Troubleshooting: **Unresponsive Home Wave** SetApp Inverter

Unresponsive Behavior

An inverter is 'unresponsive' if it is exhibiting no signs of life – **no LEDs**, **no signs of power**, and no **WiFi(AP) network** transmitting.

WARNING!

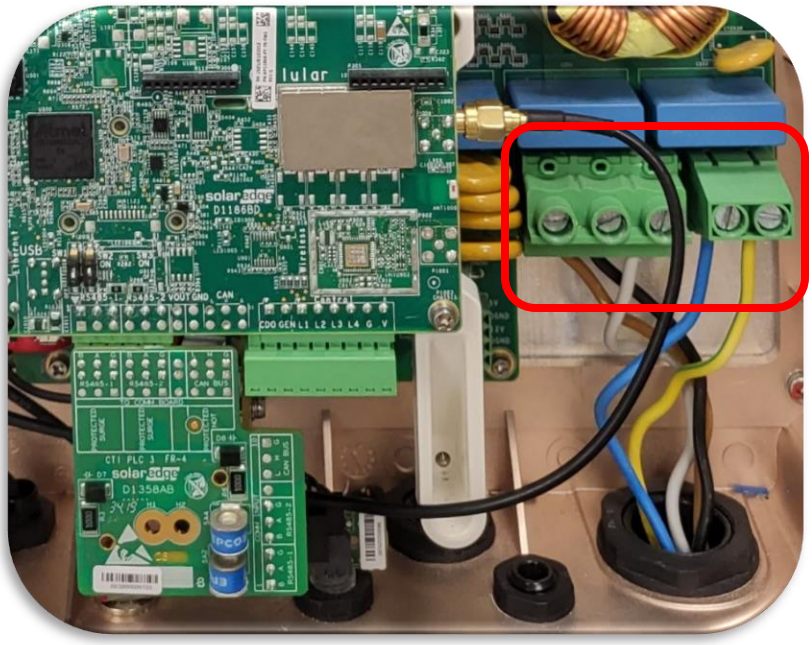
This guide is intended to aid in troubleshooting of a SolarEdge SetApp inverter. It will require performing voltage testing inside the inverter while AC voltage is present. Persons using this guide should be completely familiar with SolarEdge systems, their concept of operation, safety features, and all applicable safety procedures and requirements. Do not attempt any troubleshooting without adequate safety equipment and a thorough understanding of all procedures.

Before Working: Ensure Red **IOP** Toggle Is OFF

This troubleshooting involves working inside the inverter while AC power is present. For your safety, ensure that the red production toggle switch (I/O switch) is on '0' to prevent the inverter from attempting to produce power while work is being performed.

Confirm AC Voltages

- Confirm all AC breakers and switches are on
- Measure the voltage between the screws on AC terminal block via a multimeter:

