

Ethernet Communications Troubleshooting Guide - NAM

Revision History

- Version 2.0, November 2023: Content update
- Version 1.0, February 2015: Initial release

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WARNING

The following troubleshooting steps require you to work inside the inverter. Never install an Ethernet cable or any other hardware while the AC power is connected to the inverter. Failure to disconnect AC power can result in injury or death. Never open the inverter if it is raining, or expose the inverter to moisture. Always follow your company’s safety protocols when working inside the inverter.

Safety Precautions

For safety purposes, perform the following steps before removing any covers:

1. Turn off the inverter by moving the P/1/0 switch to **0 (OFF)** and wait for at least 5 minutes for V_{DC} on the inverter to drop below 50V.

To verify that V_{DC} has dropped below 50V:

- Inverters via SetApp: Connect to SetApp>Inverter’s **Status** page>DC voltage field
- Inverters with an LCD screen: A message is displayed letting you know that V_{DC} is lowering and not to disconnect. Once V_{DC} drops below 50V the message no longer appears.



NOTE

(NAM only): If the DC does not reach a safe level, turn off the DC Disconnect (DCD) switch and measure the voltage with a voltmeter.

2. (NAM only): Turn the DCD switch to the OFF position.
3. Turn OFF the AC circuit breaker.



CAUTION

If the Inverter’s AC circuit breaker trips on-site, do not power on the AC circuit breaker before investigating the inverter for any internal damage, such as debris or thermal damage. If any damage is found, take photos and contact [SolarEdge Technical Support](#).

Overview

Ethernet is a communications method that enables SolarEdge devices to communicate with the SolarEdge Monitoring server using a standard CAT5 or CAT6 Ethernet cable from the SolarEdge device to the local network on site.

Installation

1. Power down the devices you are working on before opening any covers or working with any wiring.
 - **Inverter:** See [Safety Precautions](#).
 - **Battery:** Once the inverter has been powered down, turn off any battery toggle switches and breakers
 - **AC:** Once other devices are shut down, power off the AC to the device
2. Plug an Ethernet cable with an RJ45 connector into the device.



NOTE

Depending on the device and installation, removing device covers and more may be required. Please refer to the device's installation manual for more details.

3. Plug the opposite end of the cable into the internet source, such as the router or switch.

Configuration

Once the Ethernet cable has been installed, the device may need to be configured to get a proper connection to the SolarEdge Monitoring server.

SetApp Configuration

1. Connect to the device using **SetApp**.
2. Navigate to Monitoring **Communications**.
3. If an Ethernet is not selected, tap the **Change Configuration Type** button at the bottom of the screen, and select **Ethernet**.
4. **Optional:** If the local network is not DHCP enabled, you may need to enter the **Configure Ethernet** menu to input the static IP address and DNS gateway.



NOTE

[SolarEdge Technical Support](#) is unable to assist with communications issues that may arise from changing the Ethernet settings from their default values.

LCD Configuration

1. Using the navigational buttons, press and hold **Enter** for approximately 5 seconds, then release.
2. Navigate to **Communications**.
3. Navigate to the server.
4. Set the server channel to **LAN**, if this has not already been set.
5. **Optional:** If the local network is not DHCP enabled, you may need to enter the **LAN Conf** menu to input the static IP address and DNS gateway.



NOTE

[SolarEdge Technical Support](#) is unable to assist with communications issues relating to the local networking equipment.

Ethernet Communications Status

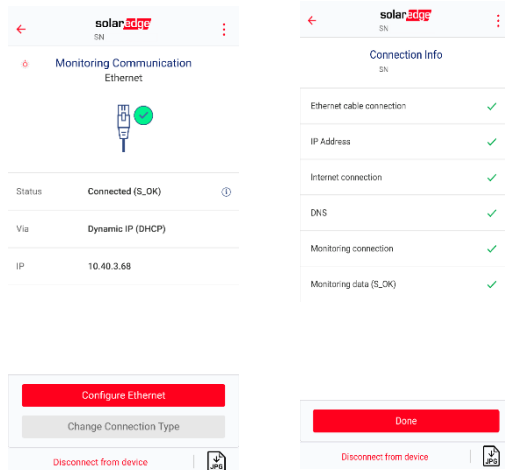
Verifying the status of the Ethernet connection on the device helps to identify any issues with connectivity to the SolarEdge Monitoring server. The Ethernet connection status shows each step it performs in connecting and is reliant on the previous step passing. If you have a step in the Ethernet status that fails, start troubleshooting at the first point of failure in the status.

Before you begin.

Verify if there is a communication issue on the inverter by checking the inverter LEDs. A steady blue light indicates the inverter is communicating.

Check Communication Status on SetApp Devices

1. Connect to the device using SetApp.
2. Navigate to **Monitoring Communications**. This page shows the current connection status.
3. Tap the blue **i** icon next to the status - This page will show each step taken to connect, represented by a Pass (green check ✓) or Fail (red X)
4. Use the [Troubleshooting](#) section in this guide to identify any steps needed to help resolve the communications issue.



Check Communication Status on LCD Enabled Devices

1. From the main status screen that displays VAC, VDC, and PAC, use the **green** button, or the navigational buttons on the device to cycle status screens until **Server** is shown. The server status screen will show each step taken to connect, represented by a **Pass (1)**, or **Fail (0)**.
2. Use the [Troubleshooting](#) section in this guide to identify any steps necessary to resolve the communications issue.

```
Server:LAN    <S_OK>
Status:111111 <OK>
```

Troubleshooting

The order of steps to connect to the server is dependent on each other in the order they are listed. Always start with the first status that failed with **X** or **0**.

| SetApp Status | LCD Status | Description | Proposed Troubleshooting |
|---------------------------|---------------------------------|--|--|
| Ethernet Cable Connection | 00000000 LAN Disconnected | The Ethernet cable connected to the device is not detected | <ol style="list-style-type: none"> 1 Verify that the cable is securely connected at both ends and that the internet source, such as the router or switch is powered ON. 2 Verify that there are no breaks or damage on the cable. 3 Try another Ethernet cable. 4 Plug the end of the cable that goes to the SolarEdge device into a different device to see if a different device can connect to the internet. 5 If the issue appears to be only present on the SolarEdge device, contact SolarEdge Technical Support. |
| IP Address | 10000000 DHCP Failed | The device is not being assigned an IP address | <ol style="list-style-type: none"> 1 Verify that the Ethernet network settings on the SolarEdge device are accurate based on your local networking equipment and software. 2 If a firewall or static IP is not required to connect the SolarEdge device to the internet, it is recommended to leave the Ethernet settings at their default settings. |
| Internet Connection | 11000000 Gateway Ping Failed | Connection to the internet failed | <ol style="list-style-type: none"> 1. Verify that there is an active internet connection available on the network that the SolarEdge device is connected to. |
| DNS | 11000000 Gateway Ping Failed | The subnet mask was not assigned to the device by the router | <ol style="list-style-type: none"> 1. Verify that no settings were enabled in the Ethernet settings on the SolarEdge device. 2. If non-default settings were made to the device, verify that the input values are correct. |
| Monitoring Connection | 11111110 TCP Connect Failed | Connection to the monitoring server failed | <ol style="list-style-type: none"> 1. Verify that the server and ports are whitelisted in the local firewall settings. 2. SetApp <ul style="list-style-type: none"> • Server: prodfqdn.solaredge.com • TCP Port: 443 3. LCD <ul style="list-style-type: none"> • Server: prod.solaredge.com • TCP Port: 22222 |