

# SolarEdge TerraMax™ Inverter Digital Board replacement - Support kit manual

This manual describes the procedure for replacing the SolarEdge TerraMax Inverter Digital Board.

## Revision history

- Version 1.1, March 2024 – Name changed to TerraMax
- Version 1.0, January 2024 – Initial release

## Kit contents

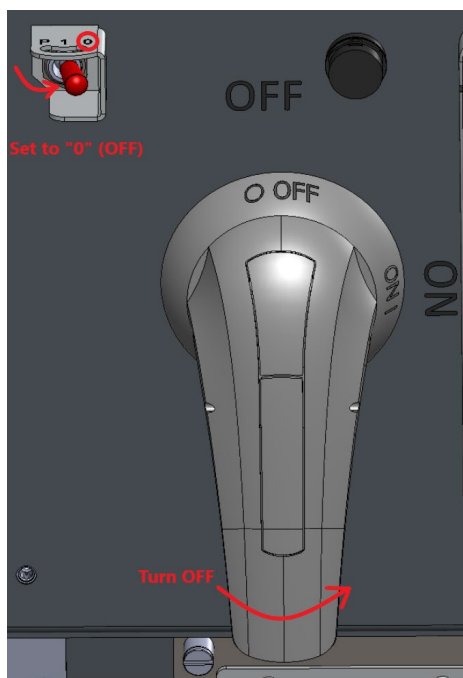
- SolarEdge TerraMax Inverter Digital Board PN FLD-3PH-OR-DIG.

## Required tools

- Torque screwdriver with 30cm extension
- 5mm hex bit
- Torx T20 bit
- Voltmeter

## Before you begin

1. Set the P1/0 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

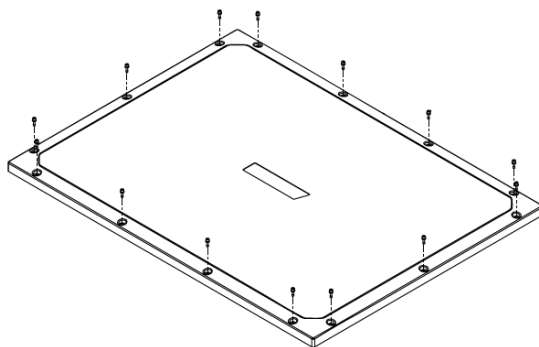
5. Disconnect AC power to the inverter by turning OFF the circuit breaker in the power distribution panel.
6. Wait at least five minutes for the DC Voltage inside the inverter to drop to a safe level.
7. As an additional safety precaution, lock the power distribution panel.

## Remove the cover

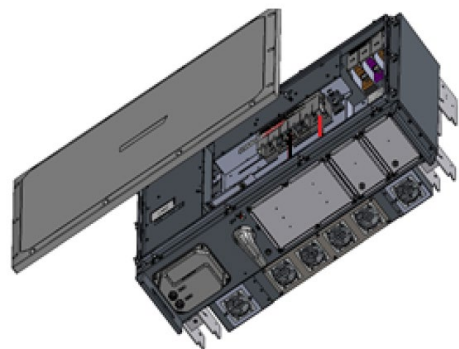
### NOTE

The inverter cover assembly is too big for one person to handle safely. SolarEdge recommends that two people remove and handle the cover assembly.

To remove the cover, use a screwdriver with a 5mm hex bit to release the screws holding the cover in place.



