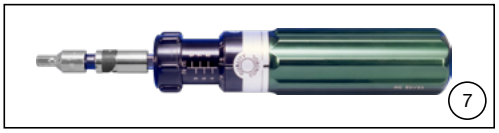
(ill. 4)
PV-WZ-Torque-Set,
Order No. 32.0065

(图 5)
测试棒 PV-PST
订货号 32.6028

(ill. 5)
Test plug PV-PST
Order No. 32.6028

(图 6)
开口扳手 15 mm

(ill. 6)
Open-end spanner wrench 15 mm



(图 7)
扭矩扳手 12 mm (1/2" 驱动尺寸)

(ill. 7)
Torque wrench 12 mm (1/2" drive)

(图 8)
电缆钳PV-WZ-KS,
订货号 32.6080

(ill. 8)
Cable cutter PV-WZ-KS,
Order No. 32.6080

注意:
操作说明 MA705,
www.staubli.com/electrical

Note:
Operating instructions MA705,
www.staubli.com/electrical

存放注意事项

史陶比尔建议将连接器部件存放在温度-30°C 至 60°C，相对湿度小于70%的恒温环境中。
部件不能暴露在因降雨、霜降等造成的潮湿环境中。
确保单个部件不与酸、碱、汽油、丙酮或其他任何可能影响材质性能的腐蚀性化学物质接触。
满足以上条件，则部件自出厂之日起最多可存放两年。

Notes on connectors and components storage

Stäubli recommends to store connector components at a preferably constant temperature range between -30 °C and +60 °C and relative humidity of less than 70 %.
The components must not be exposed to moisture due to direct rainfall, condensation, etc.
Ensure that individual components do not get into contact with acids, alkalis, gases, acetone or any other aggressive chemical substances, which might impact the material performance.
Once all these storage conditions are met the components could be stored up to two years behind manufacturing.

连接器选型指南

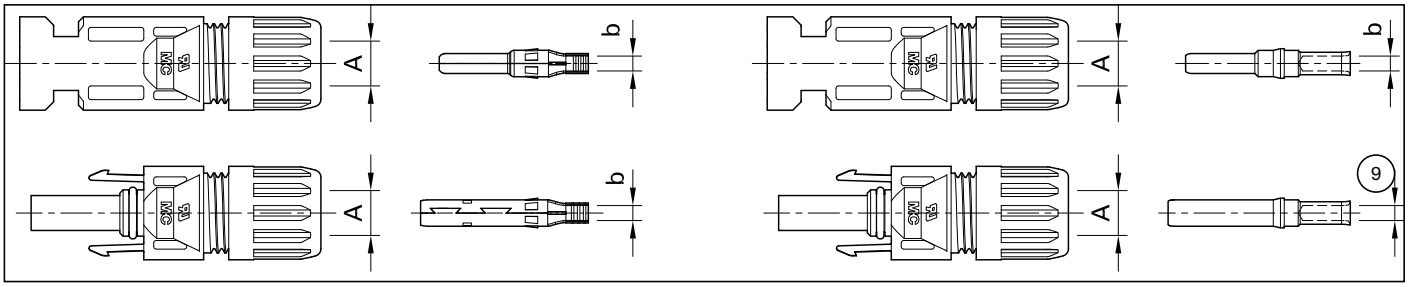
注意：
如果所用电缆直径位于两个规格的临界值，请使用较小的密封圈。

电缆准备

对于 IEC 应用，可以连接符合 IEC 60228 5 类或 6 类的柔性电缆。对于 UL 应用，务必应用 B 类或以上的电力电缆。

注意：
建议使用镀锡导线。切勿使用无保护（外露*）或已生锈的导线。所有史陶比尔光伏电缆均具有高品质的镀锡导线。出于安全考虑，史陶比尔禁止使用 PVC 电缆或 H07RN-F 型号的未镀锡电缆。

* 以下产品可以接受使用外露的铜电缆（B 类或以上）：
PV-KBT4/5…-UR, PV-KST4/5…-UR, PV-KBT4/8II-UR 和 PV-KST4/8II-UR



(图 9)
检查尺寸 A 和 b，参见第 5 页的表 2 和第 6 页的表 3。

注意：
若有使用表2和表3未提及直径的电缆，请联系史陶比尔。

Guideline for connector configuration

Note:
Please use the smaller sealing if the cable diameter used is between two limits.

