



A Canadian Solar subsidiary



# T4 PV CONNECTOR INSTALLATION MANUAL

For professional use only

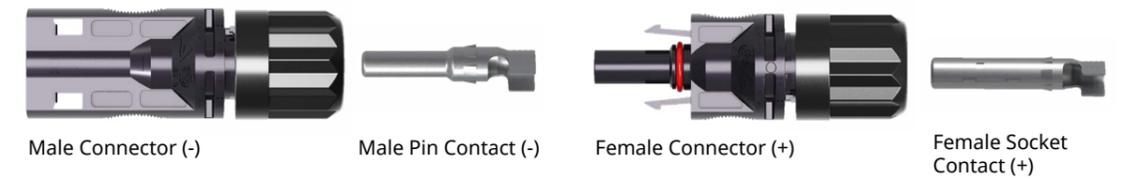
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## 1. T4 CONNECTOR PARTS



Item	Part Name
1	PV Cable
2	Male Pin Contact (-)
3	Male Connector (-)
4	Female Socket Contact (+)
5	Female Connector (+)

## 2. T4 CONNECTOR SPECIFICATIONS



### ELECTRICAL DATA

Connector Specification	T4-PC-1	T4-PPE-1
Rated Voltage	IEC 1000 V DC & UL 1500 V DC	IEC 1500 V DC & UL 1500 V DC
Rated Current	32 A for 4 mm <sup>2</sup> / 12 AWG / 10 AWG	32 A for 4 mm <sup>2</sup> / 12 AWG / 10 AWG
Contact Resistance	≤ 0.25 mΩ	≤ 0.25 mΩ
Pollution Degree	Class II	Class II
Protection Class	Class II	Class II
Protection Degree	IP68	IP68
Fire Resistance	UL 94-V0	UL 94-V0
Temperature Range	- 40 °C ~ + 90 °C	- 40 °C ~ + 90 °C
Rated Impulse Voltage	12 kV	16 kV

### MECHANICAL DATA

Connector Specification	T4-PC-1	T4-PPE-1
Cable Range	IEC: 4 mm <sup>2</sup> , UL: 10 AWG ~12 AWG	IEC: 4 mm <sup>2</sup> , UL: 10 AWG ~12 AWG
Connector System	Φ 4.0 mm	Φ 4.0 mm
Contact Material	Copper, Tin-plated	Copper, Tin-plated
Type of Termination	Crimping	Crimping
Locking System (UL)	Locking type	Locking type

**3. T4-PC-1 CONNECTOR TYPE**

Article	Cable Outside Diameter (OD)	Picture	Required Torque to Lock	Reference Gap
Male Connector (-)	5.8 mm ≤ OD ≤ 6.9 mm for 4mm <sup>2</sup> / 12 AWG; 5.8 mm ≤ OD ≤ 7.2 mm for 10 AWG		3.0 N•m ~ 4 N•m	0 < gap ≤ 1.0 mm
Female Connector (+)	5.8 mm ≤ OD ≤ 6.9 mm for 4mm <sup>2</sup> / 12 AWG; 5.8 mm ≤ OD ≤ 7.2 mm for 10 AWG		3.0 N•m ~ 4 N•m	0 < gap ≤ 1.0 mm
Male Pin Contact (-)	---		---	---
Female Socket Contact (+)	---		---	---

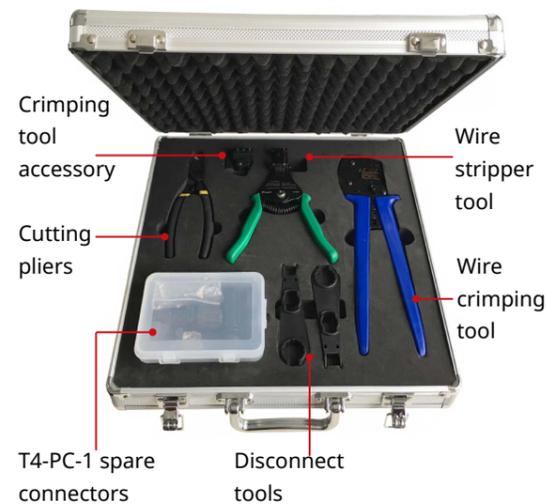
**4. SAFETY PRECAUTIONS**

Products must be assembled and installed by qualified personnel, ensuring all safety regulations are followed. For protection against electric shock, please ensure the system is not energized during installation. Do not disconnect under load. Ensure that the AC and the DC sides are both disconnected and the system is not energized before disconnecting.

