SolarEdge StorEdge inverter - top only replacement manual – North America

Revision history

- Version 1.0, June 2024: Initial release

This document describes the procedure for replacing the top half of the SolarEdge StorEdge inverter.

Kit contents

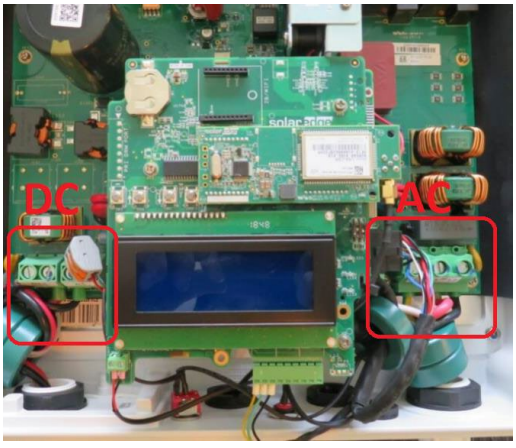
- New StorEdge inverter top half

Required tools

- 4mm Allen wrench
- #1 Phillips screwdriver
- Voltmeter
- Needle-nose pliers

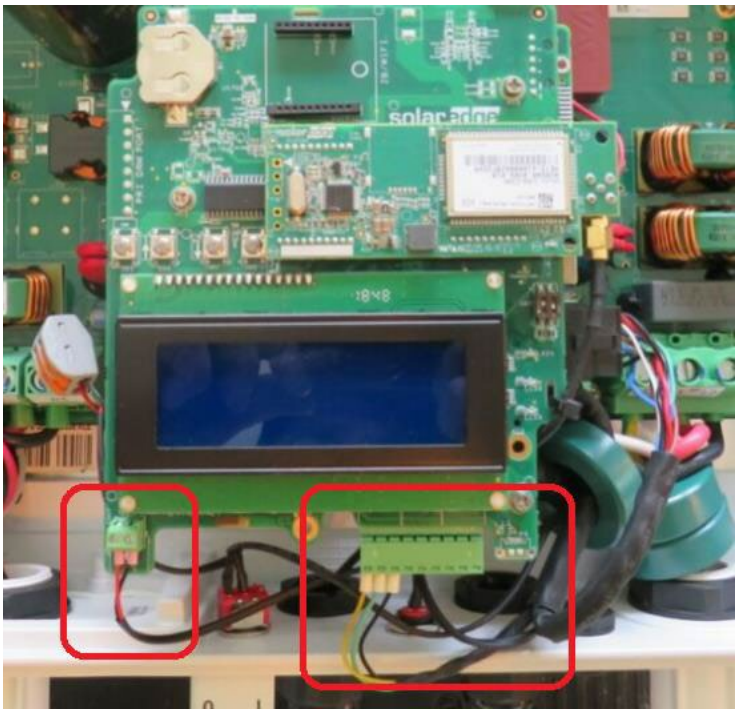
Before you begin

1. If the inverter is responsive, navigate through the menus and verify the following:
    - Correct meter settings (CT rating; Device ID; meter function)
    - **Energy Control** mode selected
    - Correct country code selected
2. Set the 1/0 toggle switch to “0” (OFF).
3. Wait at least 30 seconds for the DC voltage to reduce to 0V.
4. Turn the DC Disconnect switch OFF.
5. If there are any batteries connected, turn them off as per the manufacturer’s instructions.
6. Turn off the inverter main AC circuit breaker.
7. Remove the six (6) Allen screws securing the top exterior cover of the inverter.
8. Verify that the measured voltage at the points shown in the picture below are at 0V.