Cable preparation

For IEC applications cables with flexible conductors of class 5 or 6 according to IEC 60228 shall be connected. For the UL approved range applications power cables of class B or higher shall be connected.

Attention:
Used tinned copper conductors. Do not use uncoated (bare*) nor already oxidized conductors. All Staubli solar cables have high-quality, tinned conductors. For safety reasons, Stäubli prohibits the use of PVC cables and the use of non-tinned cables of type H07RN-F.

* It is acceptable to use bare copper conductors, class B or higher with the following products: PV-KBT4/5…-UR, PV-KST4/5…-UR, PV-KBT4/8II-UR and PV-KST4/8II-UR

(ill. 9)
Check dimensions A and b, see Tab. 2 on page 5 and tab. 3 on page 6.

Note:
In case that other diameters than those mentioned in Tab. 2 and Tab. 3 are used contact Stäubli.

TÜV-Rheinland认证的连接器选型

连接到连接器的电缆应适用于光伏系统且应符合 IEC 62930 的要求。

Choose connector configuration verified by TÜV-Rheinland

Cables connected to the connector shall be suitable for use in photovoltaic systems and shall comply with the requirements of IEC 62930.

表2/Tab. 2

A: ø 电缆直径范围 [mm] A: ø range of the cable [mm]	导线截面积 Conductor cross section			
	2.5 mm²	4 mm²	6 mm²	10 mm²
5.0 – 6.0	PV-KxT4/2,5I-UR	PV-KxT4/6I-UR	PV-KxT4/6I-UR	PV-KxT4/10I
5.5 – 7.4	PV-KxT4/2,5X-UR	PV-KxT4/6X-UR	PV-KxT4/6X-UR	PV-KxT4/10X
7.0 – 8.8	PV-KxT4/2,5II-UR	PV-KxT4/6II-UR	PV-KxT4/6II-UR	PV-KxT4/10II
b: 控制尺寸 b: control dimension	~4 mm	~5.8 mm		~6.5 mm

注意：
在选择光伏电缆时需要考虑以下事项：
- 光伏电缆的护套材料必须符合 IEC 60664-1 中 1 级绝缘标准的规定。

Note:
Following topic needs to be considered when selecting the PV cable:
- The sheath material of the PV cable has to meet insulation class 1 according to IEC 60664-1.

使用UL认证电缆时的连接器选型

连接到连接器的电缆应适用于光伏系统且应符合 ZKLA (PV-线) 或 TYLZ (USE-2) 的要求.

表3/Tab. 3

额定电压 [V] DC Rated voltage [V] DC		导线截面积/Conductor cross section AWG (stranding)						
A: ø 电缆直径范围 [mm] A: ø range of the cable [mm]								
ZKLA (PV-wire)	TYLZ (USE-2)	14		12		10		8
600/1000/1500	600	19-49	7-49	7-65 *	7-65	7-78 *	7-78	7-168
5.60 – 6.20	4.80 – 6.20	PV-KxT4/2,5I-UR	PV-KxT4/5I-UR	PV-KxT4/6I-UR	PV-KxT4/5I-UR	PV-KxT4/6I-UR	PV-KxT4/5I-UR	
6.20 – 7.00	6.20 – 7.00	PV-KxT4/2,5X-UR	PV-KxT4/5X-UR	PV-KxT4/6X-UR	PV-KxT4/5X-UR	PV-KxT4/6X-UR	PV-KxT4/5X-UR	
7.00 – 8.60	7.00 – 8.60	PV-KxT4/2,5II-UR	PV-KxT4/5II-UR	PV-KxT4/6II-UR	PV-KxT4/5II-UR	PV-KxT4/6II-UR	PV-KxT4/5II-UR	
5.95 – 8.00	8.30 – 8.56							PV-KxT4/8II-UR
b: 控制尺寸 b: control dimension		4 mm	~3 mm	5.8 mm	~3 mm	5.8 mm	~3 mm	~4.4 mm