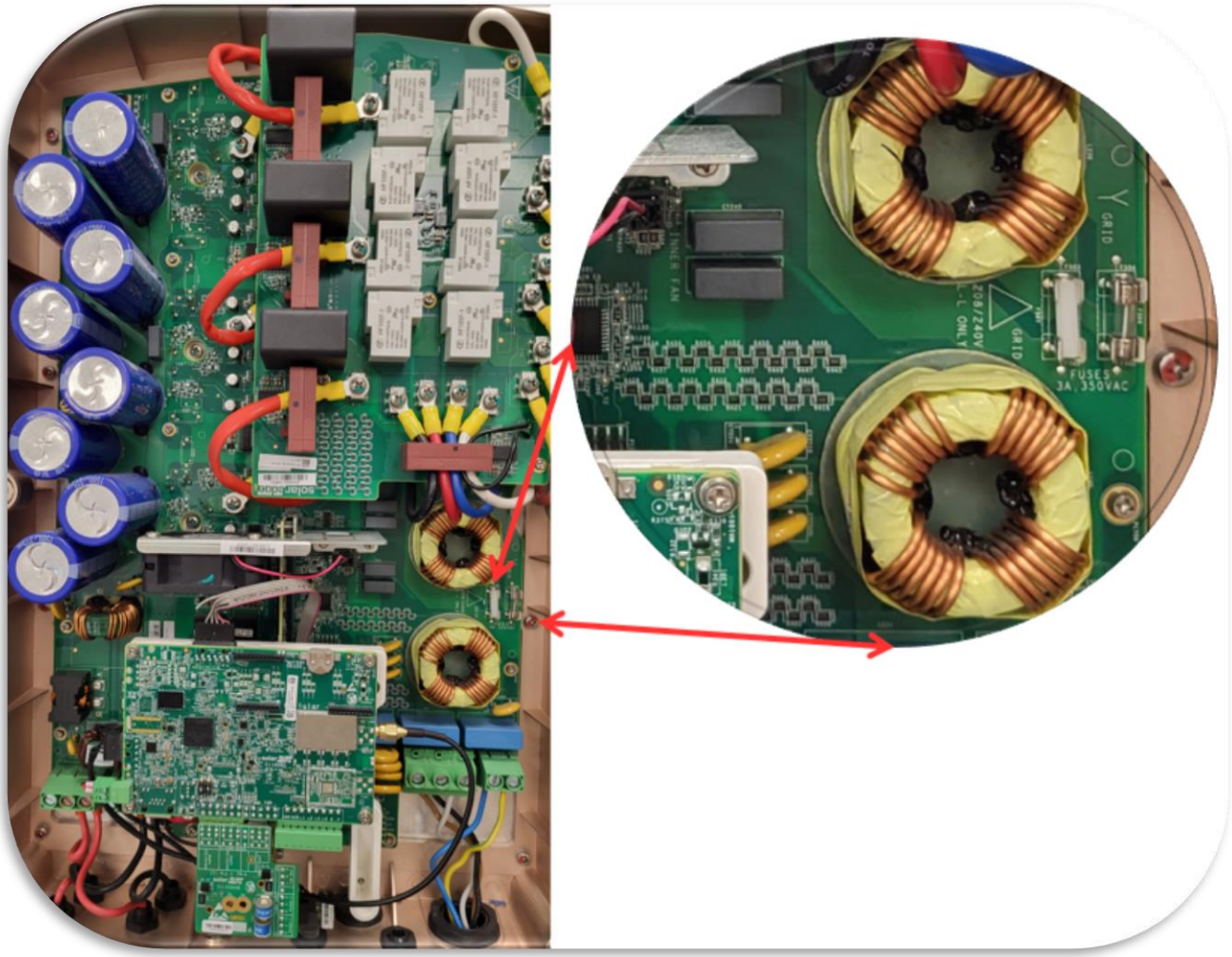


- Confirm all your AC voltages:
- Line 1 to N:_____Vac
- Line 1 to G:_____Vac
- Line 2 to N:_____Vac
- Line 2 to G:_____Vac
- Line 3 to N:_____Vac
- Line 3 to G:_____Vac
- Neutral to Ground:_____V ***(should be less than 1V)***

If AC voltages are out of spec you will need to troubleshoot the AC issue causing improper voltage to the inverter.
Unfortunately, SolarEdge Technicians cannot assist with troubleshooting AC wiring issues.

AC Voltages Correct? Check the Fuse

If the AC voltages reaching the inverter are within specifications, shut down AC power and perform a continuity test on the fuse.



- Shut down AC power to the inverter.
- Remove the fuse from the fuse holder.
- Check the fuse for continuity.
- If the fuse has failed, it can be replaced with 3A, 350VAC fuse or contact SolarEdge TechnicalSupport

Fuse Good? Remove ALL Devices Connected to Communication Board

If the fuse is good, disconnect ALL devices which are plugged into the communication board – in some cases these devices have failed and are causing the communication board to go offline leading to unresponsive behavior.

- Disconnect any ZigBee, Cellular, USB drives, RS485 terminal blocks and Ethernet cables which are plugged into the board.
- Once all devices removed, turn AC power on and see if the inverter has become responsive.

