



SOLAR

EGGMN06062

Edge Connector

for Solarpanels

(114-18896)

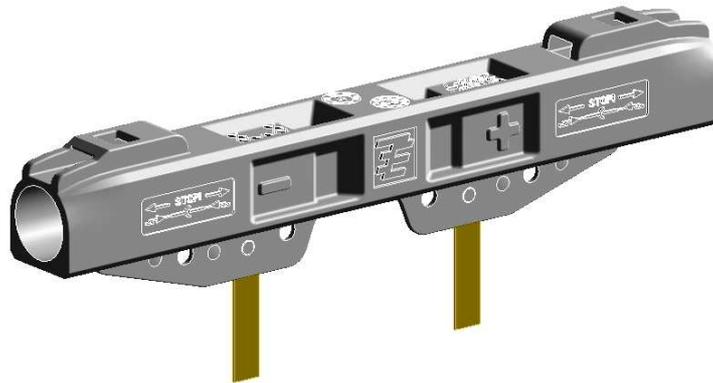


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Purpose

This specification contains guidelines for the assembly, installation and fitting of the SOLARLOK* connecting boxes, and connection parts to customer solar panels.

For this specification the Connecting boxes are marked as follows:

- Edge Connector

Notification:

The application of the TE Solar boxes on the Solar panel as well as the installation of the Solar panel is not part of the scope of services offered by TE. A cable extension has to be made at the coupling end of the cable (plug connector) and only with TE components. If single connectors or solar junction boxes without attached cable are delivered by TE, the mounting of the cable is also not in the scope of services offered by TE.

The assembly location and assembly procedure have to agree with JEDEC standard JESD22-114F.

Attention: It is not permitted to use this Edge Connector and products including the Edge Connector in the USA.

1. Supplementary Documentation

1.1 Customer Drawings

PN 1987293	Edge Connector
PN 2120413	Blindplug, Assy.
PN 2120010	Socket Connector Cable, Assy
PN 2120025	Socket Connector with Cable, Assy
PN 1987559	Photovoltaic Connector 1 pos.

It is necessary to find the dimensions, materials and surfaces in the relevant customer drawing.

1.2 Product Specifications

It is always necessary to take into consideration the specification of the components being used.

Edge Connector	108-94114
Blindplug	108-94114
Socket Connector Cable, Assy	108-94205
Socket Connector with Cable, Assy	108-94205
Photovoltaic Connector 1 pos.	108-94205

1.3 Application Specification

The Application specification for the SOLARLOK* Slim Line Connector is 114-18952.

The instruction sheet for SOLARLOK* Slim Line interconnection system 411-18535 is included as a manual for assembly.

1.4 Cleaning Products

Cleaning products which can erode the plastics (Connector and Junction Box) must not be used. We recommend the use of soft cloths moistened with Isopropyl alcohol for cleaning.

You must not use oils or lubricants of any type or other materials that are not stated in this specification.

2. SOLARLOK* Edge Connector

2.1 General instructions (Handling, safety and cleanness)

Any type of exposure to contaminants (dust, humidity, eg.) can negatively affect the system with regards to its functions, over the duration of use. This applies especially to the functionality of the connector seals and crimped contact connections. Therefore, during assembly, it is necessary to ensure a careful and clean processing environment.



During lamination process, storage, transportation and installation, it is necessary to protect the contacts and sealing area against contamination from lamination material, dust or moisture.

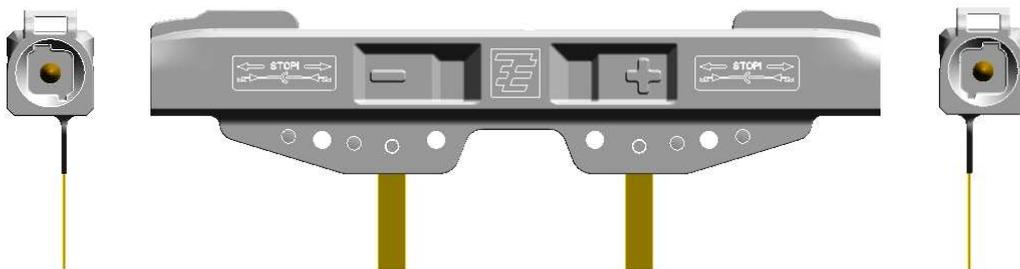


Fig. 1: Design of Edge Connector



Fig. 2: Design of Blindplug

2.2 Installation guidelines for junction box attachment to the PV-module.

The following application technical instructions are made as guidelines. These instructions do not excuse the user or installer of the SOLARLOK* boxes and connectors from independently testing the adhesive materials, silicone glues or lamination materials to determine the suitability for their proposed assembly process and application.

