

## Test DC Terminals of the Inverter

This document contains instructions for **testing DC terminals of the inverter** for any fault, including no light & a blank screen after the DC connectors plug in and all switches are at ON position for new installations. If the inverter runs for a while and then shows no light & a blank screen, it could be the issues related to roof DC isolators, which causes no DC inputs.

Before an installer tests the inverter, please check the below steps.

1. The DC cable and connectors are in good condition and look properly connected.
2. The DC isolators are ON position and no damaged.

Check whether there is any rooftop isolator(s), and if so, that it/they are ON.

A technician can measure the external DC voltage of the MC4 connectors. If they do not have a voltage, the technician can swap the connectors of the replacement inverter, then send the replacement inverter to us. The DC voltage to the inverter needs to be higher than the start-up voltage as specified on the datasheet for the corresponding inverter type.

If they have a voltage (Figure 1),



Figure 1 External DC Voltage

Then we recommend taking the inverter cover off and measure the internal voltage (Figure 2).

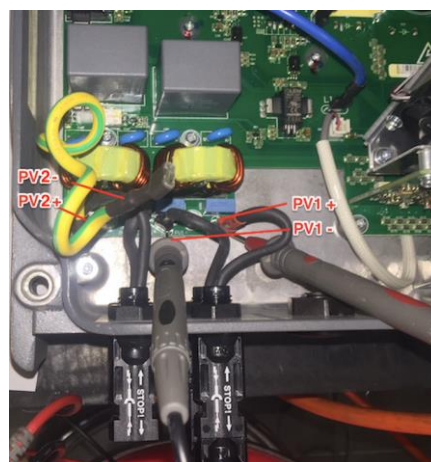


Figure 2 Internal DC Voltage

### Scenario 1: Faulty inverter

If the technician measures that the internal circuit board terminals have a voltage (Figure 3), but there is no LED light or blank LCD, then the inverter needs to be replaced.

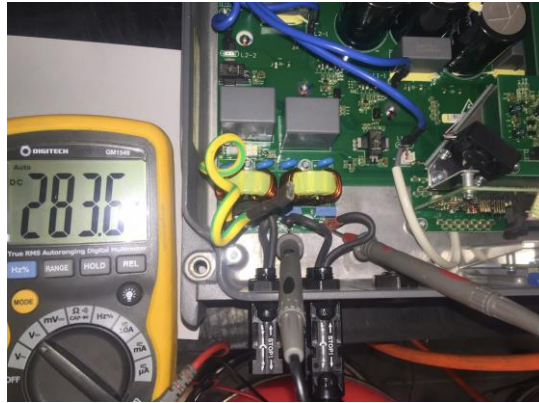


Figure 3 Internal DC Voltage

### Scenario 2: Faulty connection or installation

If the technician measures that the internal circuit board terminals have no voltage (Figure 4), then there will be an issue with **the connection or installation**.



Figure 4 No Internal DC Voltage

For further troubleshooting, see below.

## Troubleshooting for scenario 2:

### Continuity Test

Use a multimeter to test the continuity from the DC connector to the inverter circuit board terminal, e.g. PV1+ (Figure 5) to DC1+ (Figure 6). The resistance value should be 0 (Figure 7).

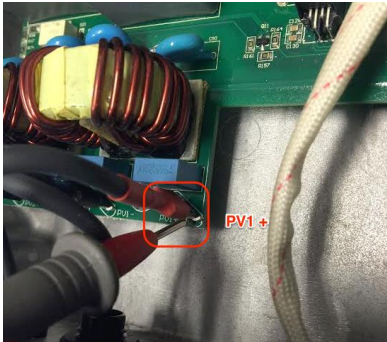


Figure 5 PV1+



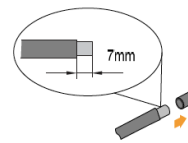
Figure 6 DC1+



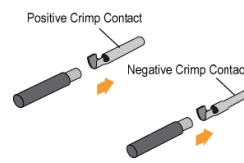
Figure 7 Continuity

Assemble the DC connector again (Figure 8).

**Step 1** Strip off 7mm insulation layer from all DC cables.

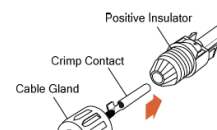


**Step 2** Assemble cable ends with crimp contacts by crimping pliers.



**Step 3** Lead cable through cable gland.

**Step 4** Insert the crimp contact into the insulator until it snaps into place. Then pull gently to check if it is correctly engaged.



**Step 5** Screw the cable gland to front insulator with tightening torque 2.5...3 N·m.

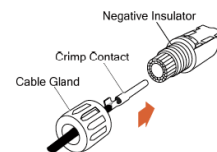


Figure 8 DC connector assembly

If you have completed steps of troubleshooting for scenario 2 and the inverter still does not work, please take photos as above and **contact Sungrow Service Department.**