

Commission SolarEdge ONE Controller for Residential- Application Note

This Application Note explains how to commission the SolarEdge ONE Controller for Residential sites. For details regarding third party devices with the ONE Controller, see [SolarEdge ONE for Residential Third-Party Integrations](#).

Revision history

Version 1.0, October 2024: Initial release date.

Overview

The SolarEdge ONE Controller integrates third-party electric vehicle chargers and heat pumps into the SolarEdge ONE energy optimization system. The ONE Controller connects SolarEdge inverters and servers to third-party devices for monitoring, control, and energy management.

You commission the ONE Controller and third-party devices in the SolarEdge Go mobile application. After commissioning, homeowners can control the third-party devices using mySolarEdge mobile application.

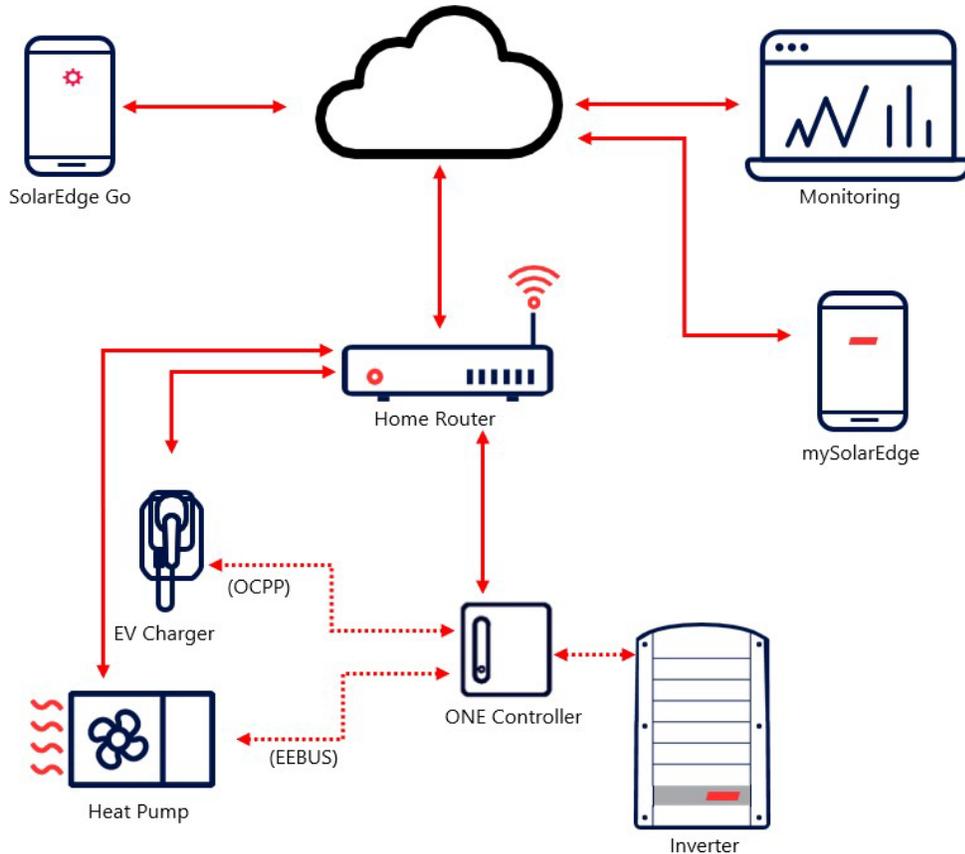
How it works

The SolarEdge ONE Controller interfaces with the SolarEdge inverter, Cloud services, and third-party devices to orchestrate all communication among them in the energy optimization system. The ONE Controller is commissioned with the SolarEdge Go application.

After commissioning, you can integrate the ONE Controller with third party electric vehicle chargers and heat pumps. The ONE Controller communicates with the third-party devices through the home router using the following communication protocols: EEBUS and OCPP1.6.

This diagram displays the interfaces among the devices in the SolarEdge ONE ecosystem.

