SolarEdge TerraMax™ Inverter communications board assembly replacement - support kit manual

This manual describes the procedure for replacing the SolarEdge TerraMax Inverter communications board assembly.

Revision history

- Version 1.1, March 2024 – Changed name to TerraMax
- Version 1.0, January 2024 - Initial release

Kit contents

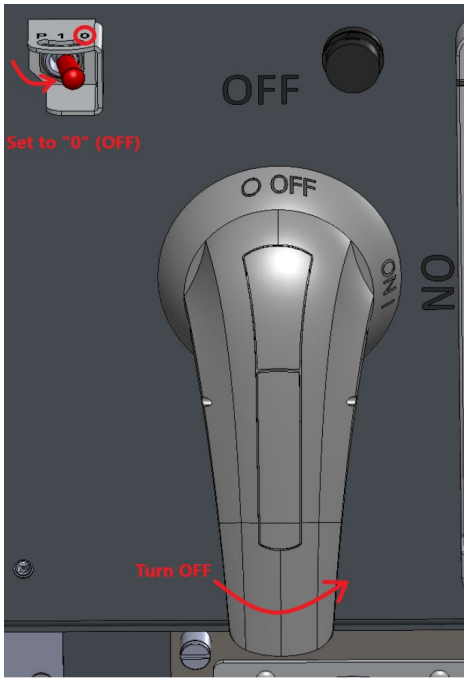
- SolarEdge TerraMax Inverter Communications Board PN FLD-3PH-OR-PRT.

Required tools

- Torque screwdriver
- 4mm hex bit
- 5mm hex bit
- Voltmeter
- Small flat screwdriver

Before you begin

1. Set the P/1/0 switch to “0” (OFF).
2. Turn the DC ON/OFF switch to the OFF position.



3. To lock the DC Switch, pull the white tab out away from the blue handle and insert a padlock through one of the holes.

4. Lock the padlock.

DC ON/OFF switch safety padlock

5. Disconnect AC power to the inverter by turning OFF the circuit breaker in the power distribution panel.
6. Wait at least five minutes for the DC Voltage inside the inverter to drop to a safe level.

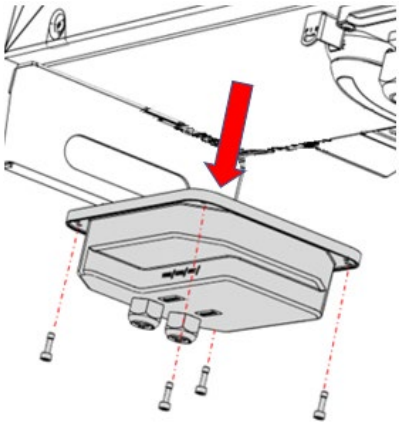
WARNING!

Before doing any maintenance work on the inverter, test for safe AC and DC voltages.

7. As an additional safety precaution, lock the power distribution panel.

Remove the damaged communications board assembly

1. Using a 5mm hex bit, loosen the screws holding the communications board assembly in place.
2. Pull the communications board assembly off the guide pins.



Remove the communications board assembly

NOTE

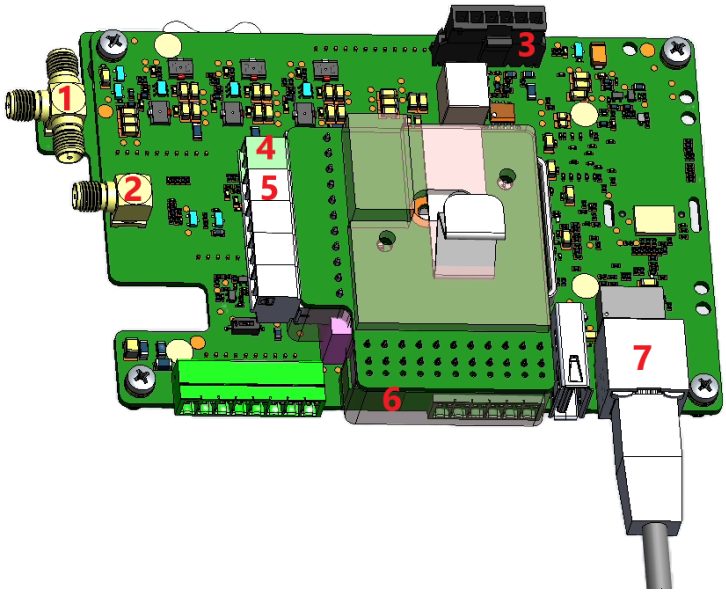
The communications board assembly is still connected to the inverter by some cables. You must release these cables before you can replace the assembly.