* 首选导线铜丝：19-65

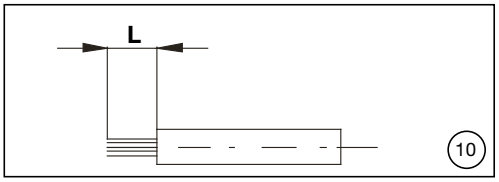
注意:
如果您选择的电缆同时适用于表2和表3列出的选型并且符合第12页的技术参数，您可以将其作为双认证电缆 (TÜV Rheinland 和UL) 来使用。

Selection of connector configuration when using cables certified at UL

Cables connected to the connectors shall be suitable for use in photovoltaic systems and shall comply with the requirements of ZKLA (PV-wire) or TYLZ (USE-2).

* preferred conductor stranding: 19-65

Note:
If your chosen cable is suitable for both configurations listed in Tab. 2 and 3 as well as in the technical data on page 12, it can be used as a double certified cable according TÜV Rheinland and UL.



(图 10)
根据表 4 提及的范围，剥掉电缆的绝缘层 (长度 L)，并检查。

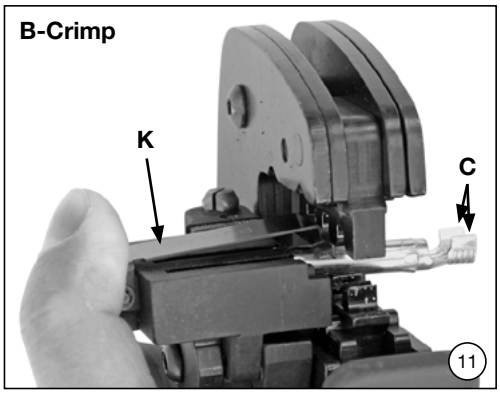
⚠ 注意：
剥离电缆时切勿切断单股铜丝！

(ill. 10)
Strip cable insulation (length L) according to ranges mentioned in Tab. 4 and check.

⚠ Attention:
Do not cut single strands when stripping the cable!

表4/Tab. 4

型号/Type	长度/Length “L“
PV-KxT4/2,5...	6 mm – 7.5 mm
PV-KxT4/6...	6 mm – 7.5 mm
PV-KxT4/5...	8.5 mm – 10 mm
PV-KxT4/8...	8.5 mm – 10 mm
PV-KxT4/10...	6 mm – 7.5 mm



压接

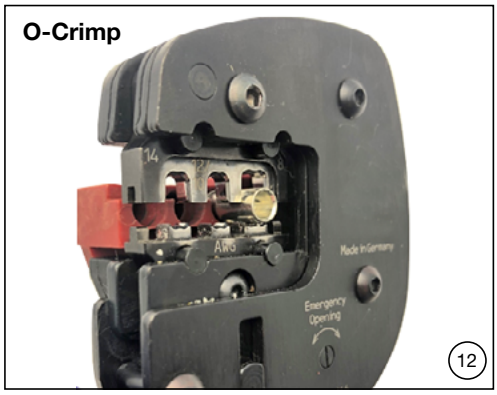
(图 11)
用于压接开口压接式插针 (B-Crimp)
PV-KT4/2.5...-UR;PV-KXT4/6...-UR
或 PV-KXT4/10...

- 打开并握住夹钳 (K)。
- 将插针置于适当的截面积范围内。
- 向上旋转压接片 (C)。
- 松开夹钳 (K)。
- 压接完成。

Crimping

(ill. 11)
For crimping open crimp contacts (B-Crimp)
PV-KxT4/2.5...-UR; PV-KxT4/6...-UR or PV-KxT4/10...

- Open clamp (K) and hold tight.
- Insert the contact in the appropriate cross-section range.
- Turn the crimping flaps (C) upwards.
- Release clamp (K).
- The contact is locked.

