

Commercial Construction and Commissioning Guidelines – North America

The purpose of this document is to organize and highlight details that are essential during the construction and commissioning phases of a Commercial PV system with SolarEdge inverters. For additional support contact your Commercial Program Manager.



NOTE

This information kit contains links to all documents relevant for your SolarEdge installation. Ensure that you print out all relevant documents prior to installation or save them locally on a preferred device.

Training

SolarEdge offers technical training for Commercial EPCs and Installers. Prior to installing your first SolarEdge PV system contact your SolarEdge Regional Sales Manager to schedule a training session. We offer installation training for both experienced and first time SolarEdge installers. Training typically includes hands on work with SolarEdge products, installation procedures, and troubleshooting SolarEdge inverters. Training videos and on-demand webinars are also available on the [SolarEdge Website](#) and [SolarEdge YouTube channel](#).

Site Mapping

Create an Account in the SolarEdge Monitoring Platform

First time users should visit <https://monitoring.solaredge.com> and create a new user account in the SolarEdge Monitoring Portal. The signup process is quick and straightforward; you will need to have a valid inverter serial number on hand and the name of your distributor. It takes 24-48 hours for the account to be reviewed and approved by SolarEdge. For detailed instructions please refer to the [Creating and Managing a Monitoring Portal Account](#) Application Note.

Site Mapping

The site mapping process should be carried out during the installation process, sometimes before the PV modules have been mounted, in order to allow proper access to the optimizer barcodes. Be aware of the barcode sticker's location on the optimizer and consider access limitations when choosing a mapping strategy. Decide on a site mapping strategy before beginning installation to avoid unnecessary rework.

Site Mapping- References	
Physical Layout Editor	YouTube Channel - Physical Layout Editor Commercial Systems
Site Mapper Tool Android	Mapping Site Mapper for Android
Site Mapper Tool iOS	Site Mapper for iOS
Site Mapper App Demo Video	YouTube Channel - Site Mapper App - Mapping Existing Sites

Construction & Commissioning Checklist

Tools

Standard tools are used during the SolarEdge system installation. We recommend having the following tools available:

- Allen screwdriver for M6/M8 screw types
- Standard flat head screwdrivers set
- Voltage meter
- Screwdriver
- Drilling motor and bits suitable for the surface on which the inverter will be installed
- Suitable hardware for attaching the inverter mounting bracket
- Suitable fasteners for securing slack optimizer cables
- 1/4" or 5/16" stainless bolts, nuts, and washers for attaching power optimizers to the racking
- MC4 Crimper
- Wire cutters

- Wire strippers
- Torque meter
- Insulation tester (Megger)
- 5 mm hex bit

For Ethernet:

- A shielded Ethernet cable (CAT5/5E STP) with RJ45 connectors
- RJ45 plugs and RJ45 crimper

For RS485:

- Minimum 3-wire shielded twisted pair cable (Example: [Belden 3106A](#))
- Watchmaker precision screwdriver set

For Control and Communication Gateway (CCG):

- DIN rails and mounting hardware

Power Optimizer Installation

Power Optimizer Installation - Reference	
<ul style="list-style-type: none"> • Safety • Mounting and Wiring • Verifying Proper Connection 	Installation Manual - Chapter 2: Installing the Power Optimizers
Grounding Optimizers	Grounding SolarEdge Power Optimizers - Application Note
Power Optimizer Installation - Checklist	
1	All optimizers mounted according to clearance specifications with grounding hardware <input type="checkbox"/>
2	All connectors properly sealed <input type="checkbox"/>
3	Mapping completed <input type="checkbox"/>
4	All optimizers connected properly (string voltage check) <input type="checkbox"/>
5	No cables or string extensions remaining on the rooftop or ground <input type="checkbox"/>