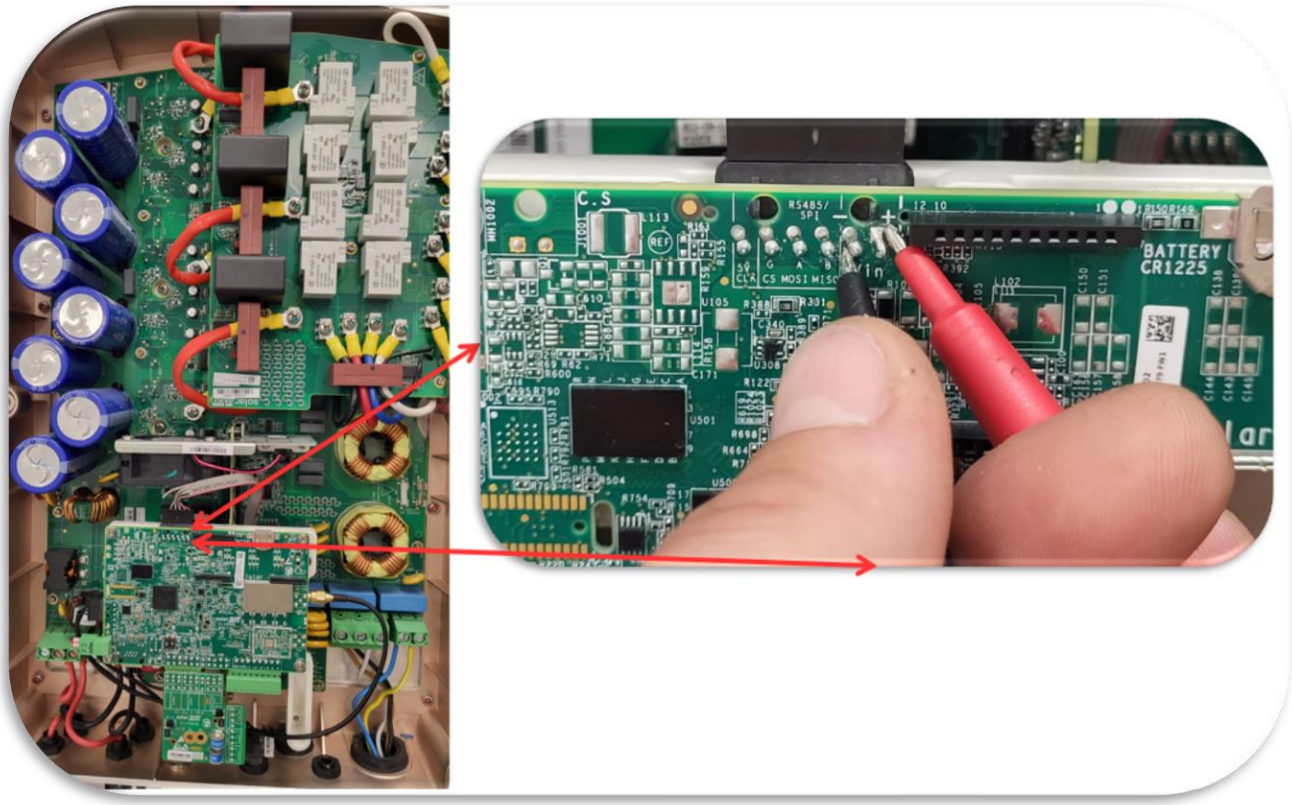
- **If the inverter is responsive it points to a problem with one of the devices**.

- Shut down AC power, add a device, turn the AC power back on – repeat until the faulty device has been identified.
- If a device is causing the unresponsive behavior, contact the equipment manufacturer.
- If the inverter remains unresponsive with no devices installed, continue below.

Check The Communication Board Test Point

If removal of devices has not corrected the unresponsive behavior, check for DC voltage on the communication board.