2.2.1 Contents

This section describes the edgewise lamination process of the SOLARLOK* Edge Connectors between the front and backside glass of the solar module with the goal to secure the product in accordance with this specification. This technique may be used on glass/glass panels.

2.2.2 Assembly Aids

Adhesive materials and lamination process must be independently tested and verified by the customer at their own responsibility.

2.2.3 Equipment

Refer to supplier's application instructions for adhesive applicator and application.

2.2.4 Supporting products for assembly and safety

- Gloves, soft and clean cloths
- Cleaning product: isopropyl alcohol

2.2.5 Safety instructions

Before beginning of the Edge Connector attachment process, obtain, review and follow the manufacturer's material safety information.



The use of appropriate gloves and eye protection is required throughout the attachment process. Ensure adequate ventilation at all times during the attachment process. Refrain from eating, drinking or smoking in the vicinity. Do not expose to open flames.

2.2.6 Final assembly process

The Edge Connector can go through the laminating process of the solar panel. It can be loaded with max. 160°C for a duration of max. 120 minutes.

The lamination process have to be clarified and validated with TE.

Same lamination material have to be used according the panel qualification certification. If this is not the case further qualification tests according product specification are necessary. Mechanical stress have to be avoided from the Edge Connector before, during and after the lamination process. This includes for example also the removement of overlapping lamination material after the lamination process with a knife or cutter. The lamination material have to be bubble-free. A durable electrical and mechanical connection have to be ensured between panel and Edge Connector. The whole size of wings have to be placed between the glas plates also the body have to be tight fitted edgewise on the glas plates

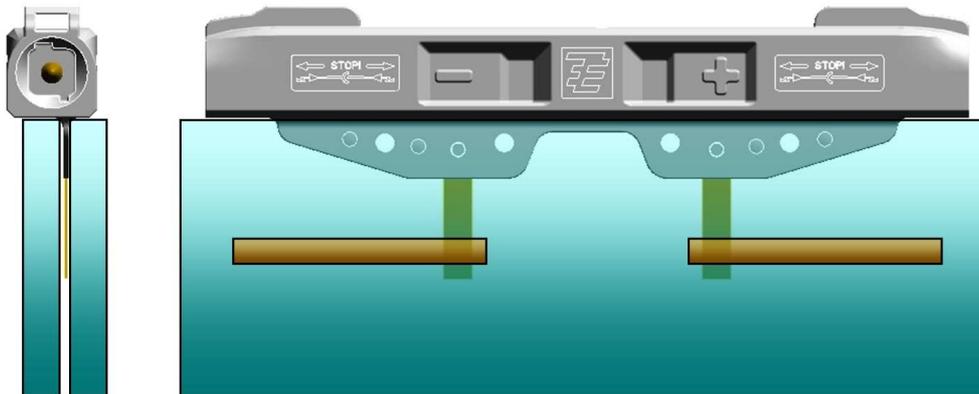


Fig. 3: Edge Connector with glass plates

2.2.7 Foil Connection

The foils/strings of the panel have to be connected with the Edge Connector foils before the lamination process. A durable electrical and mechanical connection have to be ensured.

2.2.8 Control process



Unplugged terminal points must be protected against moisture, dust and any environmental pollution. Only clean and dry plugged terminal points fulfill their respective pollution class. (Blindplugs are available, see 2.1)

3. SOLARLOK* Connector and Cable Assemblies



Attention: Do not disconnect under load!

Current path should only be disconnected using approved devices.

Cable assemblies should be labeled with label PN 0-1718077-1.

Always ensure that conductors and their associated connectors are connected to their correct polarity.



Unplugged terminal points must be protected against moisture, dust and any environmental pollution. Only clean and dry plugged terminal points fulfill their respective pollution class. (Dust covers are available, see specification 108-94205)

3.1 General instructions

Any kind of pollution (dust, humidity, etc.) during the assembly process can degrade the contact and connector performance. A clean assembly environment is therefore essential.

Prior to installation, unconnected connectors must always be protected from pollution (e.g. dust, humidity, foreign particles, eg.).