The dotted lines symbolizes the logical connection between the components.



The ONE Controller enables you to create a SolarEdge ecosystem that:

- Expands the portfolio of products
- Integrates energy intensive appliances into the SolarEdge system
- Optimizes energy management by monitoring and controlling devices

Supported components

The ONE Controller supports the following inverter platforms:

- Home Hub (SExxxxH-RWBxxxxxxx, SExxK-RWBxxxxxx)
- StorEdge Three Phase (SKxK-RWSxxxxxx)
- Home Wave (SExxxxH-RWxxxxxxx)
- Short String (SExK-RWBxxxxxxx)
- Three Phase (SE16K and SE17K)

Before you begin

- Mount and set up the ONE Controller.



NOTE

Place the ONE Controller on a stable, flat surface or mount it on the wall. For details see, [SolarEdge ONE Controller for Residential — Quick Installation Guide](#).

- Download SolarEdge Go to your mobile device.
- Make sure that you have the inverter firmware V.4.22 or higher.
- To connect the ONE Controller to the home router via Wi-Fi, make sure you know the network credentials.
- Verify that SolarEdge Go has access to the relevant site.

Commission the ONE Controller

This section explains how to commission the ONE Controller with the SolarEdge Go mobile application.

To commission the ONE Controller:

1. Turn the ONE Controller **ON** and wait until the Power LED is solid green.
2. Open SolarEdge Go.
3. Go to **Manage** > relevant site > **Equipment**  icon > **+ Add** > **ONE Controller** and tap **Next**.



NOTE

You can also use the following path: **Manage** > relevant site > **Actions** > **+ Add Device** and tap **ONE Controller**.

4. Scan the QR code on the bottom of ONE Controller or enter the serial number.
5. Select the connection mode to the local network:
 - a) **Ethernet**
Or,
 - b) **Wi-Fi**
 - I. Tap **Connect with Wi-Fi**.
 - II. Select the network, enter the password, and tap **Connect**.
6. After the ONE Controller is connected, tap **Done**.

After commissioning is completed, the ONE Controller displays a solid Local LED confirming connectivity and appears under the device inventory for the relevant site. You are ready to integrate third-party devices. For details, see [SolarEdge ONE for Residential Third-Party Integrations Guide](#).

LEDs ONE Controller status

The following LED indications describe the status of the ONE Controller.

Name	Symbol	Indication
Cloud		<ul style="list-style-type: none">  Solid: Connected to SE server  Blinking: No connection to SE server
Local		<ul style="list-style-type: none">  Solid: Inverter and all devices connected  Blinking: Inverter or other device disconnected
Power		<ul style="list-style-type: none">  Solid: Normal operation  Blinking: Booting or updating  Off: No power

Troubleshoot

If you are unable to successfully commission the ONE Controller, check the following problems, according to the notification received by SolarEdge Go app:

Problem	Troubleshoot
Unable to scan QR code	Manually enter serial number for the ONE Controller.
Incorrect Wi-Fi password	Verify you are using the correct SN of the local residential network.
No internet access on Wi-Fi connection	Verify the internet connectivity of the home router.
One Controller is already installed	There is already a commissioned ONE controller on the site. Multiple ONE controller devices are not necessary on a site.
No inverter on site	A leader inverter is necessary for commissioning. If you only have one inverter, make sure it is configured as a leader.
Incompatible inverter FW	The inverter's firmware needs to be upgraded. The current firmware version is not compatible with commissioning the ONE Controller.
No Access from SolarEdge server to the ONE controller	Make sure the ONE Controller is ON and connected to the internet.
No connection with SolarEdge server	There is connection between the SolarEdge server and the Inverter or the ONE controller. Make sure the site has access to the internet.
The ONE Controller cannot communicate with the inverters	Make sure that the inverter and the ONE Controller are both ON and connected to the same local network. Make sure that the site selected for commissioning in Solar Edge Go is the same one where the ONE Controller was installed.