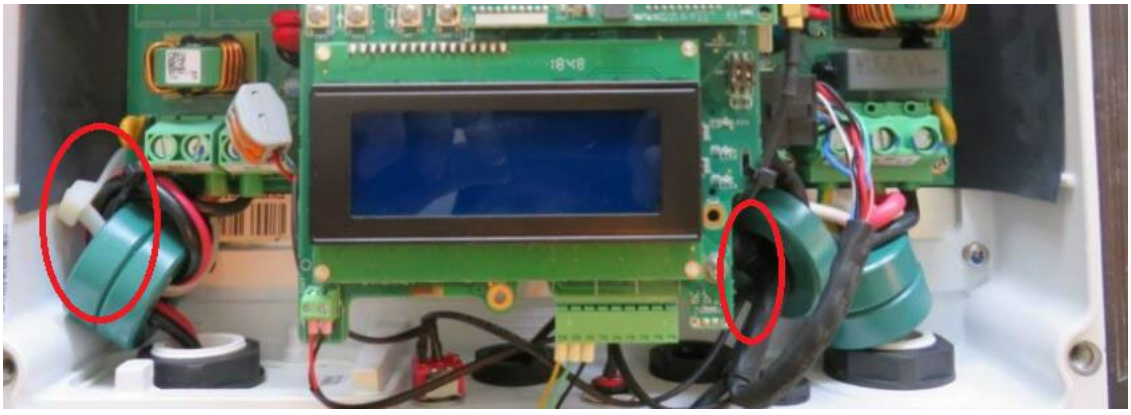


Disconnect the cables

1. Remove all communications devices and cables connected to the communication board. These can include a ZigBee module, cellular plugin, ethernet cable, etc.
2. Remove the cables connected to the communications board as shown below.

