Installation Guide

SolarEdge Home EV Charger Installation Guide

with SetApp Configuration

For Australia

Revision History

Version 1.1 October 2022

- Product name changed from Smart EV Charger to SolarEdge Home EV Charger

Version 1.0 July 2022

- Initial release

Contents

HANDLING AND SAFETY INSTRUCTIONS

Safety Symbols Information

The following safety symbols are used in this document. Familiarize yourself with the symbols and their meaning before installing or operating the system.

WARNING!

Denotes a hazard. It calls attention to a procedure that, if not correctly performed or adhered to, could result in **injury or loss of life**. Do not proceed beyond a warning note until the indicated conditions are fully understood and met.

AVERTISSEMENT!

Dénote un risque: il attire l'attention sur une opération qui, si elle n'est pas faite ou suivi correctement, pourrait causer des blessures ou un danger de mort. Ne pas dépasser une telle note avant que les conditions requises soient totallement comprises et accomplies.

CAUTION!

Denotes a hazard. It calls attention to a procedure that, if not correctly performed or adhered to, could result in **damage or destruction of the product**. Do not proceed beyond a caution sign until the indicated conditions are fully understood and met.

ATTENTION!

Dénote un risque: il attire l'attention sur une opération qui, si elle n'est pas faite ou suivi correctement, pourrait causer un dommage ou destruction de l'équipement. Ne pas dépasser une telle note avant que les conditions requises soient totallement comprises et accomplies.

NOTE

Denotes additional information about the current subject.

IMPORTANT SAFETY FEATURE

Denotes information about safety issues.

IMPORTANT SAFETY INSTRUCTIONS

SAVE THESE INSTRUCTIONS

Warning!

When using electric products, basic precautions should always be followed, including the following. This manual contains important instructions that shall be followed during installation, operation and maintenance of the unit.

a. Read all the instructions before using this product.

b. This device should be supervised when used around children.

c. Do not put fingers into the electric vehicle connector.

d. Do not use this product if the flexible power cord or EV cable is frayed, has broken insulation, or any other signs of damage.

e. Do not use this product if the enclosure or the EV connector is broken, cracked, open, or shows any other indication of damage.

1. The grounding connector shall be connected to the main earth terminal in the MSB.

WARNING!

Before operating the SolarEdge Home EV Charger, ensure that the SolarEdge Home EV Charger grounded properly. This product must be connected to a grounded, metal, permanent wiring system, or an equipment-grounding conductor must be run with the circuit conductors and connected to the equipment grounding terminal or lead on the product.

NOTE

Use only copper conductors rated for a minimum of .

NOTE

The symbol ⏚ appears at grounding points on the SolarEdge equipment. This symbol is also used in this manual.

NOTE

The following warning symbols appear on the inverter warning label:

	Risk of electric shock
	Risk of electric shock from energy stored in the capacitor. Do not remove cover until 5 minutes after disconnecting all sources of supply.
	Hot surface – To reduce the risk of burns, do not touch.
	Caution, risk of danger

WARNING!

The SolarEdge Home EV Charger must be connected to a dedicated AC branch circuit with a maximum Overcurrent Protection Device (OCPD) of 50A.

CAUTION!

This unit must be operated according to the technical specification datasheet provided with the unit.

NOTE

This SolarEdge Home EV Charger s provided with an IMI (Isolation Monitor Interrupter) for ground fault protection

NOTE

The SolarEdge Home EV Charger is rated. Unused conduit entry and glands should be sealed with appropriate seals.

WARNING!

Risk of electric shock. Do not remove cover. No user serviceable parts inside. Refer servicing to qualified service personnel.

Grounding Instructions

This product must be grounded. If it should malfunction or break down, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This product is equipped with a cord having an equipment grounding conductor and a grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

WARNING!

Improper connection of the equipment-grounding conductor might result in a risk of electric shock. Check with a qualified electrician or serviceman if you are in doubt as to whether the product is properly grounded. Do not modify the plug provided with the product – if it will not fit the outlet, have a proper outlet installed by a qualified electrician.

