

Fault 010 islanding fault

Fault 010 is an “islanding” fault, which indicates that the inverter could not detect the utility grid. This could be a result of a loose AC connection, or the circuit breaker has tripped or failed. It could also be that the inverter’s internal fuse/circuitry has failed. The end user could attempt to check the circuit breaker but an electrician may need to go onsite to measure the internal AC voltage.

Troubleshooting for the end user:

1. If the fault persists, restart the inverter:
 - a. Turn off the solar supply main switch or the AC isolator. The solar supply main switch is usually in the switchboard. The AC isolator is between the inverter and the switchboard.
 - b. Turn off the DC PV array isolator (which is located next to the inverter).
 - c. Turn off the battery circuit breaker and battery, if applicable.
 - d. Wait until the inverter shuts down completely (there will be no LEDs lit up and no display).
 - e. Turn on the DC PV array isolator.
 - f. Turn on the battery circuit breaker and battery, if applicable.
 - g. Turn on the solar supply main switch or the AC isolator (whichever was turned off in step 1).
 - h. Wait a few minutes for inverter recovery (the LEDs go from flashing green and red indicating standby and starting up, then if the inverter works fine it will go to a green light).
2. Please ensure all AC circuit breakers (inside the switchboard and adjacent to the inverter) are in the ON position. Please switch it on if any circuit breaker has tripped and wait for recovery.
3. Check the AC cable from the AC isolator to the inverter’s AC terminal for corrosion or other defects, and take a photo.

4. Check the AC connectors as above for step 3.
5. Tap ESC/down (for less than half a second) to view the current faults (if any, see Figure 1) and take a photo of the screen.

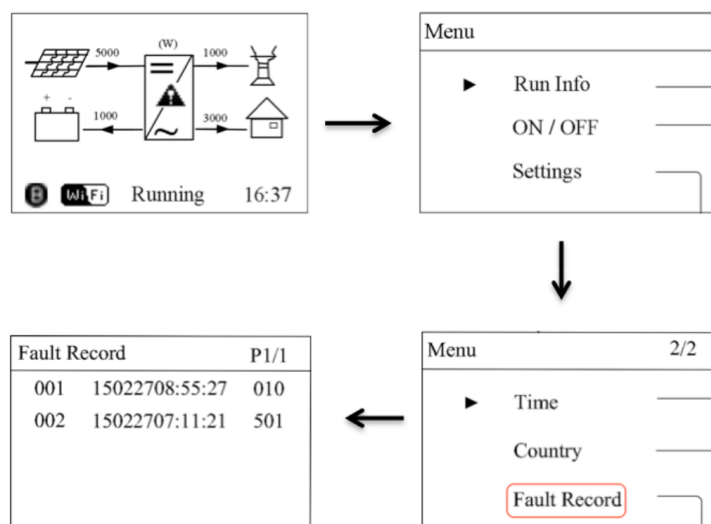


Figure 1: inverter fault records

The customer can contact his/her installer so that the installer can arrange a technician to inspect the inverter. Get a technician to double check the inverter AC side and PV system to see if there are any faults with the inverter or other parts of the system. This includes taking the inverter cover off and measuring the inverter's internal voltage and current.

If the technician just installed the system and is on-site, and fault 010 occurs, take the inverter cover off and measure the internal voltage at the AC terminal. Follow the instructions below.

If the technician measures that the AC connectors have a voltage (Figure 1), then we recommend to take the inverter cover off and measure the internal voltage (Figure 2).



Figure 1: external AC voltage

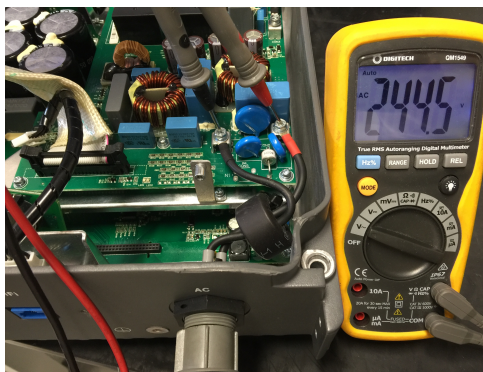


Figure 2: internal AC voltage

Scenario 1:

If the technician measures that the internal circuit board terminals have a voltage (Figure 2), but the LCD still shows fault 010, then the inverter needs to be replaced.

Scenario 2:

If the technician measures that the internal circuit board terminals have no voltage, then there will be an issue with the connection or installation.

Troubleshooting for scenario 2:

1. Short-circuit test: use a multimeter to measure the resistance from the AC connector to the inverter circuit board terminal, i.e. from the external terminal (Figure 3) to the internal terminal (Figure 4). The resistance value should be 0 (Figure 5).



Figure 3: external terminal

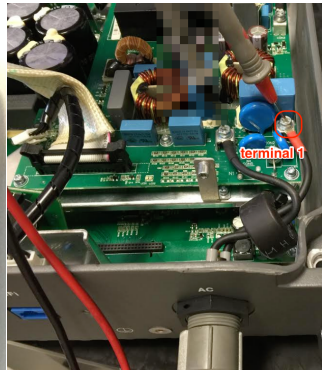


Figure 4: internal terminal

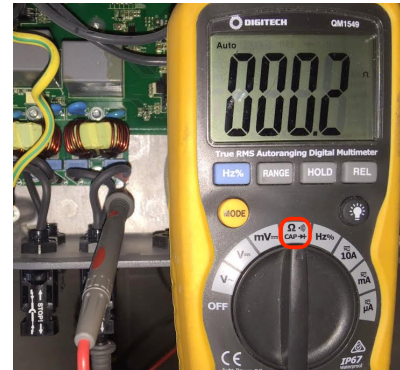


Figure 5: resistance

2. Assemble the AC connector again.

If you have completed steps of troubleshooting for scenario 2 and the inverter still does not have any light on, please take photos as above, then we will advise to replace the inverter. However, the return inverter will be tested in our warehouse, if the allegedly faulty inverter is found to be free of defects, Sungrow will provide a test report and charges may apply.