NOTE

Some cable connector have a locking mechanism. Make sure to press and release the locking mechanism when removing the connector from the socket. Do not grip the wires to pull the connector from the socket.

Identify the cables

The cables and connectors connected to the communications board are shown below:



No.	Connector Identification
1	LTE antenna
2	Zigbee antenna (if connected)
3	P1012 (6-pin)
4	RS485
5	CAN bus
6	P321 (3-pin)
7	Ethernet

Disconnect connectors

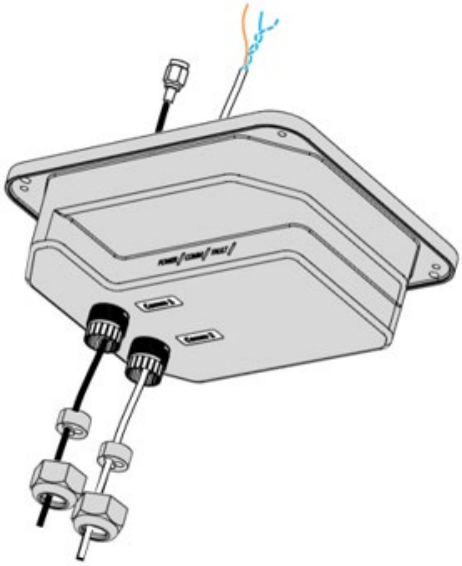
1. Disconnect the connector between the inverter and the communications board assembly.

NOTE

This connector combines the cables from P321 and P1012.

2. Release the RS485 and CAN-bus green connector.

3. Using a small flat screwdriver, release the screws holding the RS485 and CAN bus wires in the connector. Take careful note of the position of each wire so that you can reconnect the wires correctly. If necessary, take a photograph.
4. Disconnect the ethernet cable from its socket.
5. Disconnect the antenna cable/s.
6. Loosen the cable gland nuts.
7. Carefully pull the cables out of the communications board assembly.



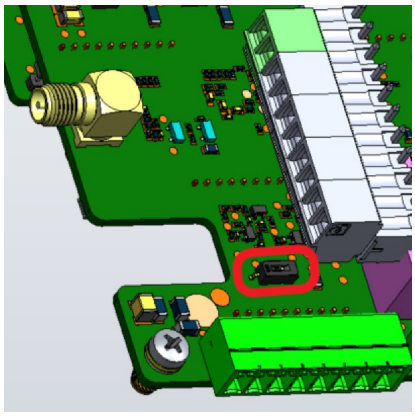
Remove the cables

Install the replacement communications board assembly

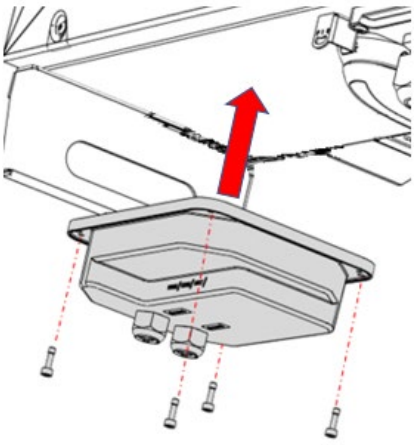
1. Feed the cables back through the gland holes of the new communications board assembly.
2. Connect the 6-pin connector to the P1012 socket and the 3-pin connector to the P321 socket Make sure the connectors are pushed all the way into their sockets.
3. Reconnect the antenna cable/s.
4. Reconnect the ethernet cable.
5. Insert the wires of the RS485 and the CAN bus into their correct positions and tighten the screws. Reconnect the connector.
6. Reconnect the connector that connects the communications board assembly to the inverter.
7. Tighten the cable gland nuts.

IMPORTANT NOTE

When replacing the communications board in either the first or the last inverter in multiple inverter systems, it is very important to set the “termination” switch to ON. The switch is located on the board as shown in the figure below.



8. Guide the holes in the communications board assembly over the two guide pins. Make sure you don’t bend or trap the cables.



Install the new communications board assembly

9. Insert the screws and using a 5mm hex bit, tighten them to a torque of 2.4N·m (21.2 lbf·in).

Turn on the power

1. Turn ON the AC circuit breaker.
2. Remove the padlock and turn the DC Switch ON.
3. Set the P/1/0 switch to “1” (ON).
4. Using SetApp, scan the QR code on the master inverter.
5. Select **Communication on the site.**
6. Select **CAN.**
7. Select **Followers**.
8. Select **Follower detect**.
9. Before leaving the site, make sure that the repaired inverter appears in the follower list.