Inverter Installation

Inverter Installation - Reference	
<ul style="list-style-type: none"> • Package contents and interfaces • Mounting the inverter 	Installation Manual - Chapter 3: Installing the Inverter
Connecting the inverter	Installation Manual - Chapter 4: Connecting the AC and the Strings to the Inverter
Inverter Installation - Checklist	
1	Mounted according to clearance specifications <input type="checkbox"/>
2	AC connected and tug tested <input type="checkbox"/>
3	DC (strings) connected and tug tested <input type="checkbox"/>
4	Surge protection (RS485, AC, DC, Ethernet) connected <input type="checkbox"/>
5	RS485 wires connected with ferrules <input type="checkbox"/>

Inverter Activation and Firmware Updates

Inverters being powered on for the first time will need to be activated. Included with every inverter, except the 66 kW and 100 kW models, is a proprietary memory card that activates the inverter and installs the latest firmware if required. This card cannot be read and written to by conventional card readers and writers.

Inverter Activation - Reference	
<ul style="list-style-type: none"> Activating the system Verifying proper operation 	Installation Manual - Chapter 5: Commissioning the Installation
<ul style="list-style-type: none"> User interface Configuration 	Installation Manual - Chapter 6: User Interface
Inverter Activation - Checklist	
1	Inverter activated using SD card or manual activation code <input type="checkbox"/>
2	Country configuration verified <input type="checkbox"/>
3	Vac within range <input type="checkbox"/>
4	Perform pairing and verify P_OK for all inverters showing the correct number of optimizers installed <input type="checkbox"/>

Inverters are always shipped with the latest firmware version, however, significant changes to the firmware may occur between the time the inverters leave SolarEdge and the time the inverters are installed. Inverter firmware can be updated remotely by calling the SolarEdge US Support number (510) 498-3200 or by loading the firmware, supplied by SolarEdge US Support, to a micro SD card and updating the inverters on site.

Note that remote firmware updates may take significantly longer to process than firmware updates on a micro SD card.

Firmware Update - Reference	
Updating Firmware with Micro SD	Software Upgrade using SD/MicroSD card - Application

Communications

Communication – Reference	
Communication Options	Communication Options
<ul style="list-style-type: none"> Communication Overview RS485 connection Ethernet (LAN) connection 	Installation Manual - Chapter 7: Setting Up Communication
Control & Communication Gateway	SolarEdge Control & Communication Gateway Installation Guide
Communications - Checklist	
1	Inverter bus connected <input type="checkbox"/>
2	All slaves detected <input type="checkbox"/>
3	Masters connected to the internet <input type="checkbox"/>
4	S_OK on all inverters and CCGs <input type="checkbox"/>
5	All inverters registered and reporting to the SolarEdge Monitoring Portal <input type="checkbox"/>
6	No Error Codes displayed on any inverters or the SolarEdge Monitoring Portal <input type="checkbox"/>

Environmental Sensors

Environmental Sensors - Reference	
Overview on using sensors	Environmental Sensors Overview
Sensor installation	SolarEdge Gateway Installation Guide - Chapter 4: Connecting Environmental Sensors (Optional)
Sensor - Checklist	
1 CCG installed	<input type="checkbox"/>
2 Sensors connected and configured	<input type="checkbox"/>
3 Sensors appear in the Monitoring Portal	<input type="checkbox"/>
4 Proper readings in the Monitoring Portal verified	<input type="checkbox"/>

Troubleshooting

Troubleshooting - Reference	
Installation Manual	Installation Manual - Appendix A: Errors and Troubleshooting

SolarEdge Support

The SolarEdge Support team can assist you with any inquiry or technical issues before, during, and or after the installation. Before contacting SolarEdge Support please have as much of the following information available as possible:

- Inverter(s) and power optimizer model numbers
- The serial number of the product in question
- Any error(s) indicated on the inverter screen or on the SolarEdge Monitoring Portal
- System configuration information such as string length or the model and quantity of PV modules
- The communication method employed to connect to the SolarEdge Monitoring Portal
- The inverter firmware version displayed on the inverter LCD

You can also call the SolarEdge US Support number (510) 498-3200 or email us at ussupport@solaredge.com .