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# Fault 302 Low PV insulation resistance

Fault 302 indicates that the PV insulation resistance is low.

Follow these steps to disconnect one of the PV strings:

1. 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.
2. Turn off the “DC PV ARRAY ISOLATOR” (which is located next to the inverter).
3. Wait until the inverter shuts down completely (no LEDs lit up and no display). *Turn off one isolator or pull out one of the PV connections.*
4. Turn on the “DC PV ARRAY ISOLATOR”.
5. Turn on the “SOLAR SUPPLY MAIN SWITCH” or the AC isolator (whichever was turned off in step 1).
6. Wait a few minutes for inverter recovery (LEDs go from flashing green and red indicating standby—starting up—then if the inverter works fine it will go to a green light). If the inverter still shows fault 039, try reconnecting the string and disconnecting the other string, repeating the above steps.

Check whether there is a reliable inverter grounding line. Check whether the positive and negative terminals of the PV panels are short-circuited with a ground current.

Check that the insulation resistance of the cables from the PV array to the inverter is more than 200 kΩ. Check between the positive cable and Earth and the negative cable and Earth.

Check the PV strings for loose connections.

If the fault persists, please take photos testing on site and contact Sungrow Service Department.