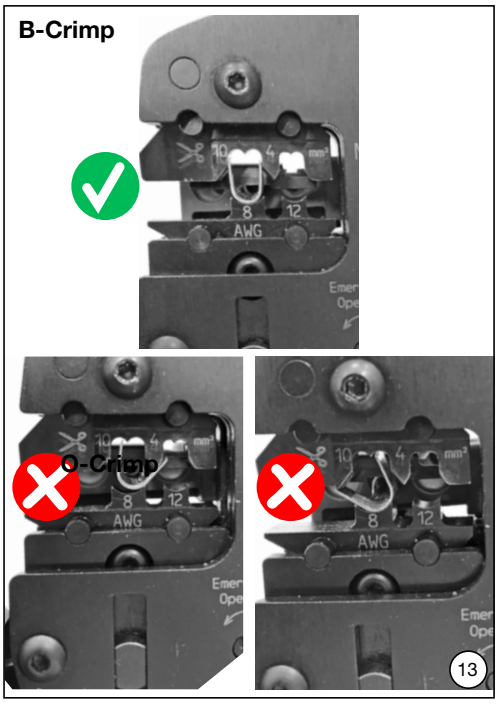


(图 12)
用于压接闭合压接式插针 (O-Crimp)
PV-KxT4/5...-UR oder PV-KxT4/8II-UR
将插针置于适当的截面积范围内。

对于 PV-KxT4/5... 和 PV-KxT4/8...:
将插针置于合适的定位块位置，根据导线截面积进行压接。

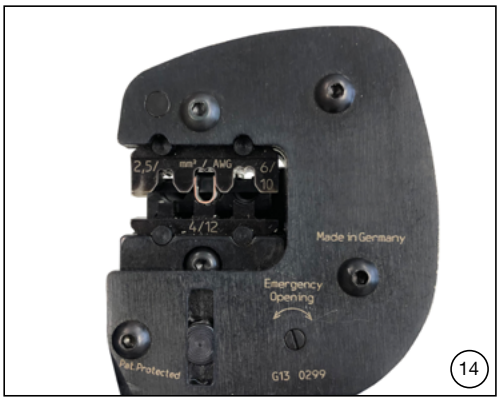
(ill. 12)
For crimping closed crimp contacts (O-Crimp)
PV-KxT4/5...-UR or PV-KxT4/8II-UR
Place the contact in the appropriate cross-section range.

For PV-KxT4/5... and PV-KxT4/8...:
Place contact into the appropriate locator position, based on conductor cross-section to be crimped.



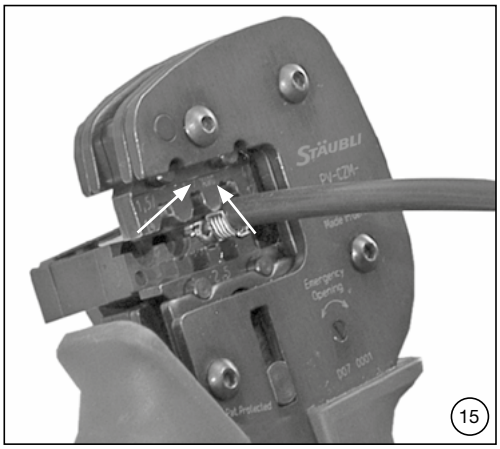
(图 13)
在压接前，确保插针完全插入进定位块。

(ill. 13)
Make sure the contact is fully inserted into the locator before crimping.



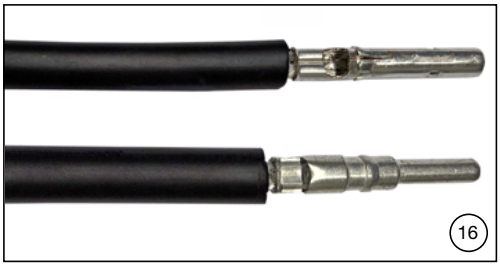
(图 14)
放置插针并固定到正确位置。

(ill. 14)
Press the pliers gently together until the crimping flaps are properly located within the crimping die.



(图 15)
插入剥皮后的电缆末端，使电缆铜丝与插针的压接套充分接触。再压紧压接钳。

(ill. 15)
Insert the stripped cable end until the lead strands come up against the clamp.
Completely close the crimping pliers.