Inverter Cover Assembly

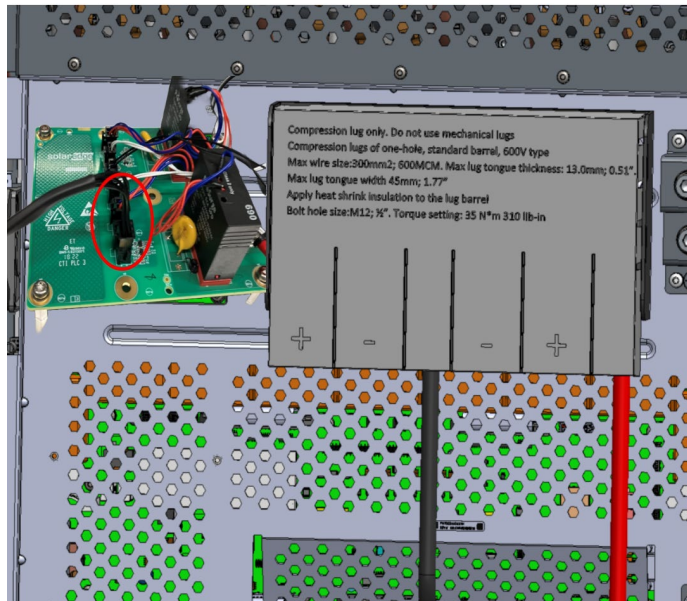


### WARNING!

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

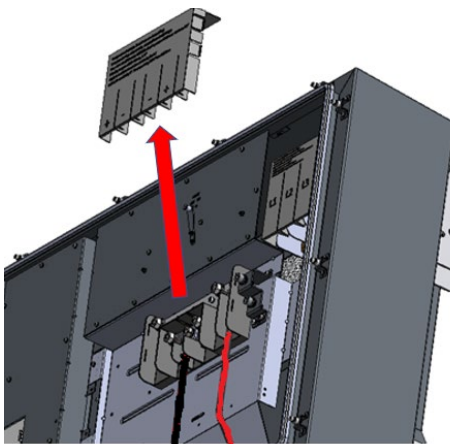
## Remove the damaged Digital Board

1. Locate the Digital Board cable and connector on the DC-SPD.
2. Disconnect this connector from its socket.



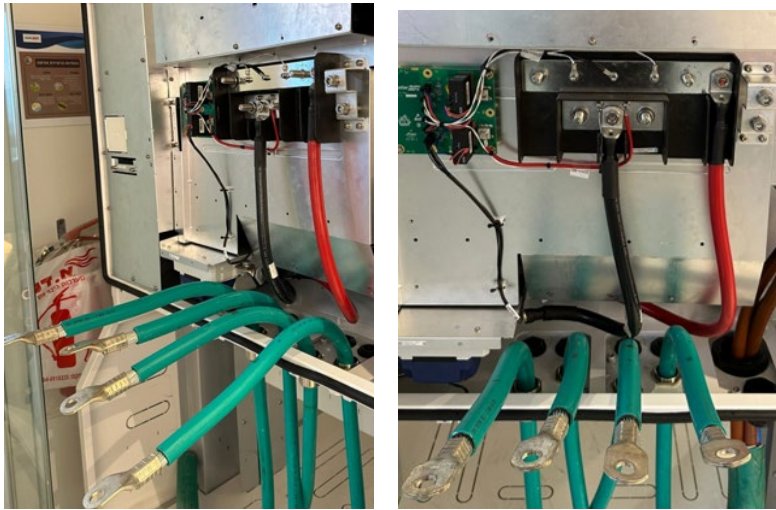
**Disconnect the Digital Board cable connector from the DC-SPD**

3. Remove the DC Terminal plastic cover.



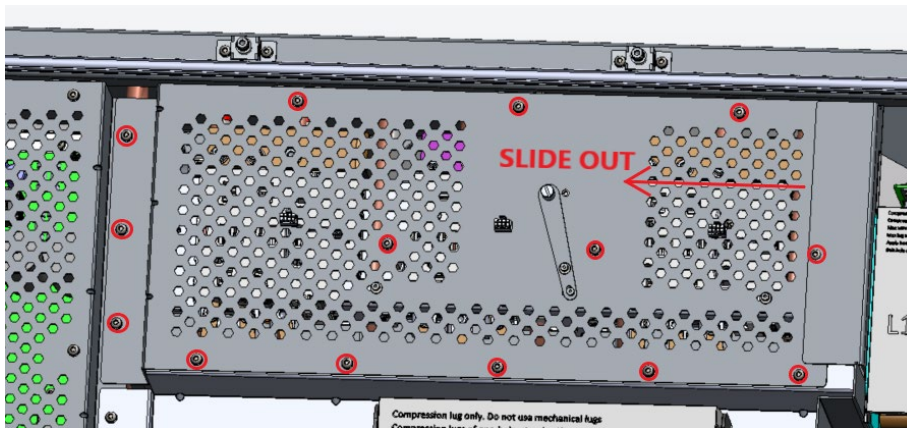
**Remove the DC Terminal Cover**

4. Using a 17mm and a 19mm socket wrench, remove the nuts that secure the DC cables to the DC terminal block.
5. Bend the DC cables away from the inverter to gain easier access to the internal parts. Do not bend the DC cables excessively.