- Ensure AC power is on.
- Locate the DC voltage test point on the communication board (shown below):

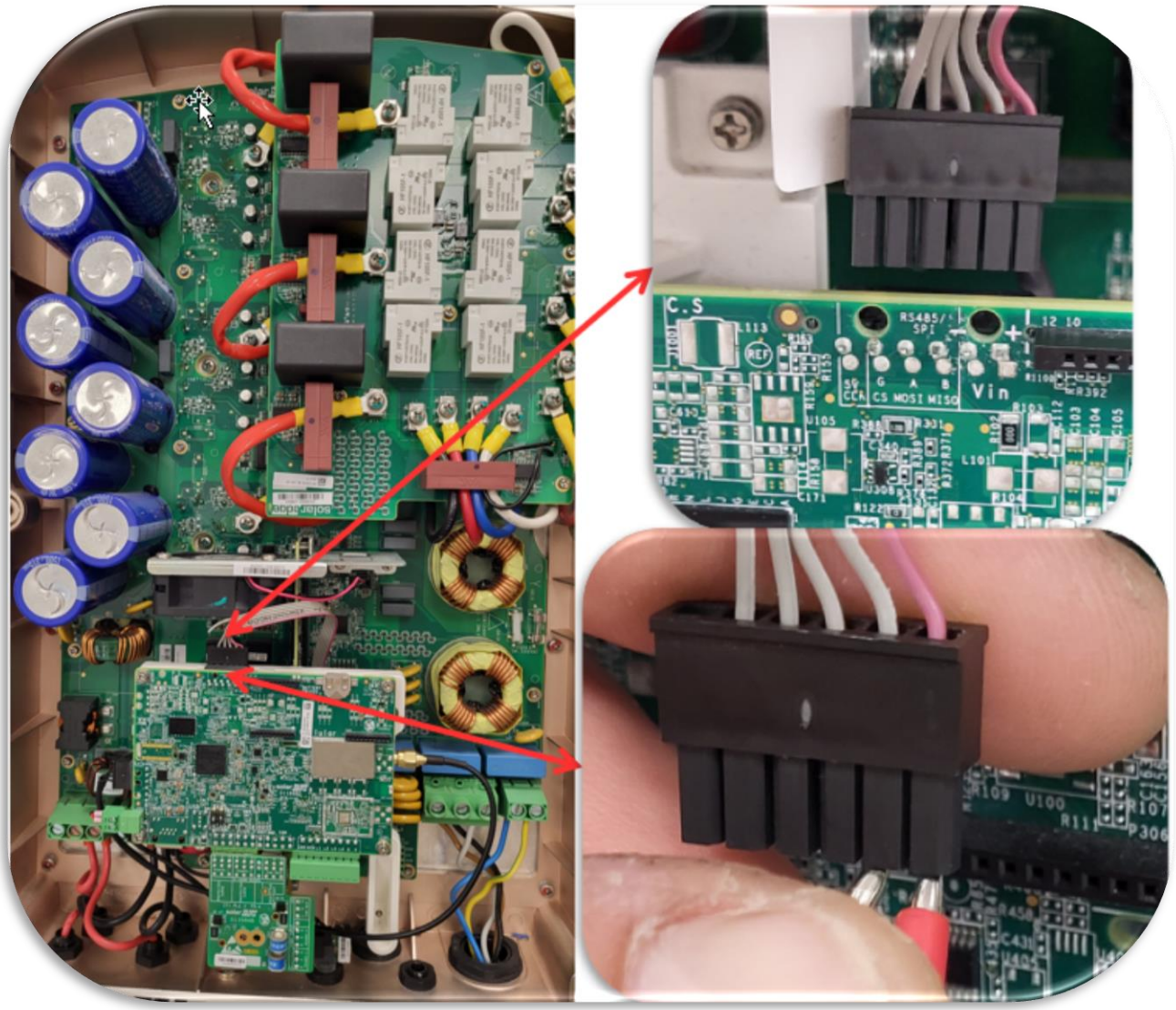


- With your multi-meter, check for DC voltage across the +/- solder points shown in the picture.
- Document your reading:_____Vdc
- Turn AC power OFF.

Power Supply Output Voltage

Once AC power has been shut off, disconnect the black Vin connector from the top of the communications board. There may be some adhesive securing the connector to the board. The adhesive is no longer needed after the inverter has been installed and can be removed. Pinch the connector clip and pull gently upward to disconnect it from the communications board. Once the connector has been disconnected, turn AC power back on.