NOTE

The following warning symbols appear on the inverter warning label:

	Risk of electric shock
	Risk of electric shock from energy stored in the capacitor. Do not remove cover until 5 minutes after disconnecting all sources of supply.
	Hot surface – To reduce the risk of burns, do not touch.
	Caution, risk of danger

EV Charging Safety Instructions

WARNING!

Do not charge a vehicle indoors if it requires ventilation. Contact your EV service representative for information.

WARNING!

Automatic CCID (charge circuit interrupting device) reset provided.

CAUTION!

Do not use this product if there is any damage to the unit.

CAUTION!

Do not use an extension cord between the SolarEdge Home EV Charger Cable and the SolarEdge Home EV Charger. You may use a conversion adapter only if it has been approved by SolarEdge.

Chapter 1: Introduction to SolarEdge Home EV Charger

The SolarEdge Home EV Charger is designed to provide reliable and economical charging of an electric vehicle (EV). EV Connector IEC 62196 (Type 2).

The SolarEdge Home EV Charger is also used for hanging the SolarEdge Home EV Charger cable, protecting the plug from rain when not plugged into the vehicle.

The SolarEdge Home EV Charger offers the following connection options to the grid:

- Direct AC connection to the SolarEdge Home EV Charger. To be performed only by a qualified electrician.

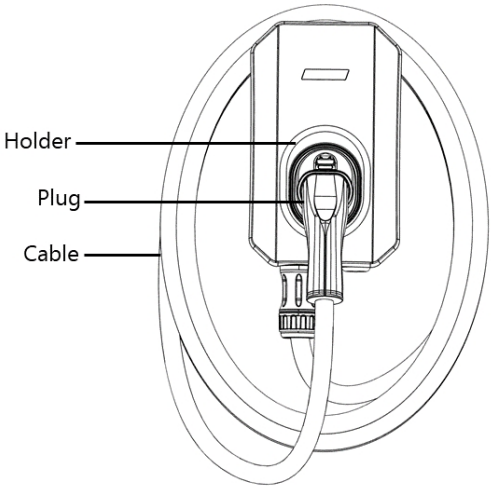


Figure 1: SolarEdge Home EV Charger

Packages Contents and Required Equipment

SolarEdge Home EV Charger Package

- SolarEdge Home EV Charger Station
- SolarEdge Home EV Charger mounting bracket and tightening screws

EV Cable Package

- EV Cable
- EV Cable Locker

Required Equipment

- Screwdriver
- Drill
- Crimper
- 10 mm CSA Bootlace Ferrule

Chapter 2: Connectors and Interfaces

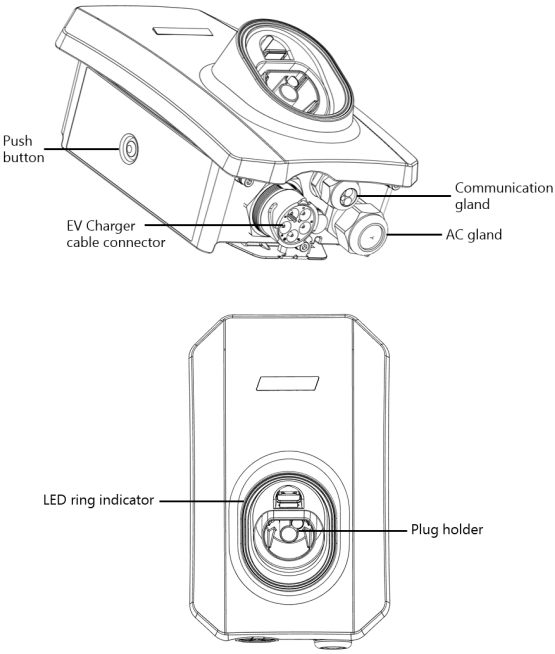


Figure 2: SolarEdge Home EV Charger connectors and interfaces

- **SolarEdge Home EV Charger cable connector**: Used for connecting the cable to the SolarEdge Home EV Charger
- **SolarEdge Home EV Charger push button:** Pressing the button has the following functionality:

Press	Description
Short press	• In case of malfunction resets errors and starts charging. • In case the SolarEdge Home EV Charger is on scheduling mode press to immediately start charging.
Long press	Turns on the Wi-Fi to enable pairing with the smartphone

- **Communication gland** - for professional installer:
  For connection of SolarEdge Home EV Charger communication options, refer to *Qualified Electrician - Setting Up Communication* on page 33 for more information.

