Rated Voltage: 600 V DC Maximum UL; 1000 V DC Maximum TÜV
Rated Current: 7.5 A DC Maximum
Operating Temperature Range: -40° to 85°C [-40° to 185°F]

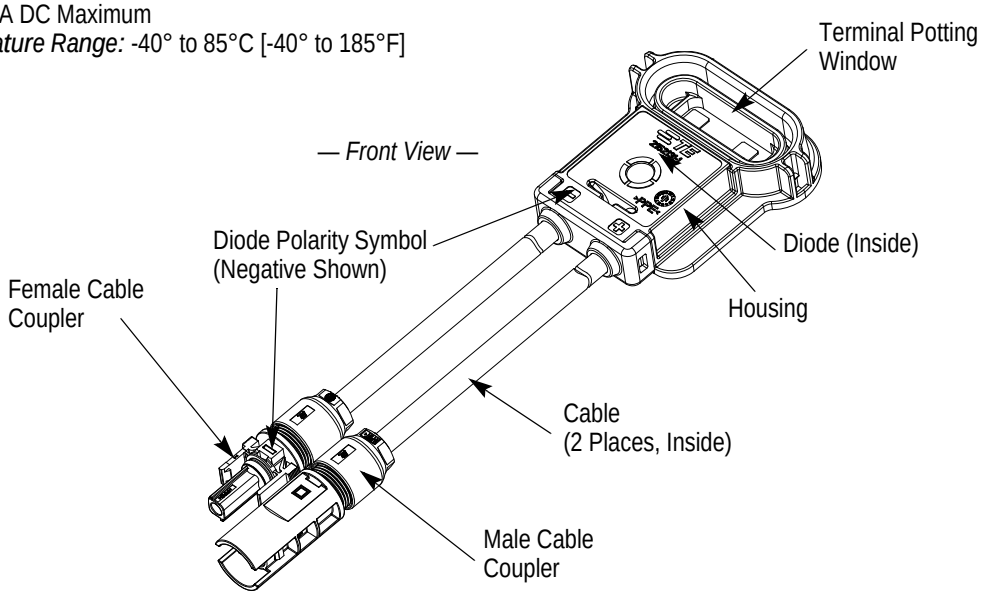

Figure 1

1. INTRODUCTION

SOLARLOK Micro Junction Box Assemblies 2152131-[ ] are used as the primary electrical interface or junction for panel-based photovoltaic (PV) modules (solar panels) for grid- or off-grid connected power generation (typically used for residential roofing).

These micro assemblies are designed for serial, parallel, or combination wire applications.

NOTE

Dimensions in this instruction sheet are in metric units. Figures and illustrations are for reference only and are not drawn to scale.

2. DESCRIPTION (Figure 1)

Each micro assembly consists of a molded housing assembly and two cable couplers (one male and one female). The housing assembly contains two solder contacts and cable (connecting the cable couplers to the contacts). The solder contacts are used for electrical connection to the solar panel.

The back of the housing assembly has a sealant channel used to hold the sealant that secures the micro assembly to the solar panel. The front of the housing assembly features a terminal potting window used to hold potting compound (this will protect the solder contact connections from environmental conditions).

Dow Corning is a trademark.

The cable couplers are marked with a positive or negative diode polarity symbol to indicate proper cable connection. The male cable coupler features locking latches that secure the connection. The female cable coupler has release locking latches that when depressed opens the locking mechanism to allow the cable couplers to be unplugged.

3. ASSEMBLY

1. Ensure the following:

- each solar panel has two tin-plated copper foils with a maximum width of 5 mm
- cable assemblies are Underwriters Laboratories Inc. (UL) rated for ultraviolet (UV) light and outdoor exposure

2. Check that the sealant channel of the micro assembly and the attachment area of the solar panel are dry, oil-free, and free of any contaminants. If necessary, thoroughly clean these areas.

3. Using Dow Corning Type 804 Room Temperature Vulcanization (RTV) Silicon Sealant, or equivalent, apply a continuous bead of sealant within the sealant channel of the micro assembly. Refer to Figure 2. Ensure that the applied bead of sealant completely fills the channel and is free of gaps.

