

How to fix an IQ System Controller that is stuck in a System Shutdown state

Some IQ System Controller 3/3G units may get stuck in a System Shutdown or rapid shutdown state preventing system provisioning. This is due to incorrect factory wiring of the System Shutdown (SSD) switch. To test and re-wire, either follow the [wiring tests for the SSD switch in the ON position](#) or the [wiring tests for the SSD switch in the OFF position](#). Both test sequences and necessary rewiring steps are outlined below.



NOTE: A System Shutdown switch is the rapid shutdown initiator for IQ8 Microinverter-based, grid-forming systems.

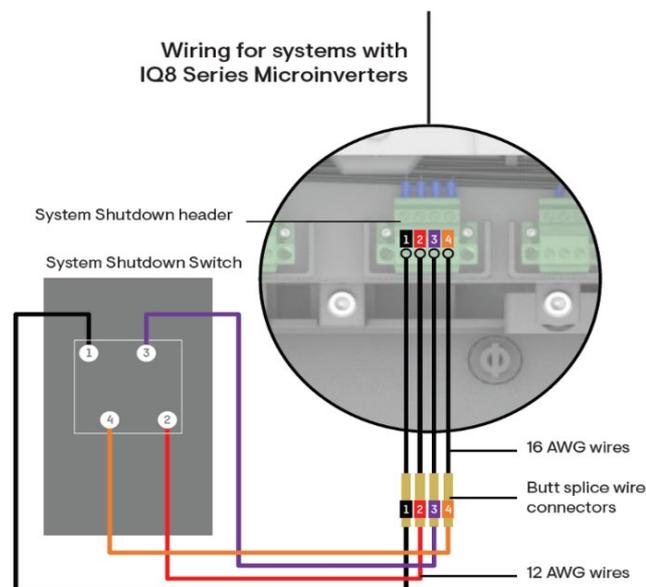
1 Wiring test for System Shutdown (SSD) switch in the ON position

- a. Ensure the SSD switch is in the ON position.



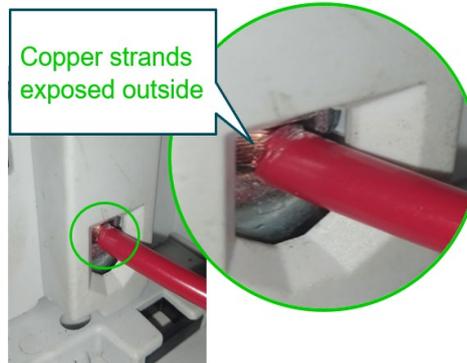
- b. Set the multimeter to test for continuity.
- c. Measure the terminal test points:
 - 1 and 2 at the SSD switch
 - 1 and 2 at the SSD header
 - 3 and 4 at the SSD switch
 - 3 and 4 at the SSD header

The multimeter should show positive continuity in all cases.



- d. If any of the tests in step “c” fail, check the wiring at the terminals. The edges of the terminal and wire should show exposed copper, indicating that the terminal has good contact with the wire.

Good electrical contact



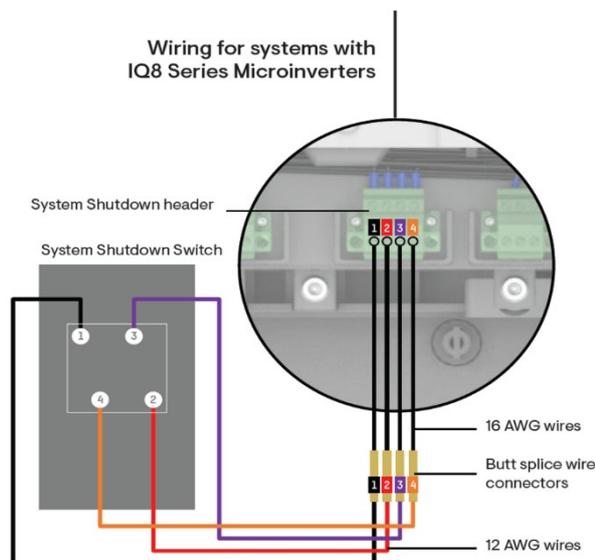
- e. If the edges do not show exposed copper, disconnect the wire from the terminal. Strip 10 mm to 15 mm of insulation from the wires, then reconnect to the terminal. Repeat the steps above after rewiring to ensure the proper wiring of the SSD switch.

2 Wiring test for System Shutdown (SSD) switch in the OFF position

- a. Ensure the SSD switch is in the OFF position.



- b. Ensure the IQ System Controller is powered ON from any of the sources.
- c. Set the multimeter to measure DC voltage.
- d. Measure the terminal test points:

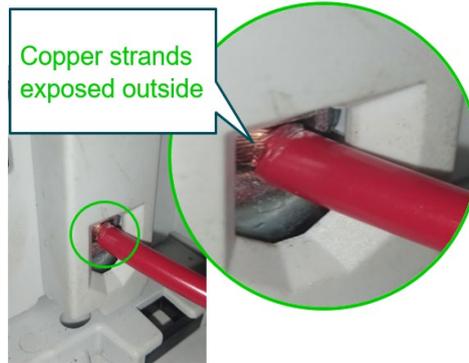


- 1 and 2 at the SSD switch
- 1 and 2 at the SSD header
- 3 and 4 at the SSD switch
- 3 and 4 at the SSD header

The multimeter should show a value between 2.7 VDC to 3.3 VDC in all cases.

- e. If any of the tests in step “d” fail, check the wiring at the terminals. The edges of the terminal and wire should show exposed copper, indicating that the terminal has good contact with the wire.

Good electrical contact



- f. If the edges do not show exposed copper, disconnect the wire from the terminal. Strip 10 mm to 15 mm of insulation from the wires, then reconnect to the terminal. Repeat the steps above after rewiring to ensure the proper wiring of the SSD switch.

Revision history

Revision	Date	Description
TEN-00003-1.0	November 2023	Initial release.