Bend the DC cables

- Using a Torx T20 bit, remove all the screws holding the top cover in place and slide the cover to the left to remove it.

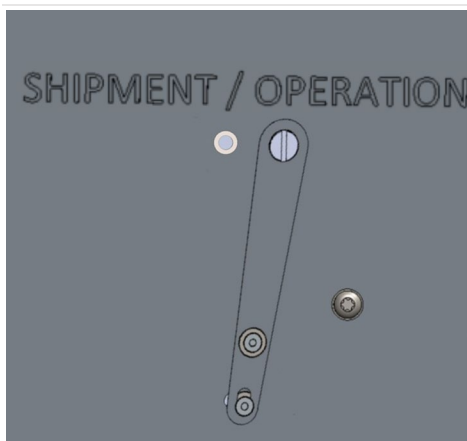


Remove the internal Top Cover



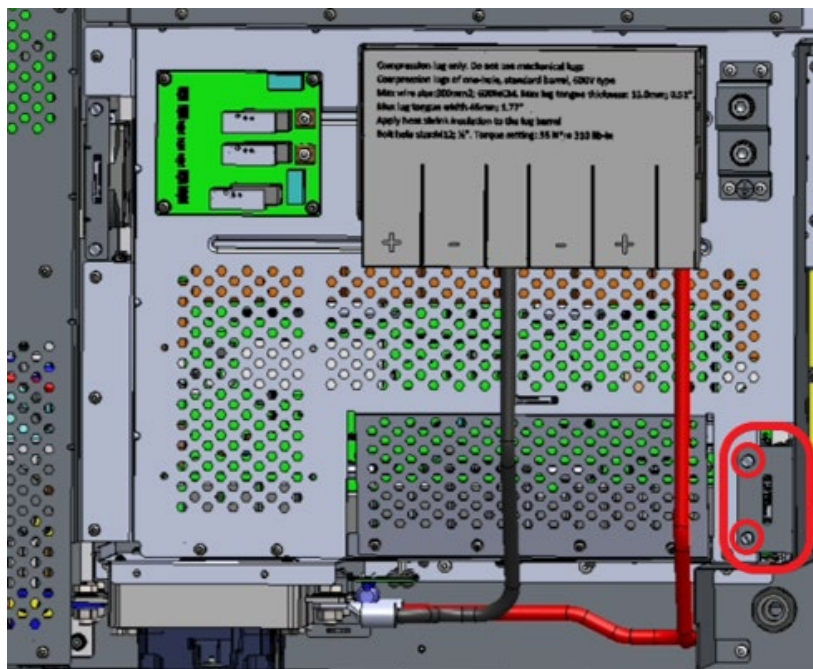
### CAUTION!

Note the position of the OPERATION SWITCH handle and do NOT change its position.

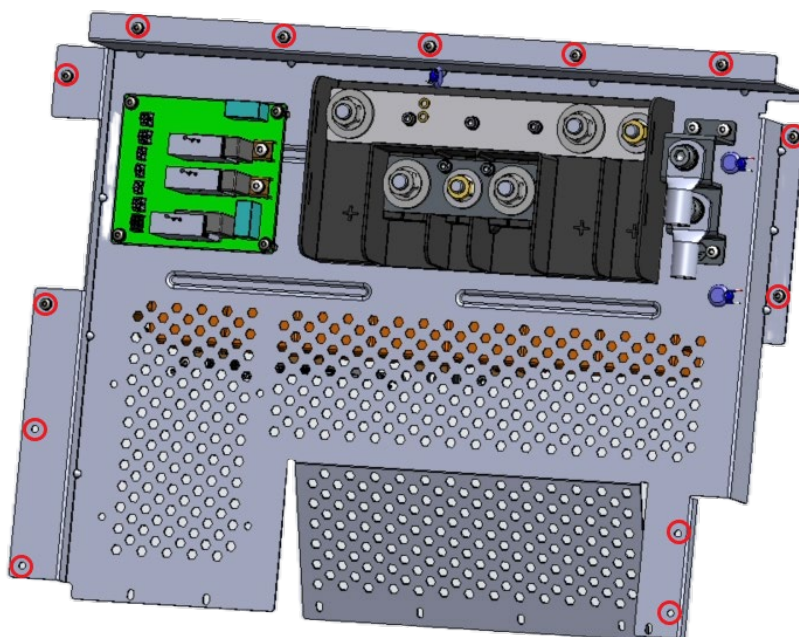




7. Using a flat screwdriver, loosen the two (2) captive screws holding the DC Capacitor cooling fan unit in position.



8. Remove the complete DC Capacitor cooling fan unit from the inverter.
9. Disconnect the fan power cable connector from its socket.
10. Using a Torx T20 bit with the 30cm extension, remove the screws holding the internal middle cover in place.
11. Slide the cover to the left and remove it.