(图 16)
根据 IEC 60352-2 编写标准，目视检查压接。

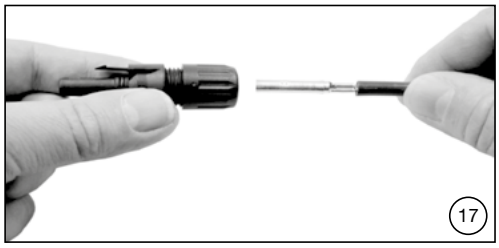
(ill. 16)
Visually check the crimp according to the criteria written in IEC 60352-2.

请确认：

- 所有铜丝均插入压接套
- 压接套没有变形或缺失
- 压接形状对称
- 在连接侧或压接侧，导线可见。

Confirm that:

- all of the strands have been captured in the crimp sleeve
- the crimp sleeve is not deformed or missing any portion of the crimp flaps
- that the crimp is symmetrical
- a “brush” of conductor strands are visible on the contact side of crimp.

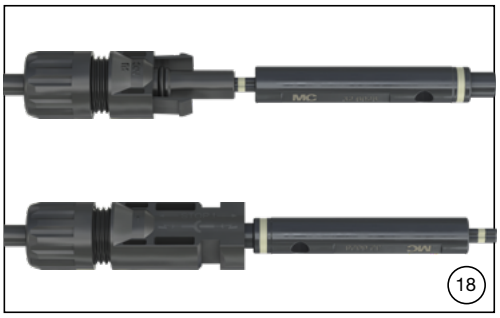


安装检查

(图 17)
将压接的插针插进公/母绝缘外壳，直至啮合。
轻轻拉动导线，检查金属部分是否正确连接。.

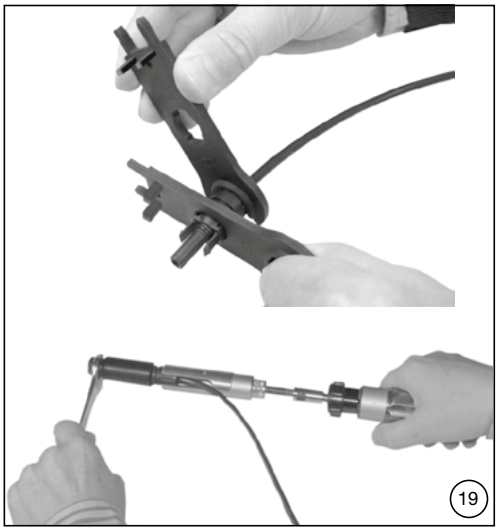
Assembly check

(ill. 17)
Insert the crimped contact into the insulator of the male or female coupler until engaged.
You will typically hear a “click” sound once fully engaged.
Pull gently the cable to verify that the metal part is correctly engaged.



(图 18)
将测试棒正确的一端最大限度地插入公/母连接器。如果插针位置正确，测试棒上的白色标记必须仍然可见。

(ill. 18)
Insert the appropriate end of the test pin into the male or female coupler as far as it will go.
If the contact is assembled properly the white mark on the test pin must still be visible.



(图 19)

- 使用工具 PV-MS 或 PV-MS-PLS，预先拧紧电缆格兰头螺母。
- 使用PV-WZ 扳手组合拧紧电缆格兰头螺母，同时使用 PV-MS 或 PV-MS-PLS 支撑绝缘体前端。

紧固扭矩须与使用的光伏电缆匹配。典型值在 3.4 N m 与 3.5 N m 之间[1)]。

[1)] 史陶比尔建议使用校准的扭矩扳手进行组装。根据 NFPA 国家电气规范 (NEC 2017)章节110.14(D)要求使用校准的扭矩扳手。

(ill. 19)

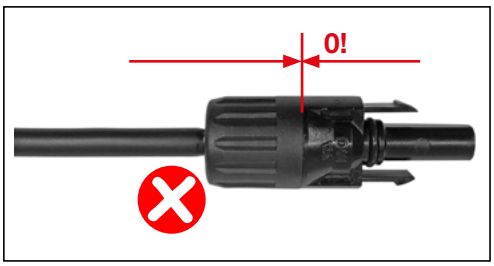
- Pre-tighten cable gland with tools PV-MS or PV-MS-PLS.
- tighten cable gland using the PV-WZ-Torque-Set while supporting the insulator front with PV-MS or PV-MS-PLS.

