Application Note - Installation Troubleshooting using Module-level Data

Module level data can be viewed directly on the inverter LCD. This can assist in on-site troubleshooting in case of power optimizer or string faults, eliminating the need to measure each optimizer individually if access to the monitoring is not available.

To verify installation and troubleshoot faults, you can use the following information displayed on the LCD:

- Non-reporting power optimizers - optimizers that have not been successfully paired or have not communicated with their associated inverter for an hour (supported from inverter CPU version 3.14xx).
- Module-level data (supported from inverter CPU version 3.1808)

This document describes how to view module and power optimizer information and identify non-reporting power optimizers through the inverter LCD.

To identify non-reporting power optimizers and view module-level data:

1. Short-press the LCD button (in HD-Wave inverters, use the up, down or OK buttons) and check the inverter status screen:

   Vac[V] Vdc[V] Pac[W]
   240.7 371.9 2349.3
   P_OK: XXX/YYY <S_OK> ON

   If the inverter status screen shows fewer paired optimizers than are connected, or that there are power optimizers that are not communicating (P_OK xxx/yyy, and x<y), this indicates that there are non-reporting optimizers.

2. Press and hold down the LCD light button until the following message is displayed:

   Keep holding button for pairing, release to enter menu...
   Remaining: 3 sec

   Releasing the button displays the following menu:

   Optimizer pairing
   Language <eng>
   Communication
   Maintenance
   Information
   Exit

3. Select Maintenance ➔ Diagnostics. The following screen is displayed:

   Isolation Status
   Optimizer Status

4. Select Optimizer Status. The following is displayed:

   All <29>
   Non-Reporting <19>
   String 1 <8>
   String 2 <11>
   Unknown String <10>

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5. Do one of the following:

- **Select All** to view the serial numbers of all optimizers that communicated with the inverter; <*> indicates a non-reporting optimizer.

```
1015ECCC-DD
1015ECFF-DC
1015ECCE-DF < >
1015ECCD-DB
```

- **Select Non-reporting** to view serial numbers of non-reporting optimizers only:

```
1015ECCE-DF
1015ECC1-D5
```

- Select a serial number from the All or the Non-reporting lists to view module-level data:

```
Module: 102880631B
Energy [Wh]: 56.7
Vdc_O [V]: 40.0
Vdc_I [V]: 38.3
I_in [A]: 7.8
Temp [C]: 28.0
Last Telem: 14:57:17
```

6. Check the data and the Last Telem value for the latest reading sent to the inverter. If more than an hour passed since last telemetry, or all the values in the screen are 0, this indicates a non-reporting power optimizer. When viewing the module-data screen, the relevant optimizer sends new data at a faster rate.

This information (except the Last Telem parameter) can also be viewed in the Telemetry status screen which can be reached by pressing the LCD button during normal inverter operation. The screen changes to the next module display every 4-5 seconds.

7. Once a non-reporting power optimizer is identified, check its connections and refer to additional troubleshooting in the SolarEdge Installation Guide.