KUKA CABLE Solar
EXPERT IN SOLAR POWER TRANSMISSION

MC4 ASSEMBLY INSTRUCTIONS

- PV4 T2-1 adapter set
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Content

PV4 T 2-1 ADAPTER SET

Introduction

solar cable connectors are components used for cable connections in solar photovoltaic systems. They are used to connect cables between solar panels to transmit electrical energy from the solar panels to an inverter or other electrical device to supply electrical energy to a residence, industrial facility, or the power grid.

Safety instructions

Importance of the assembly instructions:

Failure to adhere to the assembly and safety instructions may lead to severe and potentially life-threatening consequences, including electric shock, electric arcs, fires, or system failures.

To ensure safety:

- Follow the complete set of assembly instructions meticulously.
- Utilize and install the product strictly in accordance with the provided assembly instructions and the technical specifications.
- Safely store the assembly instructions and ensure they are passed on to future users.
- Disregarding these instructions can result in grave risks, including personal injury or damage to the system.

Personnel Requirements:

The assembly, installation, and commissioning of the system are exclusively permitted for individuals who meet the following qualifications:

Only individuals classified as electricians or those who have received electrical training are authorized to perform these tasks.
An electrician possesses the necessary professional training, expertise, and experience to recognize and mitigate electrical hazards. An electrician can select and use appropriate personal protective gear.
An electrically instructed person is an individual who has received instructions or supervision from an electrician and can effectively identify the same electrical risks.

Installation and Assembly Prerequisites:

- **System Design and Planning:** Before installing connectors, conduct a comprehensive design and planning phase for the solar PV system. This involves determining cable routes, connection points, cable lengths, and connector placements.
- **Safety Measures:** Prior to installation and assembly, ensure that all necessary safety precautions are in place. This includes disconnecting power, turning off the power supply, and wearing appropriate personal protective gear like gloves and goggles.
- **Cable Preparation:** Prepare the cables by stripping insulation, ensuring clean and intact conductors, and installing cable end connectors.
- **Connector Selection:** Choose the correct PV cable connector based on system voltage, current, and environmental requirements. Verify that the selected connector complies with the system's technical specifications and standards.

Guideline for configuring the connectors

CAUTION:

Before carrying out any electrical work, always disconnect the power supply and ensure compliance with local electrical regulations and safety standards. If you are unfamiliar with electrical work, it is recommended that you hire a professional electrician to perform the installation.

Preparation:

Before commencing installation, ensure that you have conducted system design and planning, including identifying connection points, cable routes, and the required connector types. Also, verify that the chosen connectors comply with the system's voltage and current requirements.

Power Disconnection:

Throughout the installation process, always disconnect the power supply to ensure the system is in a deactivated state, preventing electrical shocks and other hazards.

Cable Preparation:

Strip the cable's insulation, ensuring the wire ends are clean and undamaged. If necessary, install cable end connectors.

Connector Installation:

Insert the cable end connectors into their respective connector sockets. Ensure a secure connection and follow the manufacturer's guidelines for proper installation.

Connection Inspection:

Inspect the connectors for correct installation, ensuring that plugs are fully inserted into sockets. Confirm secure connections and no signs of looseness or insecurity.

Waterproofing:

For outdoor connector installations, implement appropriate waterproofing measures. Utilize waterproof kits or sealant to prevent water ingress.

Electrical Testing:

Perform electrical tests to verify cable and connector continuity, ensuring there are no electrical faults. This includes checking resistance, voltage, and current.

Power Restoration:

Once all safety checks are confirmed, and connectors are functioning correctly, you may restore power and activate the system.