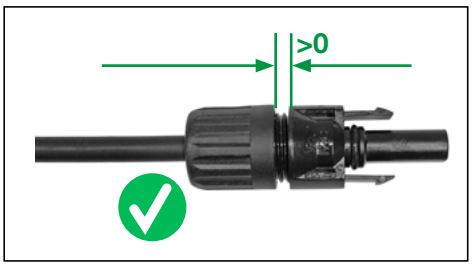
The tightening torque must be appropriate for the solar cables used. Typical values are between 3.4 N m and 3.5 N m[1)].

[1)] Stäubli recommends to use a calibrated torque wrench for assembly.
The NFPA National Electric Code (NEC 2017) requires the use of a calibrated torque wrench in section 110.14(D).

注意：
关于部件的安装我们建议在-15°C 至 +35°C的环境温度下进行。

Note:
For assembly of components an ambient temperature between -15 °C and +35 °C is recommended.



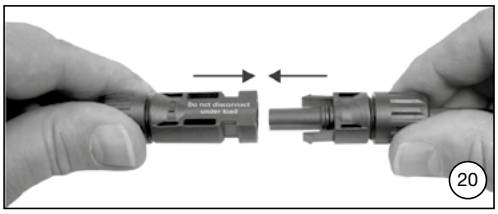


注意：
切勿将螺帽拧到底，需留有间隙。

Note:
Do not bottom out the capnut.

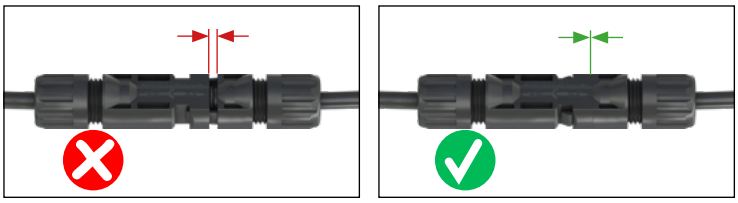
插入和拔出(无安全锁扣PV-SSH4)

Mating and disconnecting the cable coupler without safety lock clip PV-SSH4



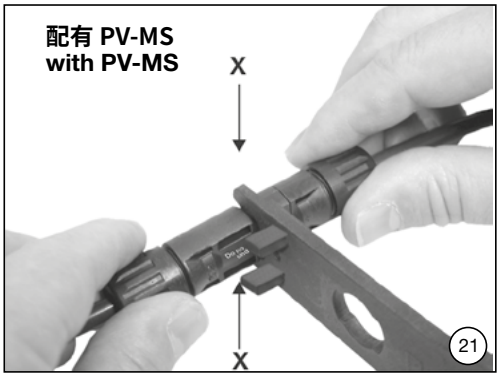
插入
(图 20)
将电缆耦合器互插直到听到“咔嗒”声为止。轻轻拉动连接器以便确认是否正确啮合。(最大拉力:20 N)。

Mating
(ill. 20)
Mate the cable coupler until a „Click“ can be heard. Check correct engagement by lightly pulling on the connector (maximum pulling force: 20 N).



⚠ 注意:
不得安装未完全啮合的连接器,因为这可能会导致卡夹永久偏移,进而丧失锁定功能。无论何时都必须核实装配情况。

⚠ Attention
Assembly of not fully engaged connectors is not permitted as this could lead to a permanent deflection of clips and thus to a potential loss of the locking function.
The assembly has to be verified in any case.

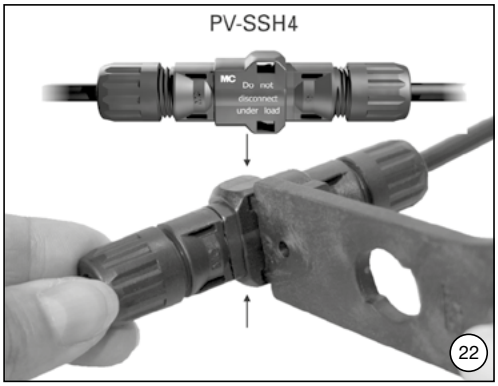


拔出
(图 21)
将解锁工具 PV-MS 或 PV-MS-PLS 插入插 座的卡夹 (X) 中,并解锁。

Disconnecting
(ill. 21)
Push the unlocking pins of PV-MS or PV-MS-PLS onto the locking clips (X) of the socket and separate the coupling.