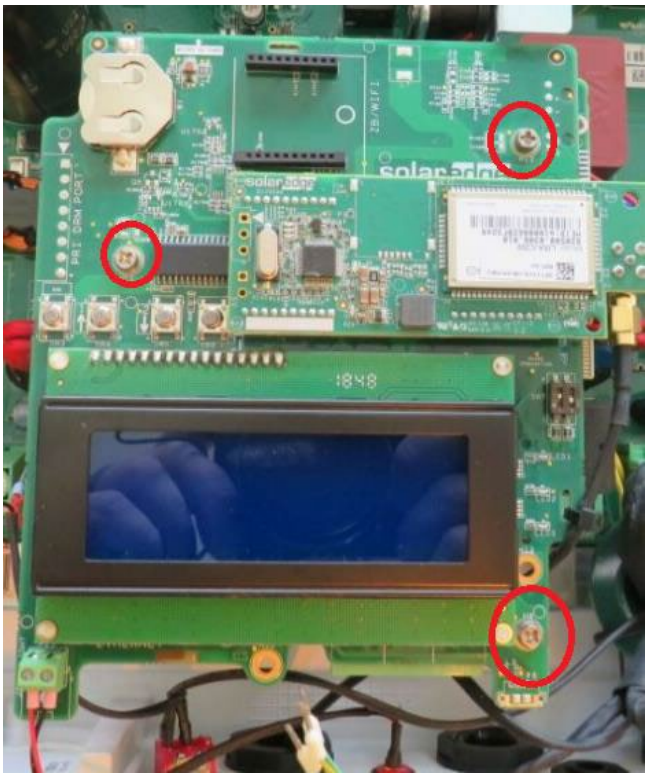


3. Cut the zip ties holding the ferrite rings in place.



Remove the communication board

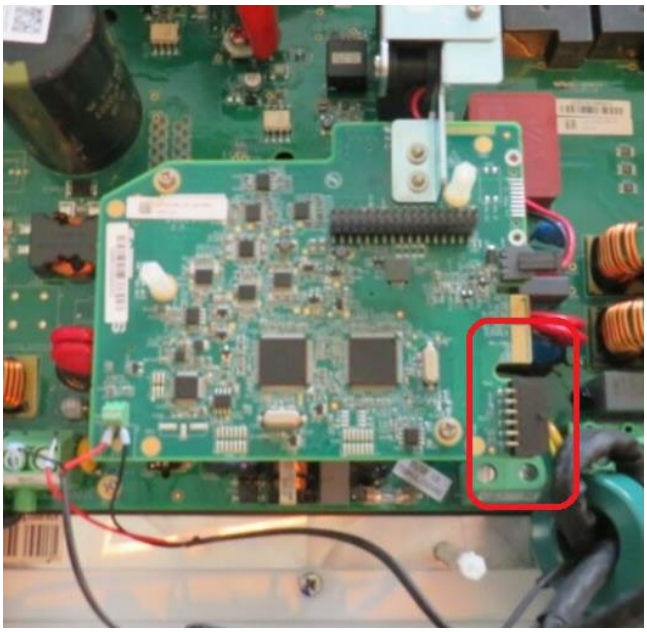
1. Using a #1 Phillips screwdriver, remove the three (3) screws as shown.



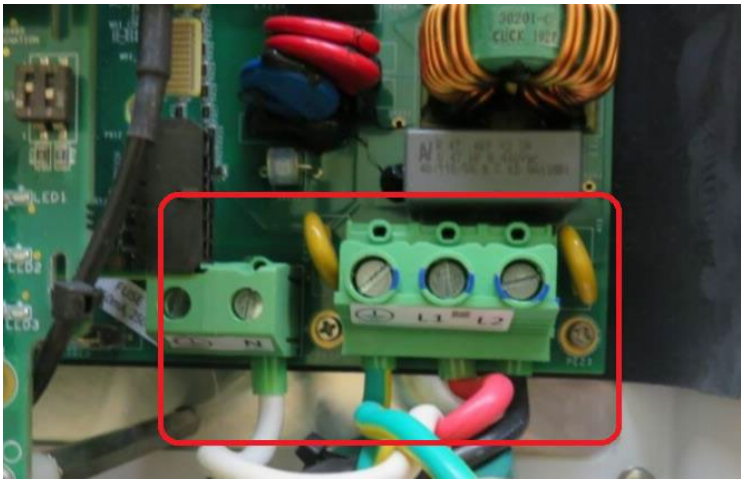
2. Pull the communications board straight out from the inverter.

Disconnect cables and connectors

1. Disconnect the connector attached to the digital board.

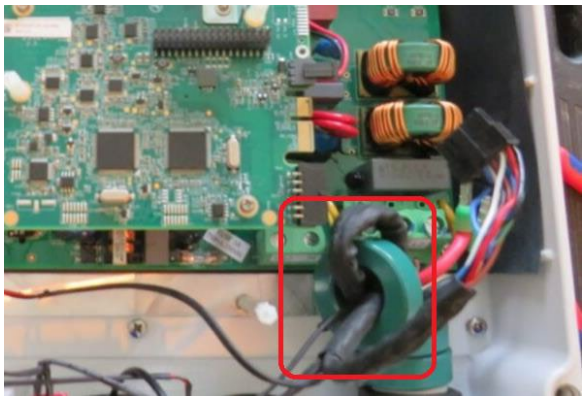


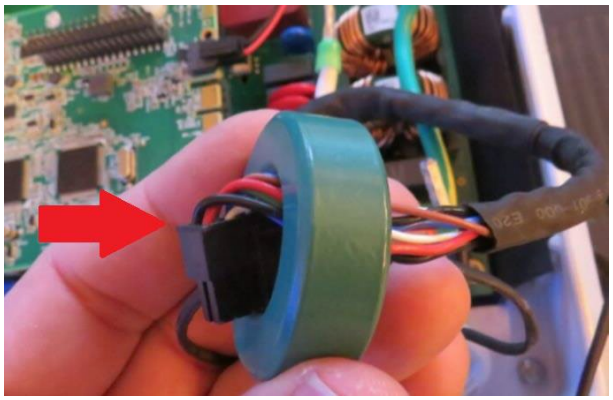
2. Using a #2 flathead screwdriver, loosen the screws holding the AC conductors in place and disconnect the conductors from their terminal block.