- **Plug holder**: Holds the plug when not being used.
- **SolarEdge Home EV Charger LED ring indicator**: Indicates the SolarEdge Home EV Charger statuses as described in the following table:

LED Ring Color	Indication	Description
Off	Off	No power
Red	On	Error
Green	On	- Charging - Connected to the Internet
Green	Blinking	- Connected to EV - Connected to Internet
Green	Pulsating(1)	- Not connected to EV - Connected to the Internet
Orange	On	- Charging - Not connected to the Internet
Orange	Blinking	- Connected to EV -Not connected to the Internet
Orange	Pulsating(1)	- Not connected to EV - Not connected to the Internet
Purple	Blinking fast	Ready to connect to your smartphone for direct setting of SolarEdge Home EV Charger via smartphone app.
Purple	Momentary On	Connected to your smartphone for direct setting of SolarEdge Home EV Charger via smartphone app.

Buzzer

The SolarEdge Home EV Charger includes a buzzer with the following indications:

(1)The light switches on slowly and gradually increases up to maximum and then slowly decreases back to off

Event	Buzzer Indication
Connected to EV	1 short beep
Charging starts	2 short beeps + 1 long beep
Error	5 beeps

Main Procedures

The SolarEdge Home EV Charger is supplied with a mounting bracket kit.

1. Mount the SolarEdge Home EV Charger bracket
2. Mount the SolarEdge Home EV Charger on the bracket
3. Connect the SolarEdge Home EV Charger cable to the SolarEdge Home EV Charger
4. Set the circuit breaker rating DIP switches

Follow the detailed procedures in the following sections to mount and connect the SolarEdge Home EV Charger

→ To mount the SolarEdge Home EV Charger bracket:

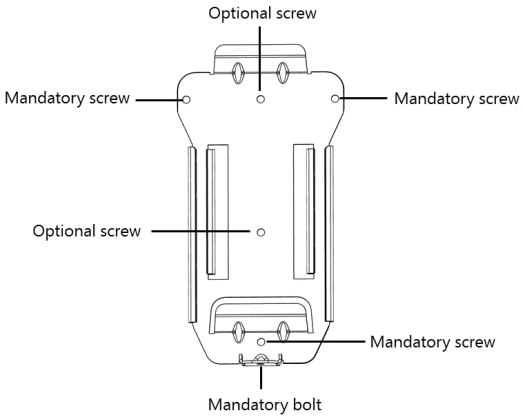


Figure 3: Mounting bracket

1. Determine the SolarEdge Home EV Charger mounting location, on the mounting surface.
2. Maintain the following minimum clearance areas between the SolarEdge Home EV Charger and other objects:

- from the top and sides of the SolarEdge Home EV Charger
- At least from the bottom of the SolarEdge Home EV Charger if installing it indoors, if outdoors.

3. Position the mounting bracket against the mounting surface and mark at least three drilling hole locations (refer to *Mechanical Specifications* on page 49 for mounting bracket dimensions). Drill holes in the locations you marked and mount the bracket. Verify that the bracket is firmly attached to the mounting surface.