- Disconnect the Vin connector from the top of the communications board.
- Turn AC power ON.

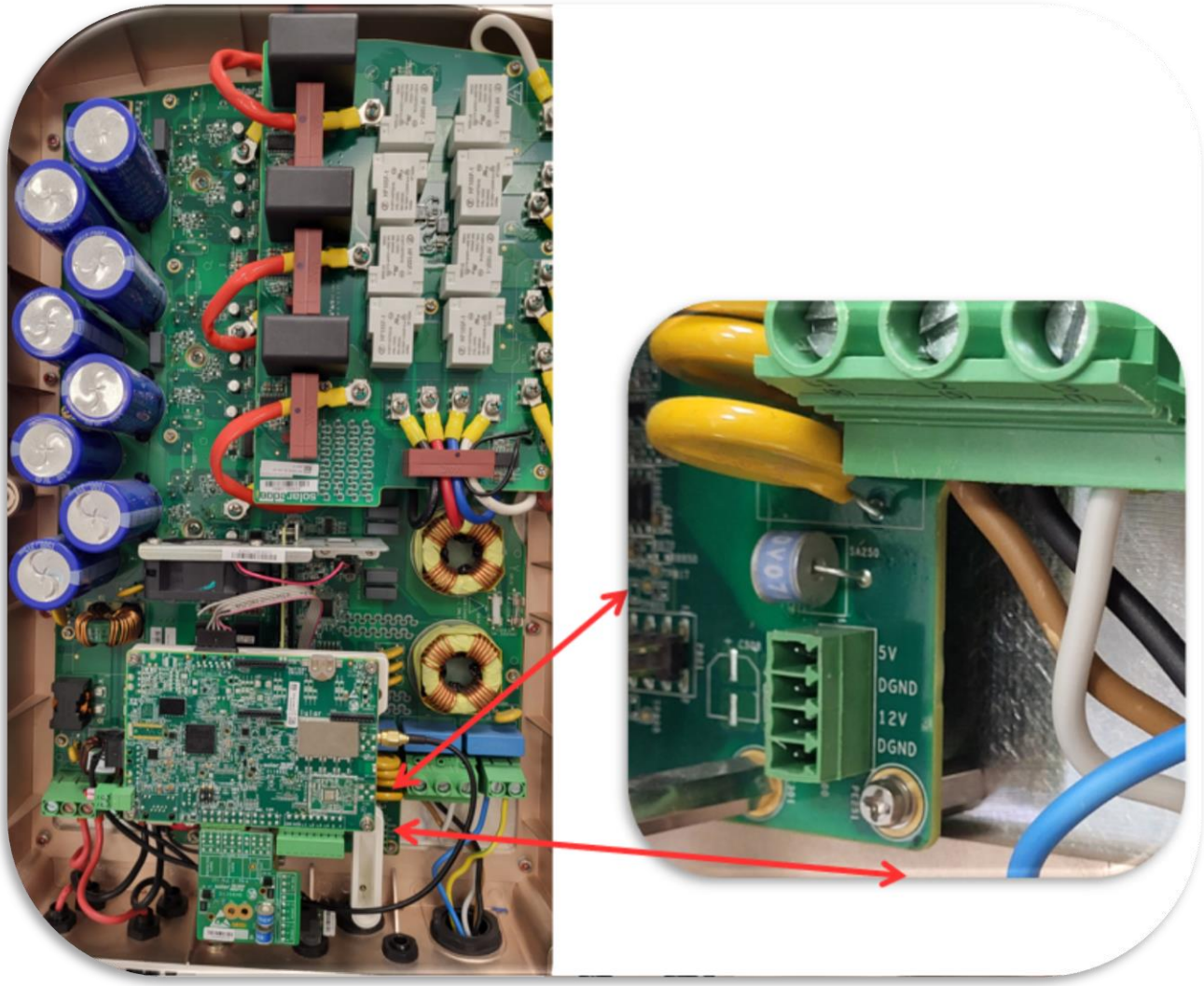


- Insert your meter probes into the connector and re-test for DC voltage.
- Document your reading:_____Vdc.