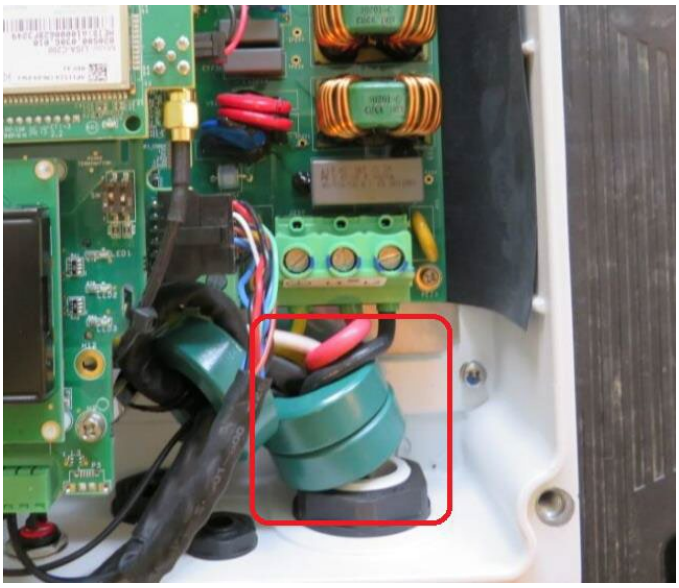
3. Using a #2 flathead screwdriver, loosen the screws holding the DC conductors in place and disconnect the conductors from their terminal block.
4. Pull the DC conductors out through the ferrite rings.

5. Push the connector (that was removed from the digital board) through the ferrite ring.



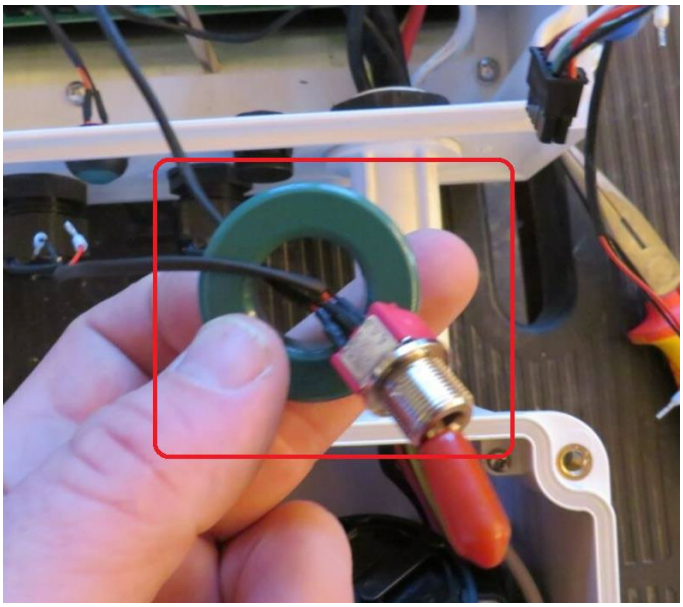


6. Pull the AC conductors out through the stack of ferrite rings.



7. Route the digital board connector through the last two ferrite rings.
8. Using needle-nose pliers, remove the locknut holding the 0/1 toggle switch in place.

9. Pull the toggle switch through all the ferrite rings.



Remove the top half of the inverter

1. Loosen the black plastic locknuts holding the top part of the inverter in place. Pull the cables and conductors out through the locknuts.

2. Remove the two (2) external seismic screws connecting the inverter to its mounting bracket on either side of the inverter.
3. Lift the inverter up to clear the DC safety switch taking care to carefully feed any cables through the bottom of the inverter.