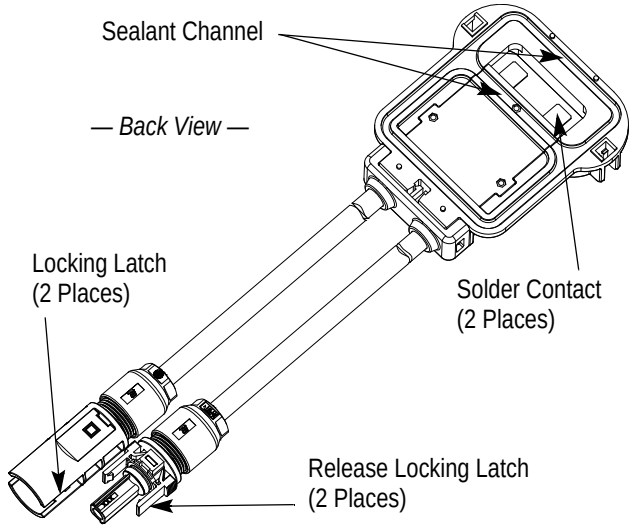

Figure 2

DANGER

To avoid personal injury, the manufacturer's instruction sheet and Material Safety Data Sheet (MSDS) must be reviewed before using the sealant.

4. With the back of the micro assembly facing the solar panel, pull the foils of the solar panel through the front of the terminal potting window, then press the housing assembly onto the solar panel. Make sure the centerline of the solder contacts coincide with the centerline of the panel foils. See Figure 3, Detail A.

5. Allow the sealant to fully cure according to the manufacturer's product specification or data sheet. The micro assembly must be protected from external forces that could cause it to be moved during curing.

6. Using industry- approved soldering methods, solder the foils to the solder contacts. See Figure 3, Detail B.

7. Test and approve the connections for electrical continuity.

8. Fill the terminal potting window within 1 mm of the top of the potting window inner wall with a potting compound suitable for the application. Shin-Etsu Silicones of America KE-210F Potting Compound, or equivalent, is recommended. See Figure 3, Detail C.

DANGER

To avoid personal injury, refer to the manufacturer's instruction sheet and MSDS before using the potting compound.

Shin-Etsu is a trademark.

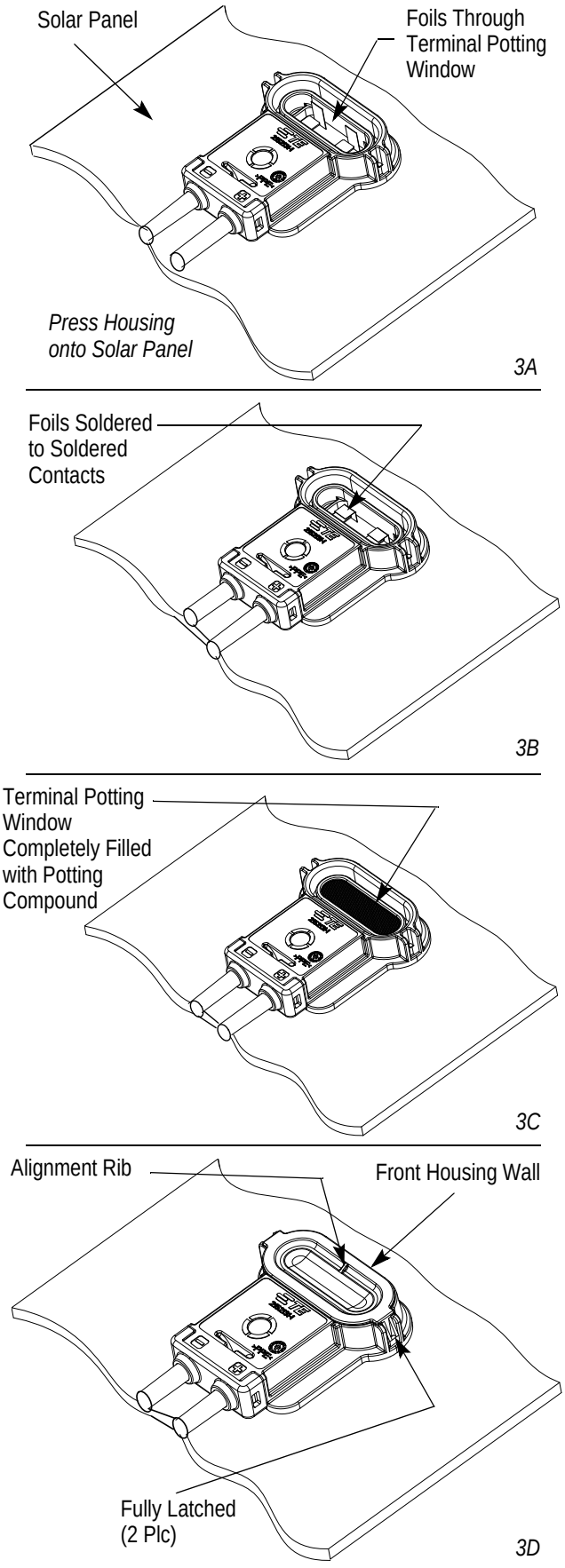

Figure 3

NOTE

The solder contacts and foils must be completely encapsulated by the potting compound to prevent them from being exposed to moisture.

