

## Application Note - Troubleshooting Undetected RS485 Follower Devices

### Version History

- Version 1.3 (July 2020)
  - Modified RS485 terminology in SetApp section to Leader and Follower
  - SetApp flow updated
- Version 1.2 (June 2018) - Added SetApp use

### Introduction

When multiple SolarEdge devices are connected in a Leader-Follower configuration using the RS485 communication option, a list of the Follower devices is displayed on the LCD of the Leader device or in SetApp upon Follower-detect completion.

If the Leader does not show the correct number of Followers, you can use the following methods to identify missing Followers and troubleshoot connectivity problems:

1. Analyze the Follower List to check for missing Followers. This feature is available from CPU version 3.14xx and later.
2. Perform a Long Follower Detect to have the Leader device scan for a longer period of time and try to detect more Followers. This feature is available from CPU version 3.22xx and later for inverters with an LCD and version 4.2.xxx for inverters with SetApp configuration.

This document describes:

- how to show the Follower list in a SolarEdge device that has been configured as the *Leader* on the device chain (bus), for example: inverter or Control and Communication Gateway (CCG).
- how to perform Long Follower Detect

### Using SetApp

→ To show the Follower list on the Leader device:

1. Connect with SetApp to the Leader inverter and select **Commissioning** → **Site Communication** → **RS485 (1 or 2)** → **Follower Detect**.
2. After Follower detection, if Followers were detected, an additional menu item is displayed in the RS485 menu: **Follower List**. If the number of detected Followers does not match the number of Followers connected to the Leader, use the Follower list to check for missing Followers, and check their RS485 wiring.
3. Tap the **Follower List** arrow. A list showing serial numbers of the detected Followers is displayed.
  - ID: the device serial number
  - Last Communication**: the date and time (dd:mm:yy 24h) the device last communicated with the Leader device. If this device is detected for the first time after the Leader wakeup, **N/A** appears for this information.

During detection, the number of detected Followers and a process bar are displayed on the screen. You can tap the Back arrow to return to the RS485 screen, which will show **Follower Detect: In progress**.

→ To perform a Long Follower Detect:

If the number of detected Followers does not match the number of Followers connected to the Leader, the long Follower detection may detect more Follower devices.

From the main menu, select **Site Communication** → **RS485 (1 or 2)** → **Long Follower Detect**. The Leader tries to detect Followers for 60 minutes, or until stopped by tapping the Stop button. During this time all 3 LEDs of the detected Followers will blink on and off, for easy identification of undetected Followers.



#### NOTE

To stop the Follower Detect or Follower Long Detect processes, tap the Stop button anytime.

### Using the Inverter Display (LCD)

→ To show the slave list on the Master device:

1. After slave detection, if slaves were detected, an additional menu item is displayed in the RS485-X Conf. menu: **Slave List**.

If the number of detected slaves does not match the number of slaves connected to the master, use the slave list to check for missing slaves, and check their RS485 wiring.

2. Select **Slave List**. A list showing serial numbers of the detected slaves is displayed.

```
5000FE01-4F
5000FE02-50
.
.
```

3. To view the details of a detected slave device, select its serial number entry.

```
ID: 5000FE01-4F
Last Communication
17/02/2015
14:24:01
```

■ **ID:** the device serial number

■ **Last Communication:** the date and time (dd:mm:yy 24h) the device last communicated with the master device. If this device is detected for the first time after the master wakeup, **N/A** appears for this information.

→ **To perform Long Slave Detect:**

If the number of detected slaves does not match the number of slaves connected to the master, the long slave detection may detect more slave devices.

From the main menu select **Communication** → **RS485 Conf** → **Long Slave Detect**. The master tries to detect slaves for 60 minutes or until aborted by pressing any internal user button or by pressing the LCD light button. During this time the LCD of detected slaves will light on and off, for easy identification of undetected slaves.

```
Detecting Slave
<xx> slaves detected
Any Button to Abort
```