

## MC4-Evo 2 In-line Fuse MA707 (cn) 安装手册

适用于:  
PV-K/1500ILF3

## MC4-Evo 2 In-line Fuse MA707 (en) Installation and operation manual

Valid for:  
PV-K/1500ILF3

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### 密封盖/Sealing caps

PV-BVK4  
32.0716



PV-SVK4  
32.0717



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## 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因电击、电弧、火灾或系统故障而导致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。

### 预期用途

在发生故障电流或电流过载时，In-line Fuse会中断直流电路。

### 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连接器或In-line Fuse。
- 仅应使用史陶比尔认可的工具和程序。

### 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。
- 切勿带负载插拔连接器。
- 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。
- 如果In-line Fuse已与组串断开连接，切勿重新连接不带In-line Fuse的组串。
- 切勿通过并联线路或另一引线保险丝绕过In-line Fuse。
- 连接器受污染时，切勿插合。

### 切勿调整或修理部件

- 切勿调整部件。
- 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 In-line Fuses interrupt DC circuits in case of fault currents or over-currents.

### 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 connector or In-line Fuse.
- ONLY tools, materials and auxiliary means approved by Stäubli shall be used.

### Mating and disconnecting

- ALWAYS de-energize the PV system before mating or disconnecting the connectors.
- NEVER disconnect the connectors under load.
- NEVER connect male or female part of Stäubli connectors with connectors of other manufacturers.
- NEVER reconnect a string without an In-line Fuse, if the In-line Fuse was disconnected from this string.
- NEVER by-pass an In-line Fuse by a parallel line or another In-line Fuse.
- NEVER mate contaminated connectors.

### Do NOT modify or repair component

- Do NOT modify component.
- Replace defective components.

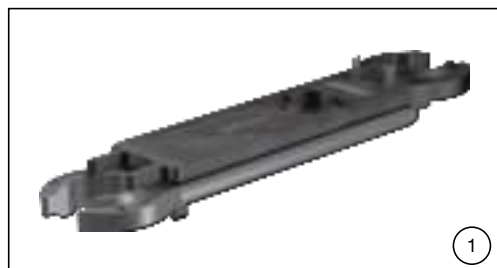
技术参数		Technical data
产品名称	Product designation	<div> <div>           额定电流 gPV (A)            Rated current (gPV) in A            4 = 4 A; 5 = 5 A; 6 = 6 A; 10 = 10 A            15 = 15 A; 20 = 20 A; 25 = 25 A; 30 = 30 A         </div> <div> <b>PV-K/1500ILF3y/6E-#</b> </div> <div>           长度 (cm)            Length in cm <b>0059 = 59 cm</b> </div> </div>
额定电压	Voltage rating	<b>DC 1500 V</b>
测试电压	Test voltage	<b>8 kV</b>
安全等级	Safety class	<b>II</b>
过压类别/ 污染等级	Overvoltage category Pollution degree	<b>CATIII/3</b>
温度上限 (ULT)	Upper Limiting Temperature (ULT)	<b>115° C</b>
环境温度范围	Ambient temperature range	<b>-40 °C...+50 °C</b>
防护等级 (IP)	Degree of Protection (IP)	<b>IP65/IP68 (1 m, 1 h)</b>
绝缘材料	Insulation material	<b>Polyamide/EVA/XLPE</b>
互插 仅限于原版史陶比尔连接器!	Mating connectors <b>Only genuine Stäubli connectors shall be used!</b>	<b>PV-KST4/...or PV-KBT4/... ("MC4")<sup>1)</sup>, PV-KBT4-EVO 2... or PV-KST4-EVO 2... ("MC4-Evo 2")</b>
额定电流 gPV	Rated current gPV	<b>4 A</b> <b>5 A</b> <b>6 A</b> <b>10 A; 15 A</b> <b>20 A; 25 A; 30 A</b>
运输/存储 温度范围	Transportation/storage temperature range	<b>-40 °C 到/to +50 °C</b>
TÜV 认证, 符合 2PFG 2380/10.21	TUV Rheinland certified acc. to 2PFG 2380/10.21	<b>R 60163375</b>
gPV 熔断器认证, 符合 IEC60269-6:2010+Amd1	Fuse link gPV certified acc. to IEC60269-6:2010+Amd1	<b>J 50524015</b>