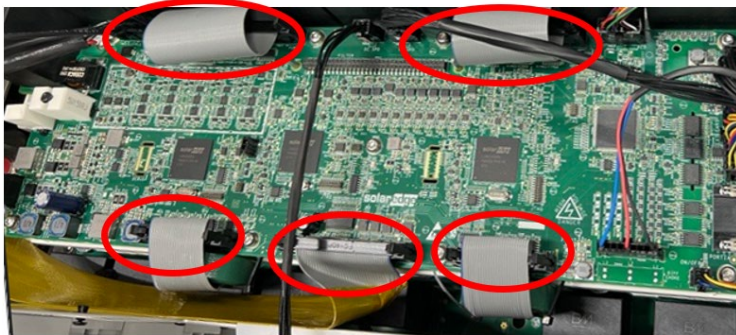


**Remove the internal middle cover**

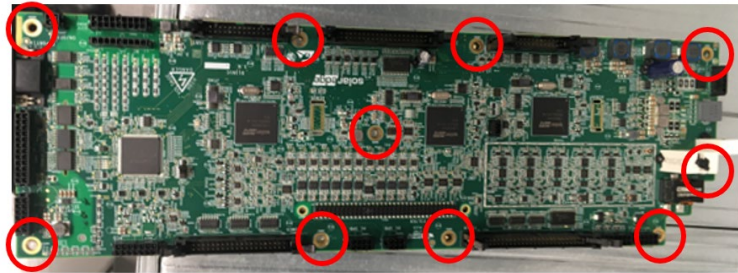
**NOTE**

Before disconnecting any cables, mark their connection positions so that you can reconnect them at the correct places.

12. Disconnect the flat cables and all other cables from the Digital Board.

**Disconnect the flat cables**

13. Using a Torx T20 bit, remove the screws holding the Digital Board in place.

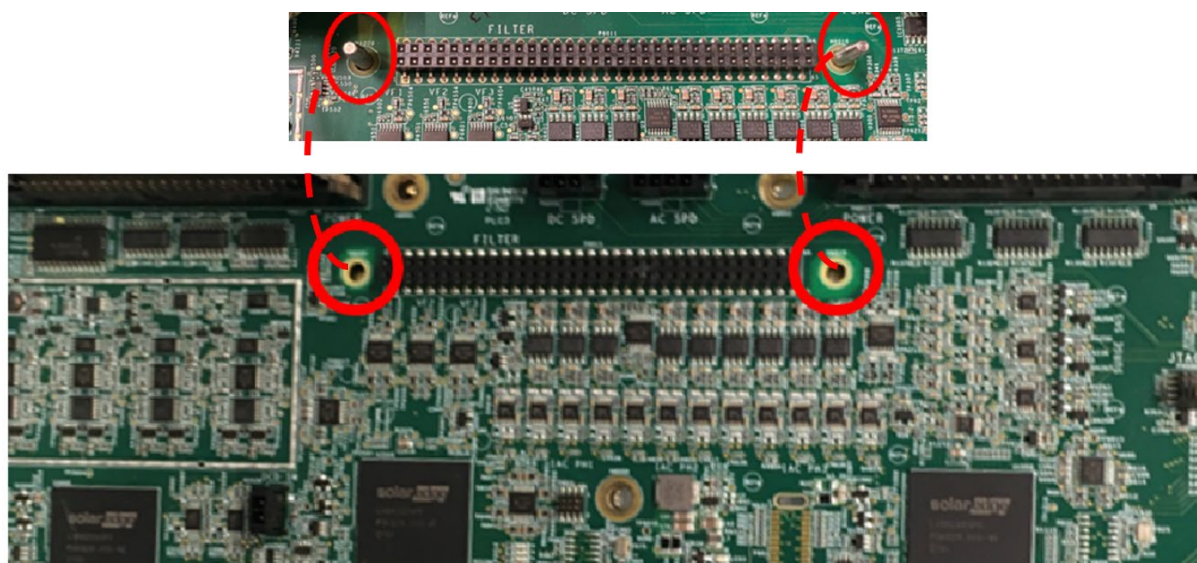
**Remove the Digital Board****CAUTION!**

Under the Digital Board, there are very delicate connector pins. Take extreme care not to damage these pins.