Use only the tools and components listed in this installation manual. Follow the instructions as stated in this manual. Do not alter or willingly damage the product in anyway.

- Sealing cap must be used on disconnected connectors to prevent dust ingress.
- Connectors are IP68-rated when mated.
- Do not place connector directly on roof surface.
- Do not allow direct contact with hydrocarbon, phenol, ketone ammonia or other plastic corrosive environments or materials. Do not grease or lubricate the connector during installation.

**5. T4 FIELD TOOLKIT**



**PARTS INCLUDED IN FIELD TOOLKIT:**

**Wire stripper tool**

Type	Crimping Range	
2.5/14	2.5 mm <sup>2</sup>	14 AWG
4.0/12	4.0 mm <sup>2</sup>	12 AWG
6.0/10	6.0 mm <sup>2</sup>	10 AWG



**Wire crimping tool**

Mark	Riveting Range	
2.5/14	2.5 mm <sup>2</sup>	14 AWG
4.0/12	4.0 mm <sup>2</sup>	12 AWG
6.0/10	6.0 mm <sup>2</sup>	10 AWG



**Crimping tool accessory - part of wire crimping tool**



**Cutting pliers**



**Disconnect tools**  
1 set = 2 pieces



**6. CONNECTOR & WIRE ASSEMBLY STEPS**

**STEP 1: VISUAL INSPECTION OF CONNECTOR**

**FEMALE CONNECTOR**

- a. Sealing ring should fit cleanly in the slot and not be warped or distorted.



- b. The two plastic clasps should be intact.
- c. Female connectors should not be obstructed by foreign objects or water.
- d. Plastic components should not be cracked.
- e. No damage should be visible on the cable.

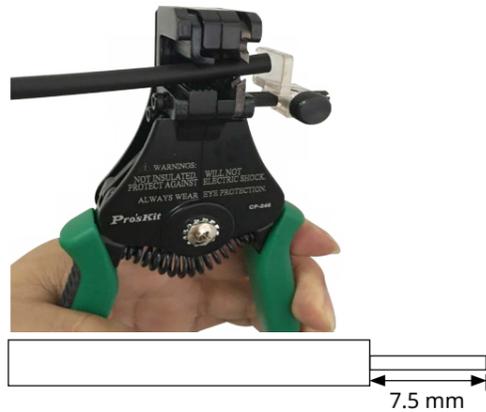
**MALE CONNECTOR**

- a. Male connector should not be obstructed by foreign objects or water.
- b. Plastic components should not be cracked.
- c. No damage should be visible on the cable.



**STEP 2:  
STRIP THE INSULATION OFF THE CABLE**

Using the wire stripper tool, remove the insulation from the cable. Ensure that 7.5 mm of cable are exposed, and that the wire strands are not damaged during the process of stripping the insulation.



**STEP 3:  
CRIMP THE CONTACT**

Place the contact around the bare section of the stripped wire. Crimp the contact using the wire crimping tool. The crimped contact should withstand pull forces of  $\geq 310$  N.



**STEP 4:  
INSERT THE CONTACT**

Push the crimped contact back into the connector until you hear a click. Lightly pull the wire to ensure the metal components of the connector are engaged.



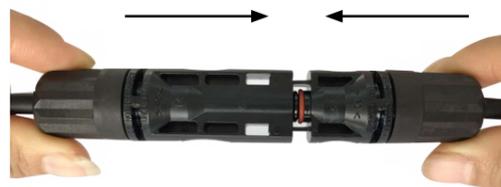
**STEP 5:  
TIGHTEN THE CABLE GLAND**

First, tighten the gland by hand, then use the disconnect tools to tighten the gland to the connector until it clicks, ensuring that it is locked.