Do not leave unconnected (unprotected) connectors exposed to the environment (Dust covers are available, see specification 108-94205)

3.2 Handling of connectors and cables

The cable must not be bent or crushed on the direct exit of the cable screw joint.

A minimum bending radius $R \geq 5 \times$ cable diameter must be maintained.

The cable must be routed in a way, that tensile stress on the conductor or connections is prevented.

See specification 114-18952.



The cable must not be bent or crushed on the direct exit of the cable screw joint.

3.3 Connector Latching

When mating the SOLARLOK connectors, ensure the following:

Connectors labeled with a (+) or (-) are keyed and can only be mated to similarly marked and keyed connectors.

Blindplugs do not have any polarity feature. They could be used for minus and plus side of the Edge Connector.

Mating of the connectors is done by pushing the connectors together until a clear audible click is heard. This clear audible clicking sound must be heard to ensure the connectors have been mated correctly. When the connectors are correctly connected the latches should be flush against the edgewise side of the Edge Connector (see fig. 5 and 6).

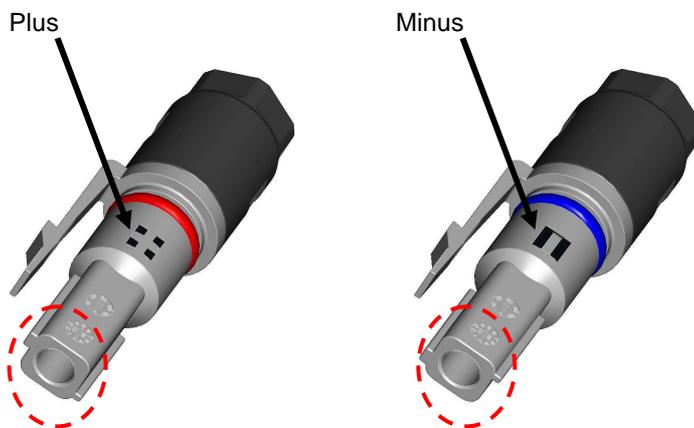


Fig. 4: Female Connector



Fig. 5: Connector not latched

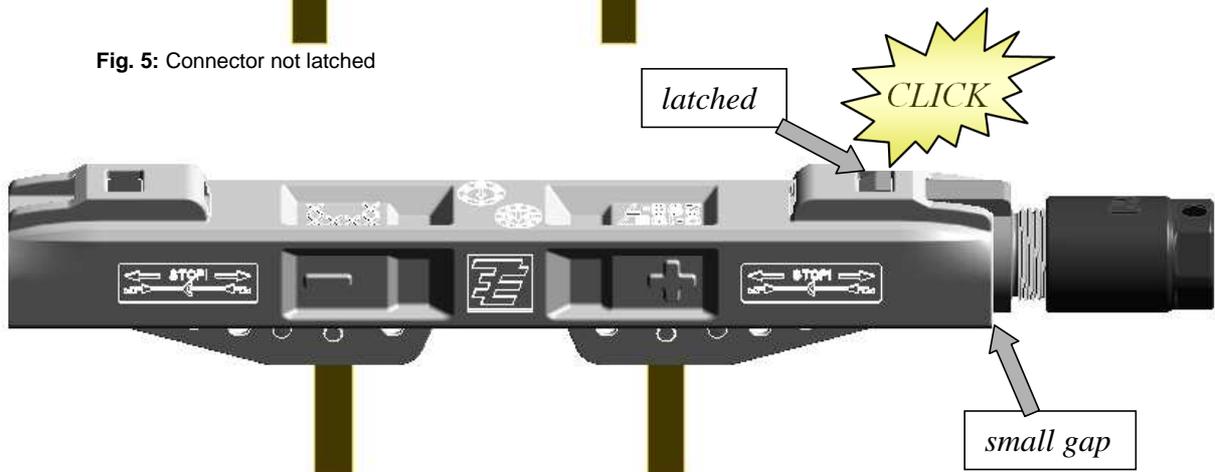


Fig. 6: Connector latched

3.4 Unmating of Connectors

For the unmating process a slot drive screwdriver with a width between 3mm and 4mm is usable. Press the tip vertically between the latch of the connector and the material of the Edge Connector latching area. Rotate the shaft of the screwdriver in direction to the center of the Edge Connector while pulling the connector.