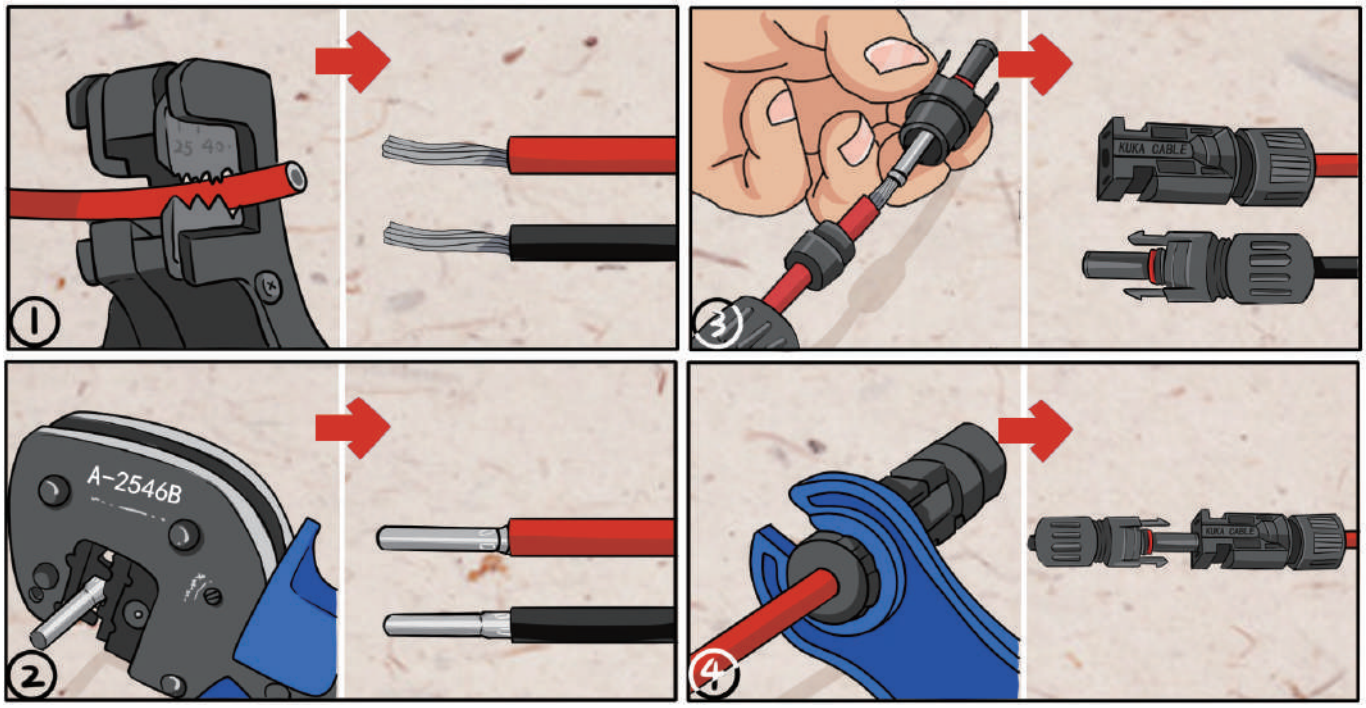
Record Keeping:

Maintain records detailing the installation date, connector type, and location for future maintenance and troubleshooting purposes.

Safety Maintenance:

Regularly inspect the condition of connectors to ensure they remain in good working order. As needed, perform cleaning, tightening, or replacement.

Tools required



1. After removing the old connector, strip about 1-2cm of insulation from the cable tip. Use a cable cutter for best results.

2. A typical connector consists of four elements. Disassemble it by unscrewing the cap.Thread the wire and cable gland through the cap.

3. Place the pin in the crimping tool's correct slot, then insert the exposed cable end into the cavity. Gently hold it in place and crimp the pin to the wire with the tool.

4. Join the main component and the rest of the connector by screwing them together at the center.

5. Lastly, tighten the connection and test it by gently pulling on the connector to ensure it is secure on the cable's end.

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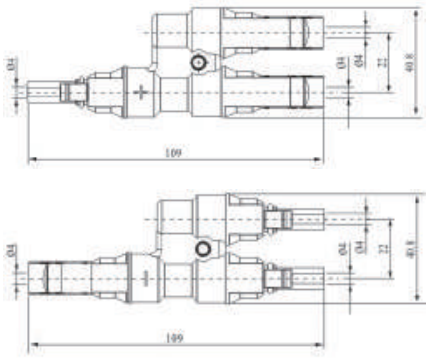
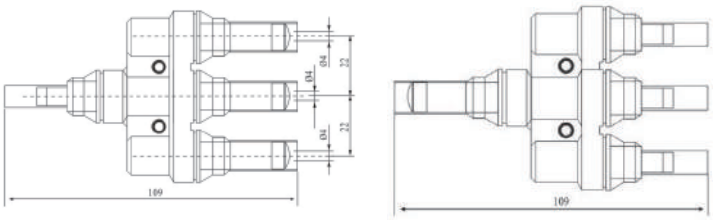


TECHNICAL PARAMETER

Rated current	40A
Rated voltage	1000/1500V DC
Test voltage	6000V(50Hz,1min)
Overvol tage category/Pollution degree	CATIII/2
Contact resistance of plug connectors	1m2
Contact material	Copper,Ag plated
Insulation material	PPO

Degree of protection	IP2*/IP65
Flame class	UL94-VO
Safety class	II
Suitable cable	2.5-6.0mm²
Insertion force	≤50N
Withdrawal force	≥50N
Temperature range	-40℃~+110℃

PV4 T 3-1 ADAPTER SET



TECHNICAL PARAMETER

Rated current	40A
Rated voltage	1000/1500V DC
Test voltage	6000V(50Hz,1min)
Overvoltage category/Pollution degree	CATIII/2
Contact resistance of plug connectors	1mΩ
Contact material	Copper,Ag plated
Insulation material	PPO