→ To mount the SolarEdge Home EV Charger on the bracket:

1. Lift and hang the SolarEdge Home EV Charger on the mounted bracket (see the following figure).

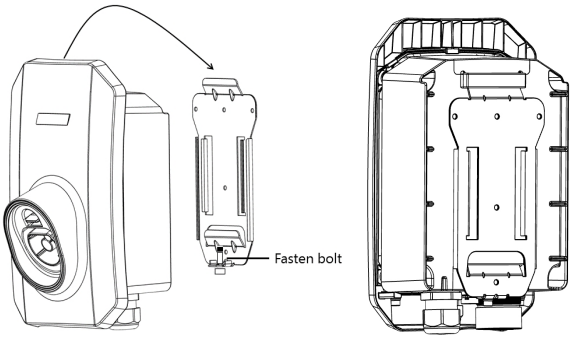


Figure 4: Mounting the SolarEdge Home EV Charger

2. Fasten the supplied bolt to the SolarEdge Home EV Charger.

→ To connect the SolarEdge Home EV Charger cable:

1. Align the two white arrows on the SolarEdge Home EV Charger cable connector with the white dot on the SolarEdge Home EV Charger connector located at the bottom of the SolarEdge Home EV Charger. The dot should be between the two arrows (see the following figure).
2. Plug the cable connector into the SolarEdge Home EV Charger connector (see the following figure).

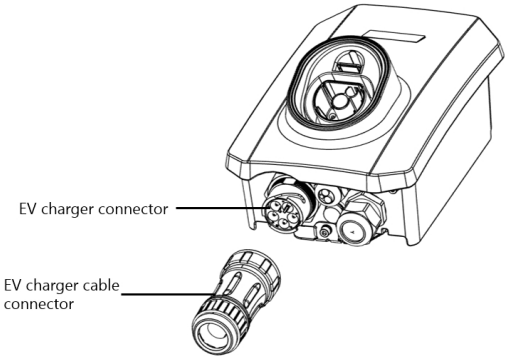


Figure 5: SolarEdge Home EV Charger connectors

3. Rotate the cable connector clockwise to fasten it (see the following figure).

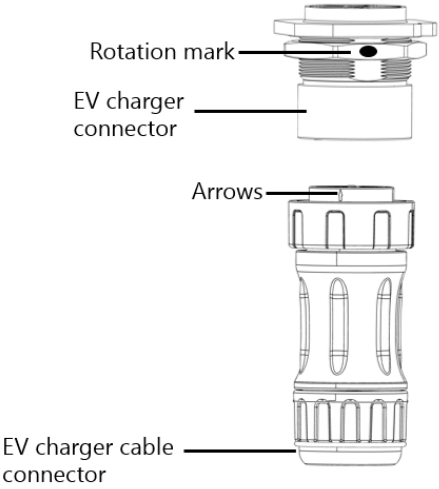


Figure 6: SolarEdge Home EV Charger cable connection

4. Assemble the two parts of the cable lock around the cable connector. Push the parts together until they click to lock (see the following figure).

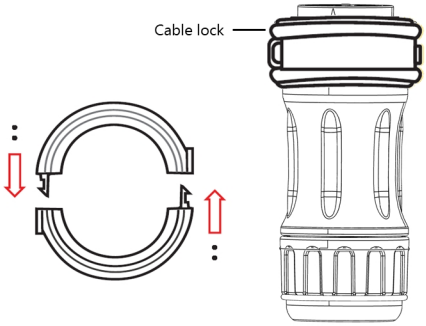


Figure 7: Cable lock

Chapter 3: Qualified Electrician - Connecting the AC Wire to the SolarEdge Home EV Charger

This chapter describes how to connect the AC to the SolarEdge Home EV Charger.

Required Equipment

- Open ended 36 mm wrench
- 4 mm Allen Key
- Screwdriver

Main Procedure

1. Remove the SolarEdge Home EV Charger covers
2. Set the circuit breaker rating DIP switches
3. Directly connect the AC to the SolarEdge Home EV Charger
4. Close the SolarEdge Home EV Charger

Grid Connection Guidelines

- The conduits, hubs and fittings must be suited for field wiring systems.
- Use only copper conductors rated for a minimum of .
- Use the conduit and wiring appropriate for the installation location per the NEC. Outdoor installations must use components that are rated IP65.