14. Remove the Digital Board. Make sure to hold the Digital Board in the middle and not on the sides. Take care not to damage the delicate connector pins under the Digital Board.

## Install the replacement Digital Board

1. Locate the two guide holes provided in the Digital Board and line them up with the two guide pins on the FILTER Board.



Line up the holes with the pins in the Filter board



### CAUTION!

Perform the next steps carefully.

2. Hold the Digital Board in the middle (not on the ends) and gently lower the board over the pins of the FILTER Board.
3. Press the board all the way in.
4. Insert the screws and, using a Torx T20 bit, tighten the screws to a torque of 2.4N·m (21.2lbf·in).
5. Reconnect all the connectors making sure the connectors are pushed all the way into their sockets and locked in place.



### NOTES

Make sure the protrusion provided on the flat Cable connectors line up with the slot provided on the Digital Board socket.

6. Insert the internal middle cover, sliding it from left to right into position.
7. Insert the screws and using a Torx T20 bit with the 30cm extension, tighten the screws to a torque of 2.4N·m (21.2lbf·in).
8. Connect the DC Capacitor Cooling Fan power cable connector to its socket. Pull the cable gently to make sure that it is properly connected.
9. Insert the new DC Capacitor Cooling Fan into position.



### IMPORTANT NOTE

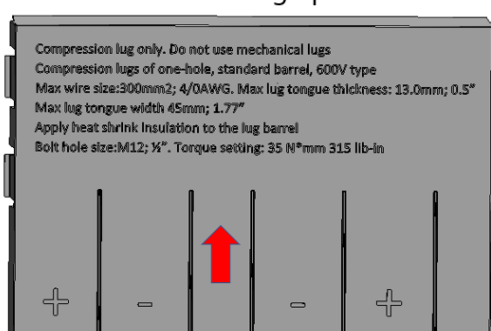
When inserting the fan into position, make sure that the fan's cable cannot touch the fan's blades.

10. Using a flat screwdriver, tighten the two (2) screws to a torque of 2.4N·m (21.2lbf·in).
11. Reconnect the Digital Board cable connector to its socket on the DC-SPD. Make sure the connector is pushed all the way into the socket and the lock is locked.

## Complete the installation

1. Ensure that the OPERATION SWITCH is in the ON position.
2. Reconnect all the DC cables. Ensure that each DC cable is returned to its correct position.
3. Using the 17mm socket wrench, tighten the M10 nuts to a torque of 18N·m (159lbf·in).
4. Using the 19mm socket wrench, tighten the M12 nuts to a torque of 35N·m (310lbf·in).
5. Make sure that the DC cables are pushed in all the way to avoid interfering with the Cover Assembly.
6. Insert the internal top cover, sliding it from left to right into position.
7. Insert the screws and using a Torx T20 bit, tighten the screws to a torque of 2.4N·m (21.2lbf·in).
8. Reattach the DC terminal cover. Ensure that the orientation of the text is correct.

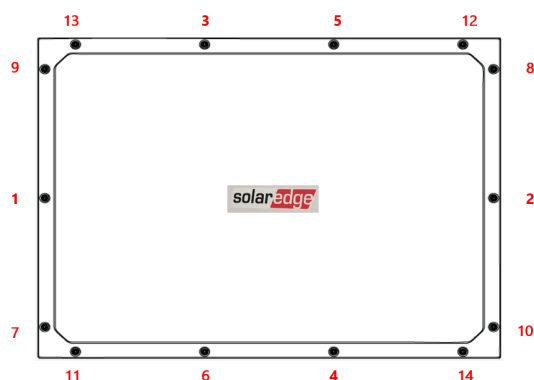
Text facing up



### DC Terminal Cover

## Reattach the cover assembly

1. Place the cover in position and insert the screws.
2. Using a Torx T25 bit and a torque wrench, tighten the screws to a torque of 3.9N·m (34lbf·in).
3. Tighten the screws in the following sequence:



### Screw tightening sequence

## Turn on the power

1. Unlock the power distribution panel and turn ON the AC circuit breaker/s.
2. Remove the padlock and turn the DC Switch ON.
3. Set the P/1/0 switch to "1" (ON).