Degree of protection	IP2*/IP65
Flame class	UL94-VO
Safety class	II
Suitable cable	2.5-6.0mm²
Insertion force	≤50N
Withdrawal force	≥50N
Temperature range	-40℃~+110℃

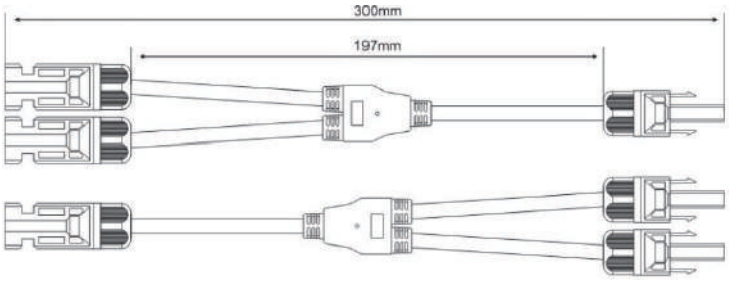
PV4 T4-1 ADAPTER SET

TECHNICAL PARAMETER

Rated current	40A
Rated voltage	1000/1500V DC
Test voltage	6000V(50Hz,1min)
Overvol tage category/Pollution degree	CATIII/2
Contact resistance of plug connectors	1m2
Contact material	Copper,Ag plated
Insulation material	PPO

Degree of protection	IP2*/IP65
Flame class	UL94-VO
Safety class	II
Suitable cable	2.5-6.0mm²
Insertion force	≤50N
Withdrawal force	≥50N
Temperature range	-40℃~+110℃

PV4 Y 2-1 ADAPTER SET

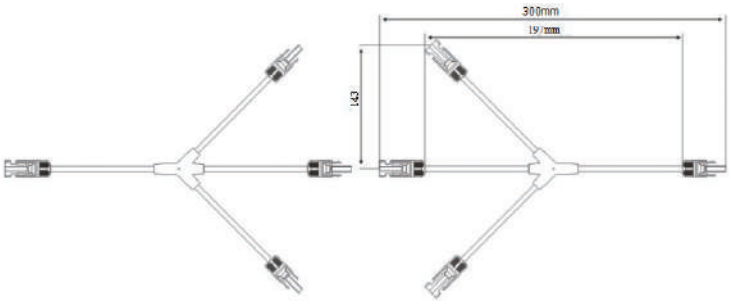


TECHNICAL PARAMETER

Rated current	30A
Rated voltage	1000V DC
Test voltage	6000V(50Hz,1min)
Overvoltage category/Pollution degree	CATIII/2
Contact resistance of plug connectors	≤0.5mQ
Contact material	Copper,Ag plated
Insulation material	PPO

Degree of protection	IP2*/IP65
Flame class	UL94-VO
Safety class	II
Sui table cable	2.5-6.0mm²
Insertion Withdrawal force	≤50N
Temperature range	-40℃~+110℃
Cable length	8cm

PV4 Y 3-1 ADAPTER SET

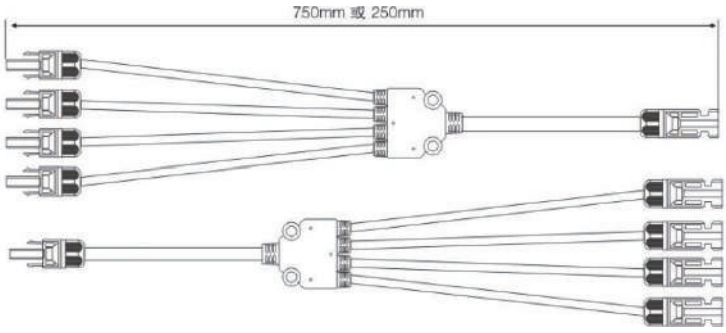


TECHNICAL PARAMETER

Rated current	30A
Rated voltage	1000V DC
Test voltage	6000V(50Hz,1min)
Overvoltage category/Pollution degree	CATIII/2
Contact resistance of plug connectors	≤1mQ
Contact material	Copper,Ag plated
Insulation material	PPO

Degree of protection	IP2*/IP65
Flame class	UL94-VO
Safety class	II
Suitable cable	2.5-6.0mm²
Insertion Withdrawal force	≤50N
Temperature range	-40℃~+110℃
Cable length	8cm

PV4 Y4-1 ADAPTER SET



TECHNICAL PARAMETER

Rated current	30A
Rated voltage	1000VDC
Test voltage	6000V(50Hz,1min)
Overvoltage category/Pollution degree	CATIII/2
Contact resistance of plug connectors	≤0.5m2
Contact material	Copper,Ag plated
Insulation material	PPO

Degree of protection	IP2*/IP65
Flame class	UL94-VO
Safety class	II
Suitabl e cable	2.5-6.0mm²
Insertion Withdrawal force	≤50N
Temperature range	-40℃~+110℃
Cable length	8cm