9. Assemble contact cover to housing. Ensure contact cover alignment rib is facing front wall of housing. Ensure cover is seated and is fully latched at both places. See Figure 3, Detail D. After potting, and with the cover in place, the assembly must be protected from environmental extremes for seven days to permit adequate cure time.

10. Install the solar panels onto the roof according to the documentation included with the solar panels.

11. Connect the solar panels using the micro assemblies by plugging the female cable couplers into the male cable couplers. There should be an audible “click” when the couplers are fully mated. Make sure to observe the polarity symbol of the female cable coupler when making connections. ***DO NOT pull or twist the cables***. Connect the first solar panel and last solar panel to the remainder of the system. Refer to Figure 4.

DANGER

To avoid personal injury, MAKE SURE that the circuit load is DISCONNECTED BEFORE plugging in the cable couplers. DO NOT plug in a cable coupler under load.

4. DISASSEMBLY

DANGER

To avoid personal injury, DISCONNECT the circuit load BEFORE a cable coupler is unplugged. DO NOT unplug a cable coupler under load.

To unplug cable couplers, squeeze the release locking latches of the female cable coupler together, then holding the body (not the cable) of male cable coupler, and pull the couplers apart.

Replace any cable coupler after either coupler has been unplugged 50 times.

The micro assemblies cannot be removed from the solar panel without damage to both products.

5. REPAIR

CAUTION

The micro assemblies are not repairable. DO NOT use damaged or defective products.

6. REVISION SUMMARY

- Initial release of document

Overview of Connection of Solar Panels Using Micro Junction Box Assemblies

Serial Wire Diagram (Ref)

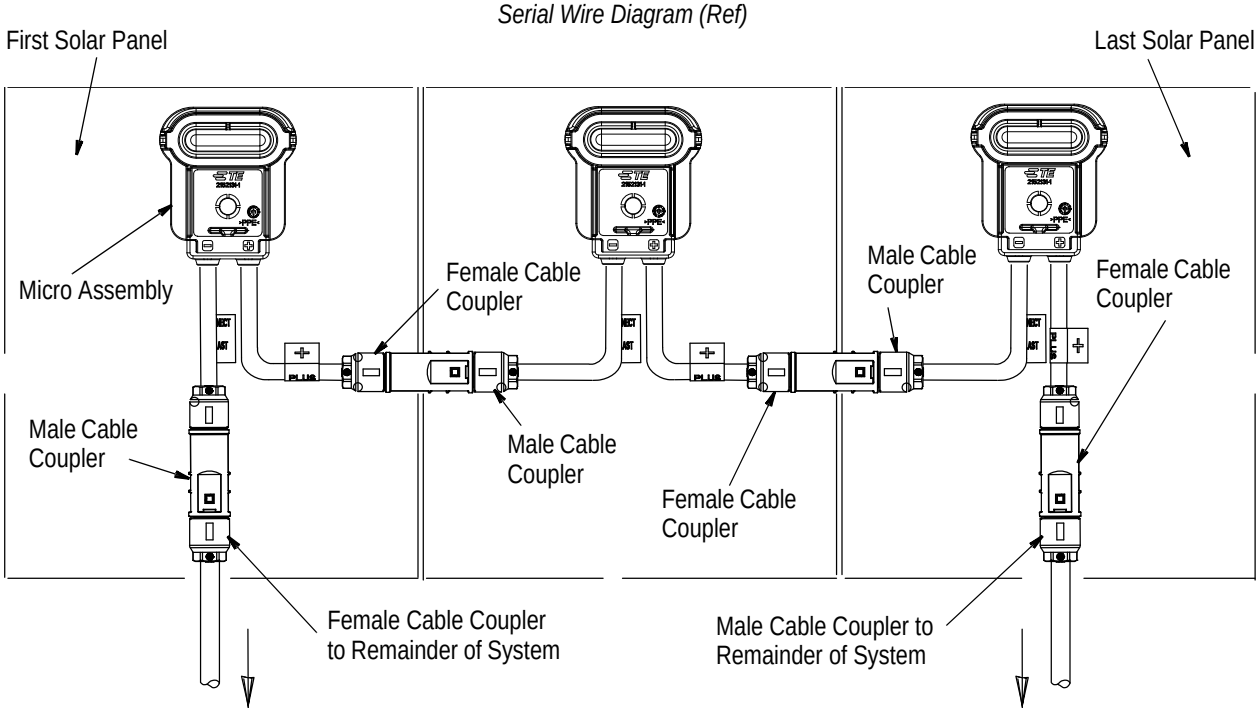

Figure 4