Assembly and Installation Guidelines

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SOLARLOK Plug Connector

Attention: This connector is to be used only to interconnect firmly fixed cables.

Do not disconnect under load.
Current path should only be disconnected using approved disconnect devices.

Cable assemblies shall be labeled with Part No. 1394470-1

To protect against shock, ensure that conductors and their associated connectors are separated from opposite polarity components.

1. General Comments

Any kind of pollution (dust, humidity, etc.) during the assembly process can degrade contact and connector performance. This applies in particular to the seals and the crimping of the contacts.

A clean assembly environment is therefore essential.

2. Termination of the Cable Wires and Crimping of the Contacts

SOLARLOK connectors use different crimp contacts for various wire gauges.
Possible wire gauges are 1.5 mm^2, 2.5 mm^2, 4.0 mm^2, 5.3 mm^2 und 6.0 mm^2 resp. AWG 16, AWG 14, AWG 12 and AWG 10.

The tools to be used are selected based upon the wire gauge. For the application specification, please refer to specification # 114-74013.

3. Handling of the Connectors

3.1 Selection of Sealing Grommet for Cable Connectors

The cable grommet should be selected based upon the insulation diameter of the wire being used.

Five Different Seals are available:

- 4 mm grommet inner diameter (for insulation diameter from 3.2 to 4.3 mm), Part No. 0-1394465-5
- 5 mm grommet inner diameter (for insulation diameter from 4.3 to 5.3 mm), Part No. 0-1394465-1
- 6 mm grommet inner diameter (for insulation diameter from 5.3 to 6.2 mm), Part No. 0-1394465-2
- 7 mm grommet inner diameter (for insulation diameter from 6.2 to 7.2 mm), Part No. 0-1394465-3
- 8 mm grommet inner diameter (for insulation diameter from 7.2 to 8.0 mm), Part No. 0-1394465-4

The grommet has to be matched with the outer diameter of the solar cable (see Customer Drawing, Part No. 1394461 and Part No. 1394462).

Assembly and Installation Guidelines (continued)

When assembling the connectors, the following sequence must be followed:

① Stripping the Wire (please refer to application specification # 114-74013)

Fig. 1

② Insert the stripped wire into the wire crimp barrel until it stops.
While holding the wire in place, squeeze tool handles together until ratchet releases.

Fig. 2

③ Place backshell nut onto wire

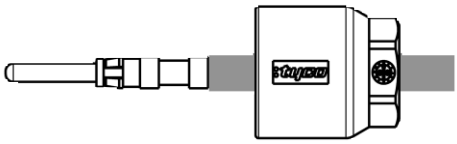

Fig. 3

④ Press seal into the connector housing until it stops

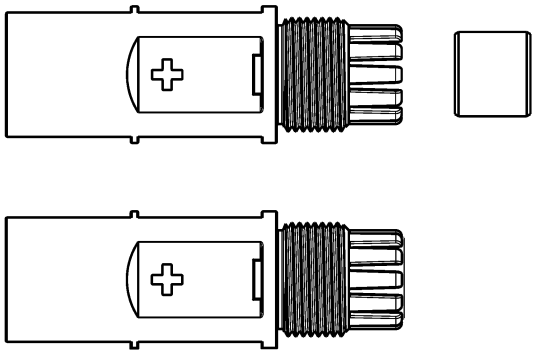

Fig. 4

⑤ Push contact with cable into the connector housing until you hear the contact is locked into position

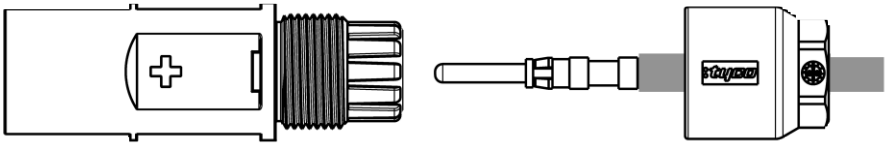

Fig. 5

⑥ Screw backshell nut onto connector housing. Tighten backshell nut to 1.5 Nm

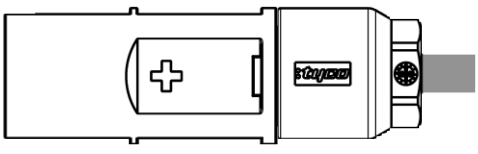

Fig. 6

Assembly and Installation Guidelines (continued)

3.2 Connector Latching

When mating the SOLARLOK connectors, ensure the following:

- Connectors labeled with a plus or minus are keyed and can only be mated to similarly marked and keyed connectors.