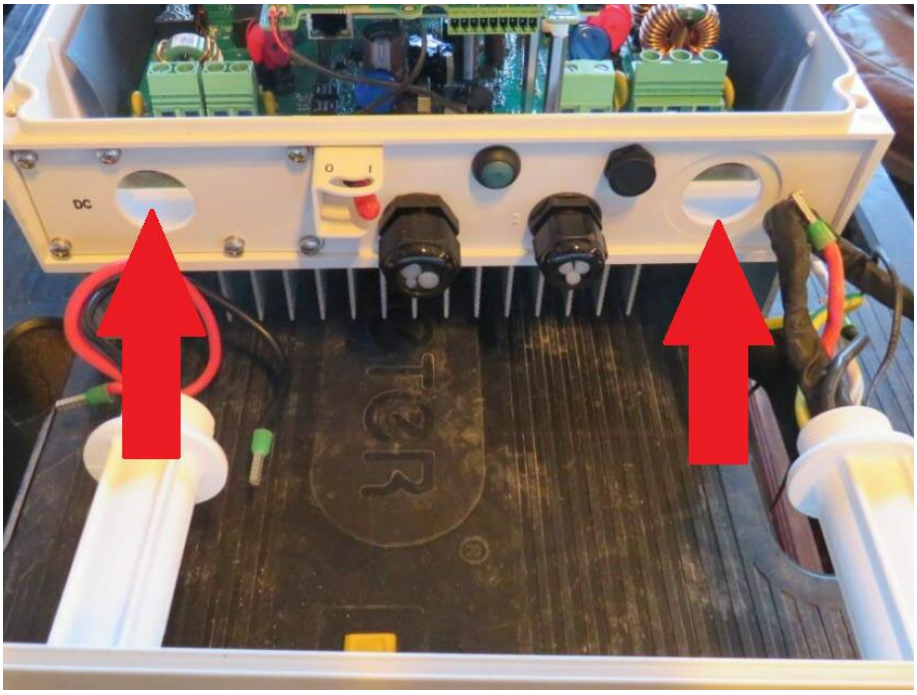
IMPORTANT NOTE

When removing the top half of the inverter take care not to damage the AC and DC conductors. Pull the wires gently through their openings as you lift off the top half. It might be necessary to tape conductors together for protection.

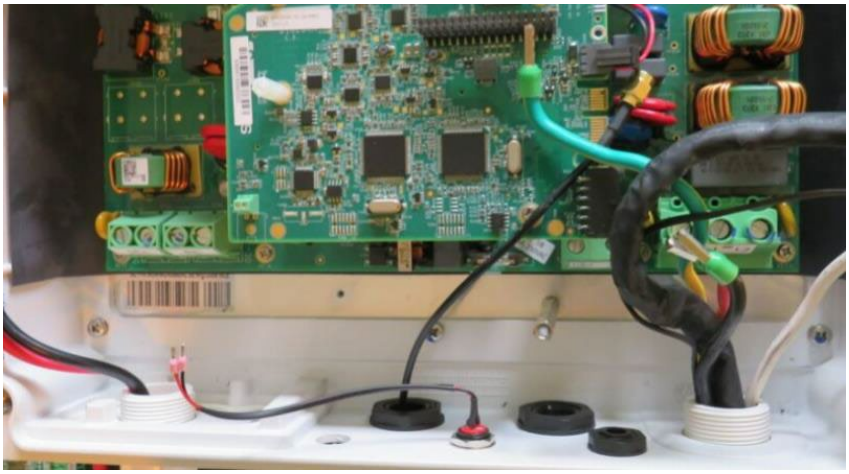
4. Place the removed inverter to the side.

Fit the new top half

1. Lower the new top half onto the DCD unit taking care to guide the all conductors through the conduit holes. Do not bend or damage connectors or conductors.