插入和拔出(有安全锁扣PV-SSH4)

Mating and disconnecting the cable coupler when safety lock clip PV-SSH4 is involved



插入
(图 22)
将电缆耦合器互插直到听到“咔嗒”声为止。轻轻拉动连接器以便确认是否正确啮合。(最大拉力:20 N)。

拔出
将解锁工具 PV-MS 或 PV-MS-PLS 推入 PV-SSH4 的开口中,插入插座的卡夹中,并解锁。

Mating
(ill. 22)
Mate the cable coupler until a „Click“ can be heard. Check correct engagement by lightly pulling on the connector (maximum pulling force: 20 N).

Disconnecting
Push the unlocking pins of PV-MS or PV-MS-PLS into the openings provided in PV-SSH4 and onto the locking clips of the socket and separate the coupling.

安装注意事项

注意：
如果要将本连接器用于光伏阵列以外的低压直流应用，请查阅《史陶比尔技术说明报告》中的信息。
Link

关于安装的一般注意事项

- 必须为未插合的连接器安装保护帽（插座端订购号32.0716；插头端订购号 32.0717）以防止环境影响（湿气、灰尘等）。
- 切勿插合被污染的连接器。
- 连接器不得与任何化学品接触。

电缆布线

电缆从连接器出来应预留至少20毫米距离再进行弯折。弯折请参阅电缆制造商规格，获取最小弯曲半径。.

被污染/损坏的连接器：

- 切勿让连接器受到环境污染（如土壤、水、昆虫、灰尘）。
- 切勿让连接器的表面受到污染（如贴纸、油漆、热缩管）。
- 切勿将连接器直接置于屋顶表面。
- 连接器不得位于电缆的最低点，此处会有水聚集。
- 连接器不得位于滞水中。
- 不得将电缆扎带直接安装在连接器本体上。

机械压力：

- 检查确认连接器没有受到永久性机械拉伸负荷或振动的影响。
- 电缆不得使连接器受到应力。

Notes on installation

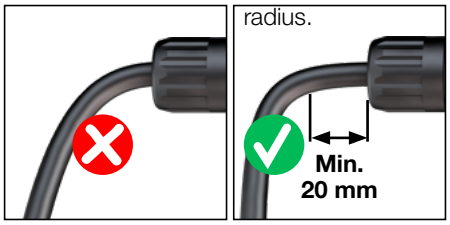
Note:
If the connector is to be used in low-voltage DC applications other than those in a photovoltaic array, please consult the information as provided in the Stäubli Technical Description Report.
Link

General notes on installation

- Unmated connectors must be protected from environmental impact (moisture, dirt, dust, etc.) with sealing caps (socket order no. 32.0716; plug order no. 32.0717).
- Do not mate contaminated connectors.
- Connectors must not come into contact with any chemicals.

Cable routing

Cable management must allow a minimum of 20 mm of cable that exits directly from the cable seal without bending or stress. Refer to cable manufacturers specification for minimum bending radius.



Contaminated/damaged connectors:

- Do not allow connectors to be contaminated by the environment (e.g. soil, water, insects, dust).
- Do not allow the connector to be contaminated on its surface (e.g. stickers, paint, heat shrink tubing).
- Do not allow that the connector is directly on the roofing surface.
- Do not allow that the connector is at the lowest point of cabling where water can collect.
- Do not allow that the connector is in standing water.
- Do not allow that cable ties to be mounted directly on the connector body.

Mechanical stress:

- Check that the connectors are not subjected to a permanent mechanical tensile load or vibration.
- Connectors shall not be under strain from cable management.