NOTE

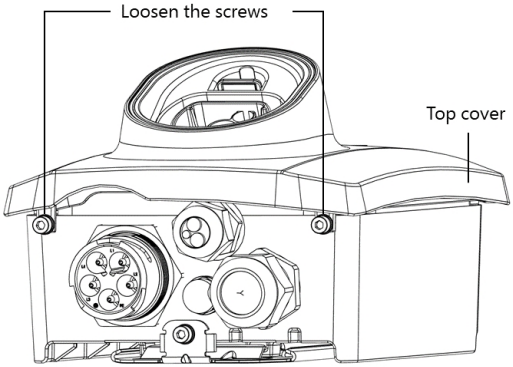
For more wiring information refer to the *SolarEdge Recommended AC Wiring Application Note*, available on the SolarEdge website at https://www.solaredge.com/sites/default/files/application-note-recommended-wiring.pdf

Removing the SolarEdge Home EV Charger Covers

The SolarEdge Home EV Charger has two covers: a top cover and a bottom cover. You must remove both covers to open the SolarEdge Home EV Charger.

→ To remove the SolarEdge Home EV Charger covers:

1. Loosen the screws on the top cover (see the following figure) and remove it.



2. Loosen the screws of the bottom cover (see the following figure)and remove it as well.

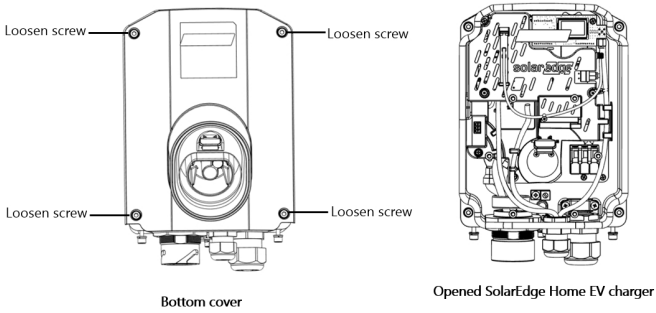


Figure 8: SolarEdge Home EV Charger top cover

CAUTION!

When removing the covers, make sure not to damage the internal components. SolarEdge will not be held responsible for any components damaged as a result of incautious cover removal.

Setting the Circuit Breaker Ratings

DIP Switches

Set the circuit breaker rating DIP switches as shown in the following figure and table.

WARNING!

Before changing the DIP Switches, turn off the AC to the SolarEdge Home EV Charger.

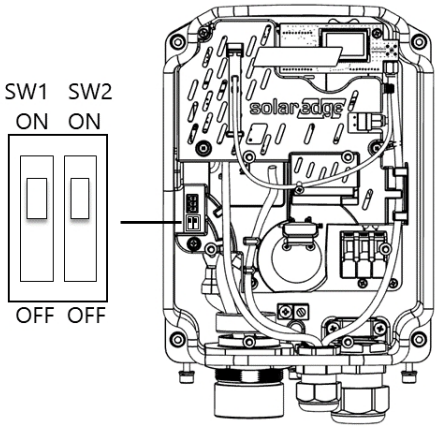


Figure 9: SolarEdge Home EV Charger DIP switch interface

→ To set the circuit breaker ratings:

Adjust the SolarEdge Home EV Charger DIP switches according to your circuit breaker rating to set maximum allowed AC current from the grid.

By default, the DIP switch is set to the 32A which is the maximum allowed AC current.

Directly Connecting the AC Grid to the SolarEdge Home EV Charger

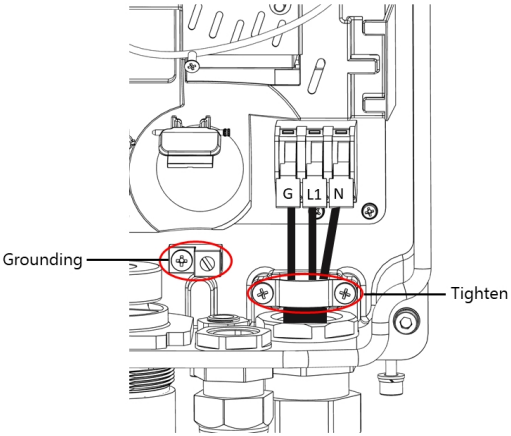
→ To directly connect the AC grid to the SolarEdge Home EV Charger:

1. Strip 12mm of the 6mm-10mm CSA cable.
2. Attach 12mm wire ferrules to the bare wire (end of wire)of the G,L1, N wires:
   a. Twist the bare wires.
   b. Put the wire ferrule on the bare wires. Ensure you can see the end of the wire through the wire ferrule .
   c. Crimp the wire ferrule with a crimper. Repeat for all three wires.

NOTE

Connect the equipment grounding before connecting the AC wires to the AC terminal block.

3. Insert the AC cable through the gland and tighten the screws (see the figure in step 4).
4. Insert the wire ferrules into the round openings according to the labels on the terminal blocks (G,L1, N) and close the levers – the wire ferrules are automatically clamped (see the following figure).



5. Verify that there are no unconnected wires.
6. To connect a grounding wire, use the grounding lug. Tighten using a torque of 3 N*m / 27 lb-in.
7. Close the SolarEdge Home EV Charger covers.

NOTE

Do not close the cover if you want to set up RS485 communication with the inverter

Connecting RS485 between Inverters and the SolarEdge Home EV Charger

The RS485 option enables creating a bus of connected SolarEdge devices, in this case the SolarEdge Home Wave Inverter, Single Phase or the SolarEdge Home Hub Inverter and the SolarEdge Home EV Charger for communication with the Monitoring Platform.

This connection option is not supported by the SolarEdge Home Genesis Inverter by default. To upgrade your SolarEdge Home Genesis Inverter with EV charging and Smart Energy compatibility, refer to

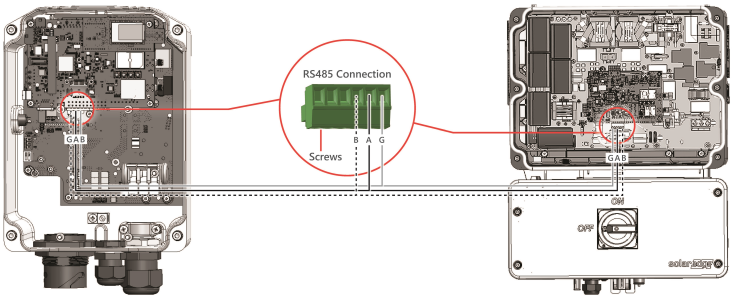
https://www.solaredge.com/genesis-enhancement

To install the SolarEdge Home Wave Inverter, Single Phase, refer to the installation guide supplied with it:

https://www.solaredge.com/sites/default/files/se_hd_wave_inverter_SetApp_installation_guide.pdf

To install the SolarEdge Home Hub Inverter, refer to the installation guide supplied with it:

https://www.solaredge.com/sites/default/files/se-single-phase-energy-hub-prism-technology-installation-guide-aus.pdf



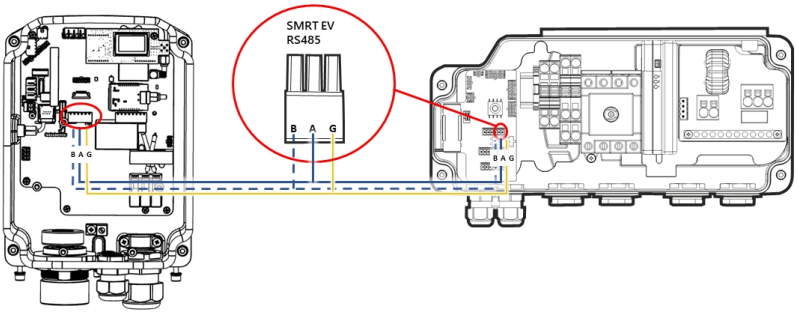


Figure 10: RS485 connection between the SolarEdge Home Wave Inverter, Single Phase (1), SolarEdge Home Hub Inverter (2) and the SolarEdge Home EV Charger