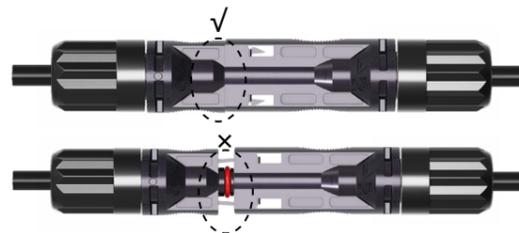
**STEP 6:  
MAKE CONNECTION**

Check the appearance of the connectors before connecting them together. The sealing ring should be in the slot with no warping or distortion. The plastic clasps should not be damaged or broken. The connectors should be free of moisture and foreign objects. Plastic parts should not be cracked. Wire should not be frayed or damaged. When attaching, insert the connectors into each other until you hear a "click". Once attached, gently pull on the connectors to ensure they are firmly connected and cannot be easily disconnected by hand.

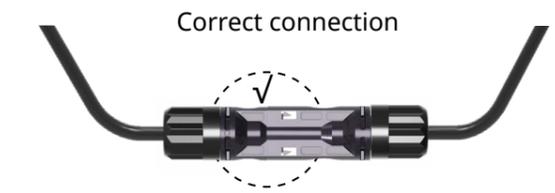
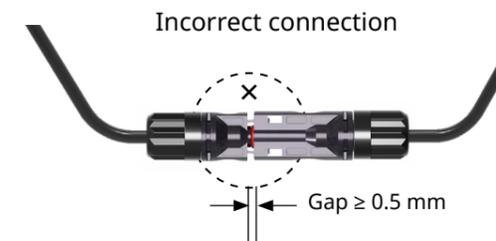
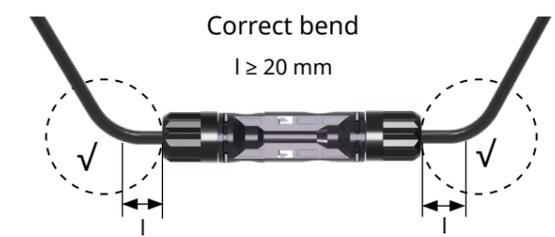
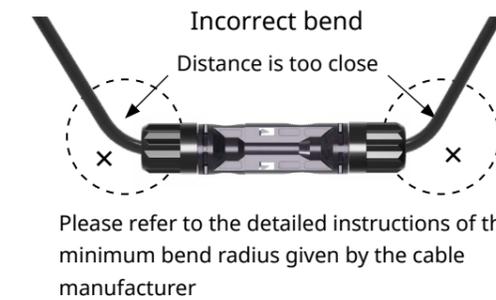


**STEP 7:  
VISUAL INSPECTION OF THE CONNECTION**

To check the connection, ensure that you cannot see the sealing ring. The gap between the connectors should be less than 0.5 mm.



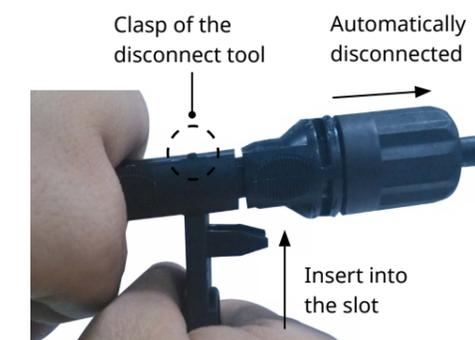
**7.  
THE CORRECT CONNECTION**



**8.  
DISCONNECTING THE CONNECTORS**

The mated connectors can only be disconnected by using the disconnect tools.

Insert the clasp of the disconnect tool in the slots of the male connector, and the female connector will automatically get disconnected.



**AMENDED EDITIONS AND DATES**

Rev 1.0 is released in November 2016

The technical descriptions herein are only for reference when using this product.

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