技术参数	Technical data	
型号 名称	Type designation	**MC4**
连接系统	Connector system	**Ø 4 mm**
额定电压:	Rated voltage:	
IEC 62852:2014 + Amd1:2020	IEC 62852:2014 + Amd1:2020	**DC 1000 V** [1]
2 PfG 2330/04.2013	2 PfG 2330/04.2013	**DC 1500 V** [1), 2)]
UL 6703	UL 6703	**DC 1500 V** [3]
额定电流 IEC (85 °C)	Rated current IEC (85 °C)	**22.5 A (2.5 mm²)** **39 A (4 mm²/6 mm²)** **45 A (10 mm²)**
额定电流 (UL)	Rated current (UL)	**30 A (14 AWG)** [4] **35 A (12 AWG)** [4] **50 A (10 AWG)** [4] **70 A (8 AWG)** [4]
额定脉冲电压	Rated impulse voltage	**12 kV (DC 1000 V)** **16 kV (DC 1500 V)**
环境温度范围	Ambient temperature range	**-40 °C...+85 °C (IEC)** **-40 °C...+85 °C (UL)**
运输/存储温度范围	Transportation/storage temperature range	**-30 °C/+60 °C**
运输/存储相对湿度	Transportation/storage relative humidity	**< 70 %**
温度上限	Upper limiting temperature	**105 °C (IEC)**
最大工作温度	MOT max. operating temperature	**+85 °C** [4]
防护等级，已插合 未插合	Degree of protection, mated unmated	**IP65/IP68 (1 m, 1 h)** **IP2X**
过压类别/污染等级	Overvoltage category/Pollution degree	**CAT III/3**
连接器的接触电阻	Contact resistance of plug connectors	**0.25 mΩ**
连接器公母极性	Polarity of the connectors	**插座/Socket = 正极/positive** **插头/Plug = 负极/negative**
锁紧系统	Locking system	**Locking type**
安全等级 (IEC)	Safety class (IEC)	**II: DC 1000 V** **0: DC 1500 V**
连接系统	Contact system	**MULTILAM**
连接类型	Type of termination	**压接/Crimping**
安全须知	Safety instruction	**在负载下请勿断开** **Do not disconnect under load**
触头材料	Contact material	**铜、镀锡/Copper, tin plated**
绝缘材料	Insulation material	**PC/PA**
阻燃等级	Flame class	**UL94-V0**
盐雾试验，严酷等级6	Salt mist spray test, degree of severity 6	**IEC 60068-2-52**
耐氨性（参考DLG）	Ammonia resistance (according to DLG)	**6076F (1500 h, 70 °C/70 % RH, 750 ppm)**
获得 TÜV-Rheinland 认证，依据 IEC 62852:2014 + Amd.1:2020	TÜV-Rheinland certified according to IEC 62852:2014 + Amd.1:2020	**R 60127190**
获得 TÜV-Rheinland 认证 依据 2 PfG 2330/04.2013	TÜV-Rheinland certified according to 2 PfG 2330/04.2013	**R 60087448**
根据UL 6703获得UL认证。	UL certified according to UL 6703	**E343181**
根据UL 6703获得CSA认证。	CSA certified according to UL 6703	**250725**
JET 认证符合 IEC 62852:2014 标准	JET certified according to IEC 62852:2014	**1625-C43O4-302**
CQC 认证	CQC certified	**2013003030Z**
最高工作海拔高度符合 IEC 62852:2014 + Amd.1:2020 的规定	Max. operating altitude above sea level according to IEC 62852:2014 + Amd.1:2020	**5000 m; AK 60159411**
温度等级符合 IEC TS 63126:2020 的规定	Temperature Level according to IEC TS 63126:2020	**Level 2; AK 60158515**

[1] 连接到连接器的电缆应适用于光伏系统且应符合 IEC 62930 的要求。
Cables connected to the connector shall be suitable for use in photovoltaic systems and shall comply with the requirements of IEC 62930.
[2] 只能用于配有限制进入通道的 PV 系统/Only for use in PV-systems with restricted access locations
[3] 有关适用的电缆外径，请参见本安装说明中的表3。/For applicable cable diameter please see table 3 in this assembly instructions.
[4] 工程审议：与额定电流相关的应用场景必须经过终端使用产品的验证，且不得超过产品的最大工作温度。
Engineering considerations: Application associated current ratings have to be verified in the products end-use and shall not exceed the maximum operating temperature.

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