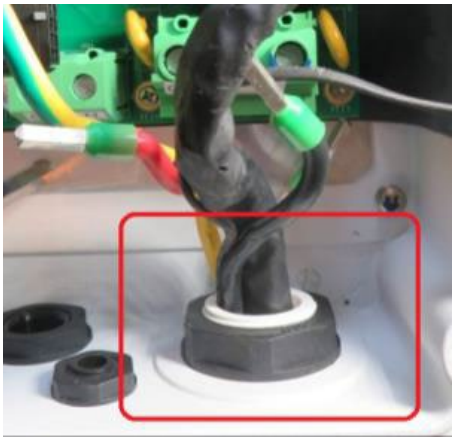


2. Pull all conductors through into the top half with enough slack so that they can connect to their respective landing points without pinching or over-tensioning.



3. Reinstall the seismic screws to the bracket on either side of the inverter.

4. Pull the cables and conductors through the black plastic locknuts.
5. Reinstall the locknuts at both entry points to the inverter.

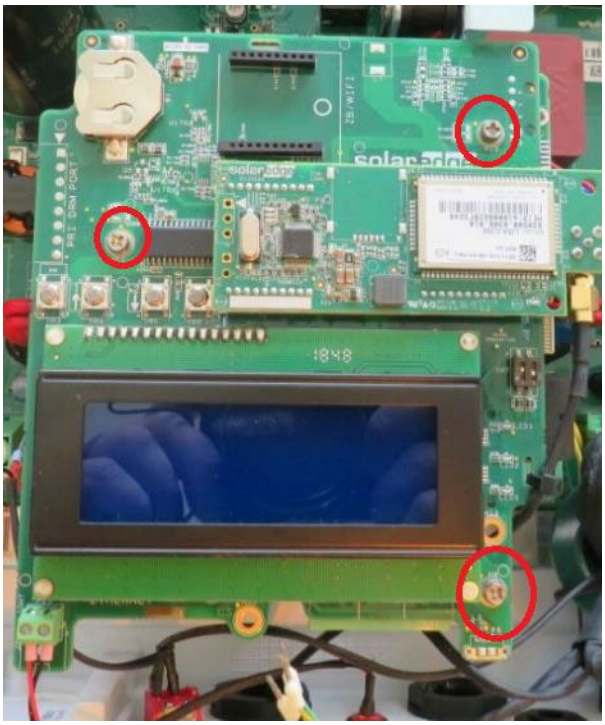


6. Route the DC conductors through two ferrite rings, making two loops with the conductors through the rings before landing them at their appropriate terminals and tightening the screws.

7. Push the toggle switch through three (3) ferrite rings.
8. Push the digital board connector through three (3) ferrite rings, making a loop with the cable through the last ring.
9. Route the AC conductors through the first two (2) ferrite rings.
10. Reinstall the toggle switch.

Connect the communications

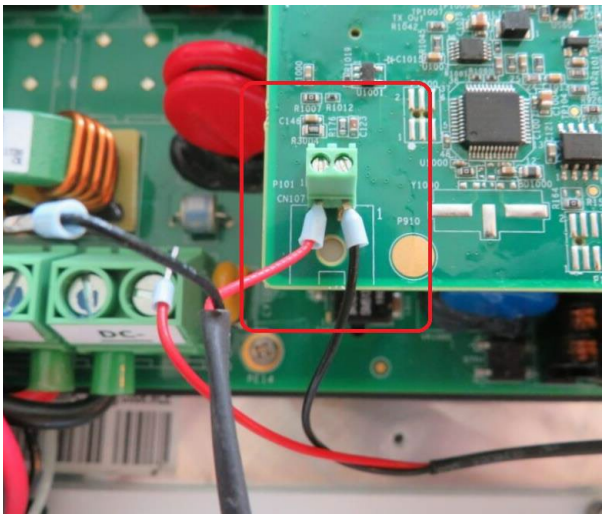
1. Using a Phillips #1 screwdriver, remove the three (3) screws holding the communications board in place in the new inverter.
2. Pull the board straight out from the inverter.