ATTENTION: Do not connect and disconnect the connector under electrical load!
 Disconnect circuit from electrical load before unplugging connectors.
 Cable assemblies should be labeled using TE Label PN 0-1718077-1.

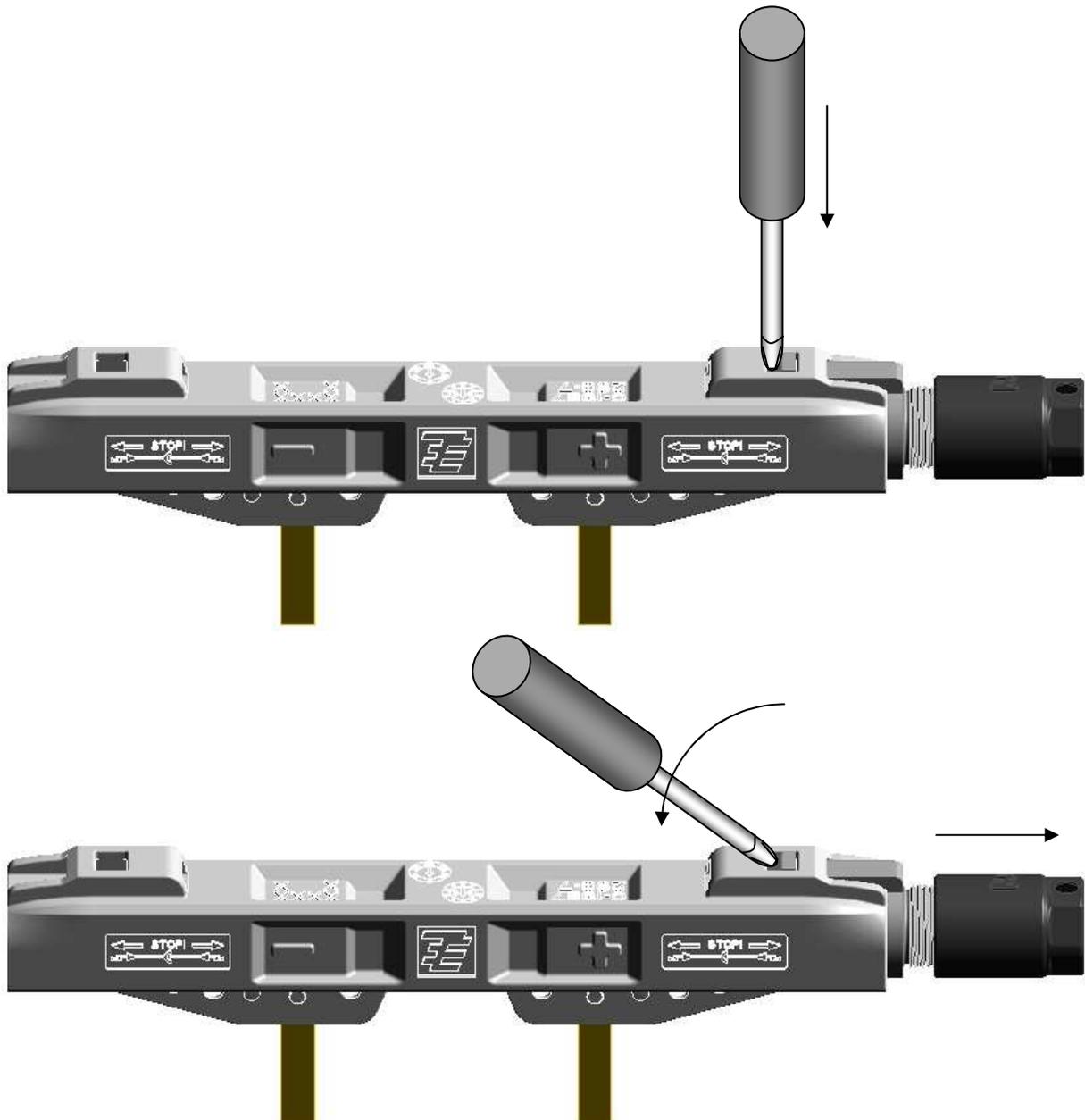


Fig. 7: Unmating of Connector

4. Storage

See product specification 108-94114.

5. Tools

No special tools necessary.

Tools for SOLARLOK* Slim Line Connector applications see specification 114-18952.