

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 poweroptimizers - 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 poweroptimizers 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>
```

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.

```
1 0 1 5 E C C C - D D
1 0 1 5 E C C F - D C
1 0 1 5 E C C E - D F < * >
1 0 1 5 E C C D - D B
```

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

```
1 0 1 5 E C C E - D F
1 0 1 5 E C C 1 - D 5
```

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

```
Module: 1 0 2 8 8 0 6 3 1 B
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
```

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