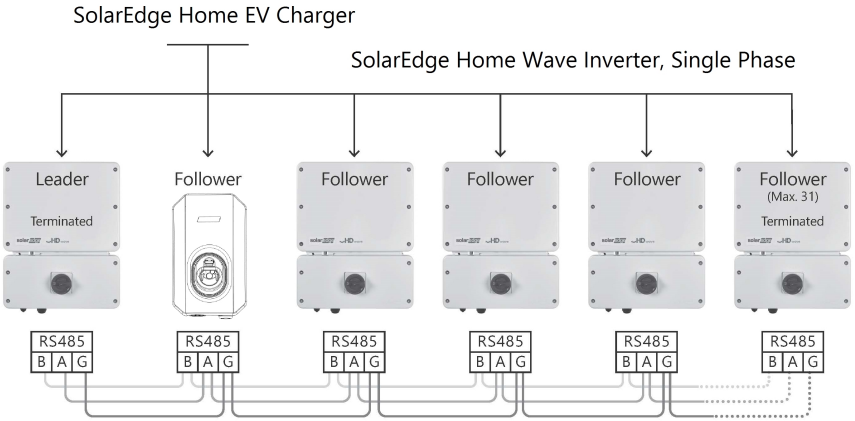
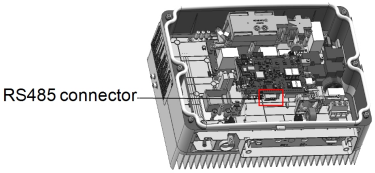


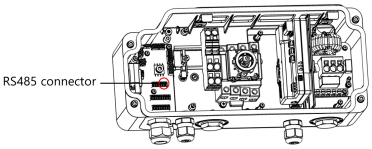
Figure 11: RS485 bus connection between SolarEdge Home Wave Inverter(s), Single Phase and the SolarEdge Home EV Charger

→ To connect RS485 between the inverter and the SolarEdge Home EV Charger:

1. In the inverter:
   a. Remove the inverter cover as described in the Installation Guide.
   b. Remove the seal from one of the openings in communication gland and insert the wire through the opening.
   c. Pull out the RS485 terminal block connector, as shown below:



SolarEdge Home Wave Inverter, Single Phase



SolarEdge Home Hub Inverter

d. Loosen the screws of pins A(+), B(-), and G.

e. Insert the wire ends into the G, A and B pins shown above. Use Four- or six-wire twisted pair cable for this connection.

   You can use any color wire for each of the A, B and G connections, as long as:

   -The same wire pair is used for all A pins the same color for all B pins and the same color for all G pins.

   - The wire for G is not from the same twisted pair as A or B.

f. For creating an RS485 bus - connect all B, A and G pins in all inverters.

   Figure 11 shows this connection schema.

g. Tighten the terminal block screws

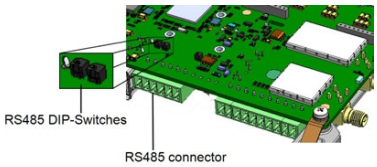
h. Check that the wires are fully inserted and cannot be pulled out easily

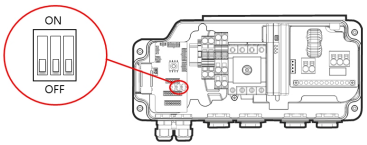
i. Push the RS485 terminal block firmly all the way into the connector.

j. **For the SolarEdge Home Wave Inverter, Single Phase**: terminate the first and last SolarEdge device in the chain by switching a termination DIP-switch inside the inverter to ON (move the left switch up). The switch is located on the communication board and is marked SW2.

   For the SolarEdge Home Hub Inverter : make sure the three DIP switches above the connector are in the down position

   (up–for RS485-2 the SolarEdge protocol; down–for RS485-1 the Modbus protocol).