IMPORTANT NOTE

Do not mix up the old and the new communications boards.

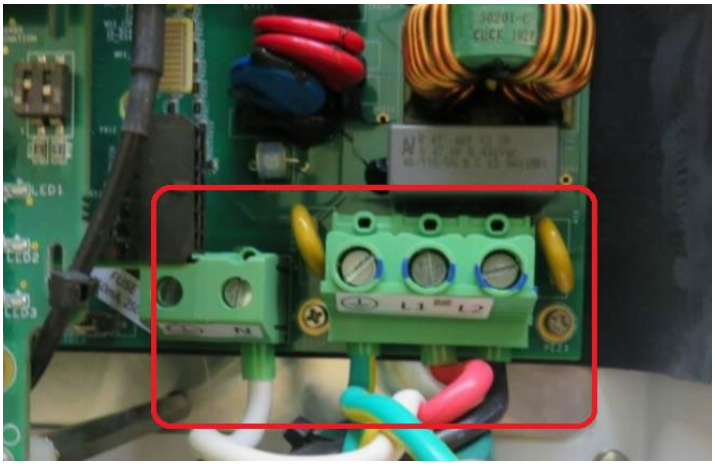
3. Connect the red wire from the toggle switch to the positive terminal on the digital board.
4. Connect the black wire from the toggle switch to the negative terminal on the digital board.



5. If applicable, connect the remaining black and red wires using the Wago connector previously removed.

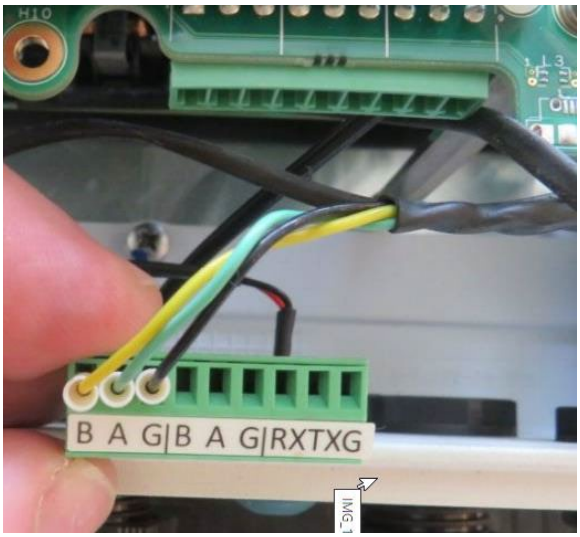
6. Reinstall the black connector previously removed back onto the digital board.

7. Reinstall the AC conductors and tighten the screws.



8. Reinstall the new communication board.
9. Reinstall any remaining communications cables and communication devices.
10. Reinstall the RS485 wires in the green terminal block according to the following:

- Yellow wire to terminal B
- Green wire to terminal A
- Black wire to terminal G



Reconnect the green terminal block at the bottom of the communications board.

11. Reconnect any external antennas that were removed from the old inverter.
12. Re-install the cover on the new inverter.

NOTE

Take care to install the new cover onto the new inverter.

Recommission the inverter

1. Record the serial number of the new inverter.
2. Power ON the inverter.
3. With the 1/0 toggle switch set to "0" (OFF) use the 4 buttons above the LCD screen to enter the menu of the inverter
    - Hold the enter button for 2 seconds, then release
    - Enter password 12312312 and press the enter button.
4. Under site communications set up both the meter and the batteries.
5. Under **Power control** > **energy manager**> set the mode to the mode of the previous inverter.
6. If backup was previously enabled, enable it and set the backup reserve.
7. Set the country code.
8. Turn the DCD switch and the 1/0 toggle switch ON.
9. Press and hold the button to the right of the toggle switch to initiate Power Optimizer pairing.
10. Verify that the meter is reading correct export and import values.
11. Take photos of the screen showing the Power Optimizer count and the server status.