

SolarEdge Inverter Installation Guide North America, Erratum

This update is an addition to the *SolarEdge Inverter Installation Guide, North America Version 1.0 (P/N MAN-01-00133-1.0)*.

This addition describes the arc-fault circuit interrupter (AFCI) feature and its use in the SolarEdge inverters.

The change includes an addition to the **Maintenance** menu (page 43), and a section added as an appendix to the end of the manual about the AFCI functionality.

Maintenance

- 1 Select **Maintenance** to set the following options:

```

D i a g n o s t i c s
D a t e   a n d   T i m e
R e s e t   C o u n t e r s
F a c t o r y   R e s e t
S W   U p g r a d e - S D   C a r d
A F C I   < E n >
M a n u a l   A F C I   T e s t
  
```

- **Diagnostics:** Display the **Isolation Status** screen. Refer to www.solaredge.com/files/pdfs/application_note_isolation_fault_troubleshooting.pdf
- **Date and Time:** Set the internal real-time clock. If connected to the SolarEdge monitoring portal, the date and time are set automatically and only time zone should be set.
- **Reset Counters:** Reset the accumulated energy counters that are sent to the SolarEdge monitoring portal
- **Factory Reset:** Perform a general reset to the inverter default settings.
- **SW Upgrade SD Card:** Perform a software upgrade using an SD card.
- **AFCI:** Enable or disable arc-fault self-test. Refer to Inverter Arc Detection, below.
- **Manual AFCI Test:** Start a self-test for arc detection. Refer to Inverter Arc Detection, below.

Inverter Arc Detection

The arc detection option is disabled by default. It must be enabled when UL1699B compliance is required. When enabled, the inverter performs an automatic self-test for arc fault each time the inverter wakes-up or is switched ON.

▶ To enable/disable arc detection:

- 1 Use the LCD light button to enter Setup mode (refer to Configuring the Inverter Using the External LCD Light Button)
- 2 Short-press the LCD light button to reach the **Maintenance** menu.
- 3 Select **AFCI** → Enable or Disable.

▶ To manually test the arc detection functionality:

- 1 Make sure the inverter ON/OFF switch is turned ON.
- 2 Use the LCD light button to select **Maintenance** → **Manual AFCI Test**.

- If the test is successful, the following message is displayed:

```

M a n u a l   T e s t   P A S S
  
```

- The inverter production is then interrupted (as if a real arc detection has occurred), and the following error message is displayed (numbered either 150 or 151):

```

E r r o r   1 5 1
A r c   F a u l t   D e t e c t e d
  
```

- Perform manual restart to resume system operation: Turn the inverter ON/OFF switch to OFF and then to ON. The inverter performs an arc detection self-test and starts normal operation.
- If the test fails, contact SolarEdge support.

▶ To troubleshoot arc-fault failures:

The inverter continuously performs arc detection while producing power. If an electric arc occurred in the PV system, the inverter detects it and stops producing power. The following error message is displayed (numbered either 150 or 151):

```
Error 151  
Arc Fault Detected
```

If this message is displayed:

- 1** Turn the inverter ON/OFF switch to OFF.
- 2** Check all PV strings for the correct open-circuit voltage:
 - Inspect all connections and cables between the power optimizers in the strings: Verify they are connected properly by firmly pushing the plugs and verifying the connectors are locked.
 - Inspect all connections and cables between the PV modules and the power optimizers: Verify they are connected properly by firmly pushing the plugs and verifying the connectors are locked.
 - Verify that the strings are firmly attached to the AC/DC Safety Switch terminal blocks.
- 3** Perform manual restart to resume system operation: Turn the inverter ON/OFF switch to OFF and then ON. The inverter performs an arc detection self-test and starts normal operation.

▶ To troubleshoot self-test failures:

If the self-test fails, the inverter displays an error message indicating that the arc detector hardware failed during wake-up tests:

```
Error 152  
AFCI  
self-test failed
```

The inverter transmits an error message to the monitoring portal, and continuously repeats the arc detection self-test until it is successful.

If the problem persists, contact SolarEdge support.