CAUTION:
The "neutral" designated pin connectors incorporate no keying features and may be freely mated to either plus coded or minus coded female connectors.
The neutral product should not be used where maintaining polarity is critical.

The polarity of the "neutral" connector must labeled with Part No. 1394725-1 or Part No. 1394725-2 nearby the connector.

- The connector system is fully latched only when the latches are flush with the mating connector.
- After the connector is fully latched, the optional latch locking clip may be snapped into place.

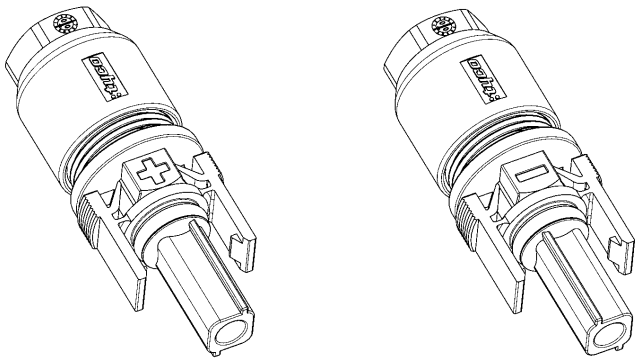

Fig. 7
(Female Connector)

3.3 Disconnecting

CAUTION: This connector must not be disconnected under load.

Disconnect circuit from load before unplugging connectors.

Cable assemblies should be labeled using Tyco Label, Part No. 1394470-1

Unmating of the connector **CAUTION: Do not disconnect the connector under load!**

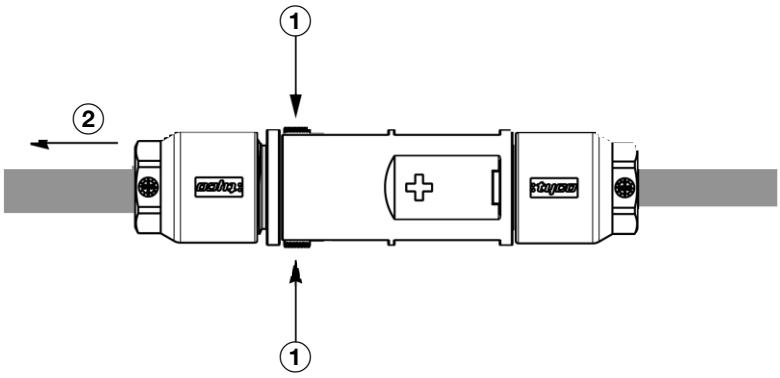

Fig. 8

① The locking mechanism is opened by depressing the latches.

② Pull out the connectors. While depressing the latches, disconnect the connector by pulling the connector halves apart.

Assembly and Installation Guidelines (continued)

3.4 DC/AC Converter Receptacle

① Place a single wire seal onto the wire and strip wire (single wire seals are not available with every version).

Fig. 9

② Crimp the contact using the correct applicator for the wire gauge (# 114-74013

Fig. 10

③ Place O-ring onto the connector housing; push in wire to stop until contact locks into the housing

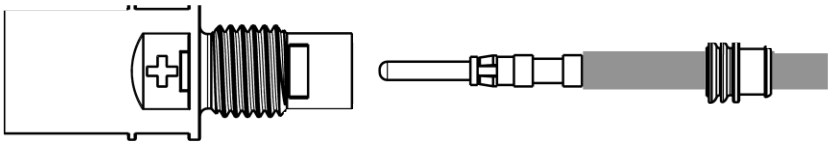

Fig. 11

④ Push seal into the housing

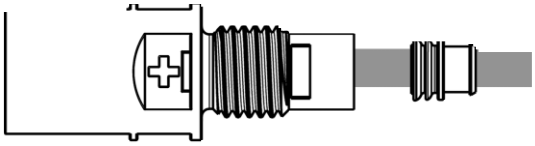

Fig. 12

⑤ Assembly of the cover cap (not available with every version) and mounting in front panel

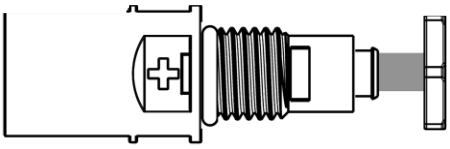

Fig. 13

- Cover cap must be applied to panel mount connector before attachment to panel.
- Required panel mount hole diameter: Diameter 12.5 mm.
- The panel thickness must not be under 1.0 mm.
- For environmental protection of the unmated connector, use of the covering cap is recommended.

Cover:
Part No. 0-1394739-1