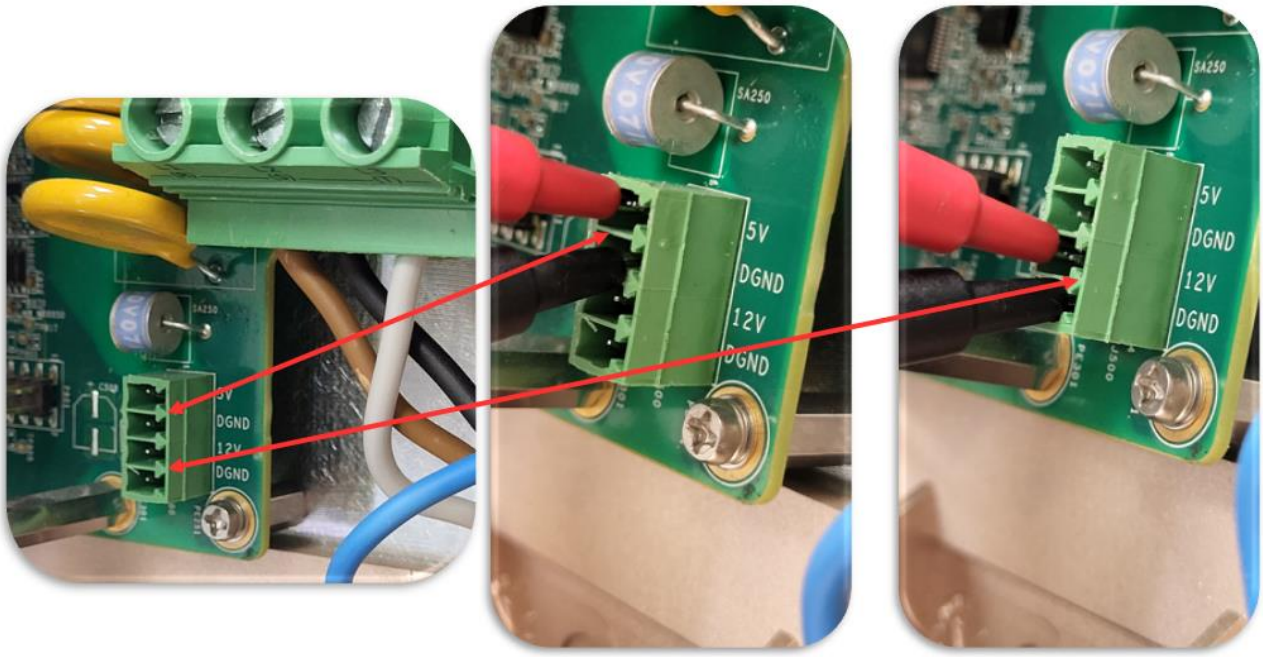
Power Supply Output Voltage – Power Board

Once AC power has been shut off after testing the connector- locate the terminal with the Power Board Testing Points

- 1. Make sure you have AC supply from the main circuit board.
- 2. Locate the area testing points in the below picture - Test Points location for inverters up to 25K
- 3. Use the voltmeter to measure the voltage of the following points:
  - **a. Between 5V and DGND the voltage should be ~5.0 Vdc**
  - **b. Between 12V and DGND the voltage should be ~13.0 VDC**



- Insert your meter probes into the connector and test for DC voltage.



- Document your reading for:
  5V to DGND:_____Vdc.
  12V to DGND:_____Vdc.

Gather the Following Information - Contact SolarEdge Technical Support

- Take a clear picture of the inverter with top + **DC disconnect** ***(If you have one installed)*** covers removed.
- Take a clear picture of the inverter side label with the serial number (upper-right side)
- Have the AC and DC voltages from this troubleshooting ready.
- Take pictures of any damage or irregularities seen in the inverter.
- Document your open-air string voltages.
- Contact SolarEdge Technical Support and provide the information.