**⚠ 注意:**  
连接器插合时, 有一点必须明确, 即产品的各种额定参数 (载流能力和额定电压) 取决于所对插的连接器。请依据所使用连接器的安装说明信息。

**⚠ <sup>1)</sup> Attention:**  
When connecting the connectors, it must be ensured that the rated data (current carrying capacity and rated voltage) of the products are dependent on the mating connectors used. Observe the information in the assembly instructions for the connectors used.

## 所需工具

适用于将连接器安装到光伏线束上：



(图1)  
适用于 MC4-Evo 2 连接器：  
装配和解锁工具  
PV-MS-PLS, 订货号 32.6058

**i 备注：**  
操作说明 MA270,  
[www.staubli.com/electrical](http://www.staubli.com/electrical)

## Tools/assembly materials required

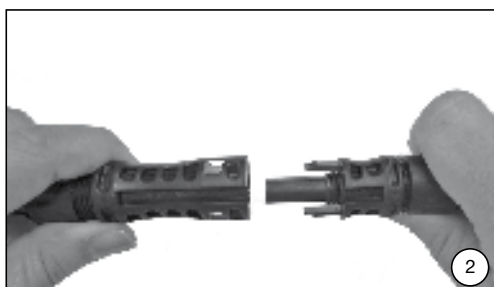
For integration into a PV cable harness system:

(ill. 1)  
for MC4-Evo 2 connectors:  
Assembly and unlocking tool,  
PV-MS-PLS, order No. 32.6058

**i Note:**  
Operating instructions MA270,  
[www.staubli.com/electrical](http://www.staubli.com/electrical)

## 安装程序

**⚠ 重要电击危险：**  
不要在带负载情况下连接和断开 In-line Fuse。



(图2 - 3)  
使用适当的断开工具，将 In-line Fuse 所在的已插合连接器分开。

## Installation procedure

**⚠ Important ELECTRIC SHOCK HAZARD:**  
Do not disconnect the In-line Fuse under load nor connect it in an electrical circuit that is under load.



(ill. 2 - 3)  
Using the appropriate disconnect tool, separate the mated connector pair where the In-line Fuse will be located.

## 安装注意事项

### 安装的一般注意事项

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

### 布线

电缆从连接器出来应预留至少 20mm 距离再进行弯折。请参阅电缆制造商的产品规格, 获取最小弯曲半径。  
当捆扎安装电缆 ( $n > 1$ ) 时, 必须考虑产品的额定温度和相关标准及规定。

## Notes on installation

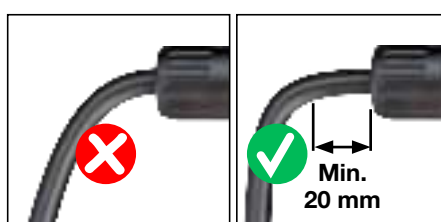
### General notes on installation

- 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.

When installing in bundles ( $n > 1$ ), the temperature ratings of the product and the relevant standards and regulations must be taken into account.



### 被污染/损坏的连接器:

- 切勿让连接器受到环境污染 (如油、水、昆虫、灰尘)
- 切勿让连接器的表面受到污染 (如粘着剂、油漆、热缩管)
- 切勿将连接器直接置于屋顶表面
- 布线时, 连接器不允许在最低点, 否则雨水会积聚
- 连接器不得位于积水中
- 不得将电缆扎带直接安装在连接器本体上。

### 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.

### 机械应力:

- 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
- 布线时, 连接器不应受到应力影响

### 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

备注/Notes:

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**备注/Notes:**

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