SolarEdge Home Wave Inverter, Single Phase	SolarEdge Home Hub Inverter

NOTE

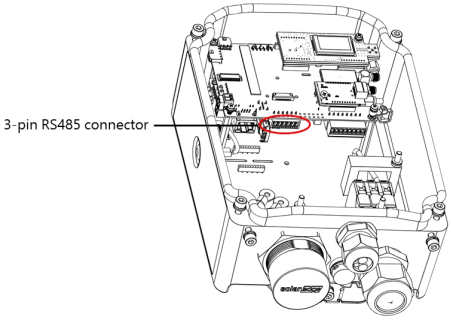
Only the first and last SolarEdge devices in the chain should be terminated. The other inverters in the chain should have the termination switch OFF (down position).

k. If not using surge protection, connect the grounding wire to the first inverter in the RS485 chain; make sure the grounding wire is not in contact with other wires inverters with a Safety Switch, connect the grounding wire to the grounding bus bar in the Safety Switch.

2. In the SolarEdge Home EV Charger:

a. Remove the seal from one of the openings in the communication gland at the bottom of the SolarEdge Home EV Charger and insert the RS485 wires from the inverter through the opening.

b. Remove the 3-pin connector from the RS485-1 port on the communication board.



c. Loosen the screws of the connector and connect the SolarEdge Home EV Charger wires according to the connector label B to B, A to A, and G to G, see*Figure 10* . The wire for G is not from the same twisted pair as A or B.

d. Insert the twisted wires into the connector and tighten them with the screws.

e. Connect the connector back to the RS485-1 port.

RS485 Bus Configuration

→ To connect to the monitoring platform:

1. Designate a single inverter as the connection point between the RS485 bus and the monitoring platform. This inverter will serve as the leader inverter.
2. Connect the leader to the monitoring platform via the LAN option (refer to *Creating an Ethernet (LAN) Connection* on page 35) or any of the other options.

→ To configure the RS485 bus:

All devices are configured by default as followers. To configure the leader:

1. Verify that AC is on.
2. Use SetApp to access the **Commissioning** menu
3. Select the following to configure the connection:

- Server ➔**LAN**
- RS485- ➔ Protocol ➔ **SolarEdge Leader**
- RS485- ➔**Follower Detect**

The system starts automatic detection of the follower devices connected to the leader inverter. The inverter should report the correct number of followers . If it does not, verify the connections and terminations.

4. To check the follower IDs and last communication time, select **RS485- ➔Follower List**.
5. Verify the connection of the leader to the monitoring platform, as described in the next section.

Creating an RS485 Bus Connection to SolarEdge Inverter or Gateway

The RS485 option enables creating a bus of connected devices, consisting of up to 31 follower devices and 1 leader device. Using this option, devices are connected to each other in a bus (chain), via their RS485 connectors. The first and last device in the chain must be terminated as described in *RS485 Bus Configuration* on page 1.

RS485 wiring specifications:

- Cable type: Min. 3-wire shielded twisted pair (a shielded Ethernet cable (Cat5/5E STP) may be used)
- Wire cross-section area: 0.2- 1 mm^2/ 24-18 AWG (a CAT5 cable may be used)

- Maximum nodes: 32
- Maximum distance between first and last devices: 1 km /3300 ft.

NOTE

If using a cable longer than 10 m/ 33 ft in areas where there is a risk of induced voltage surges by lightning, it is recommend to use external surge protection devices. For details refer to: .

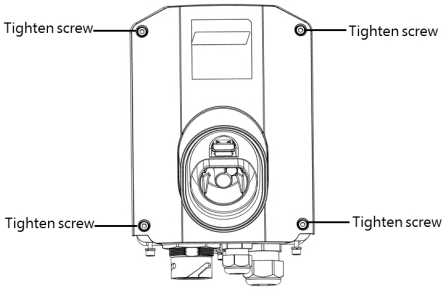
If grounded metal conduit are used for routing the communication wires, a lightning protection device is not required.

If not using surge protection, connect the grounding wire to the first inverter in the RS485 chain; make sure the grounding wire is not in contact with other wires.

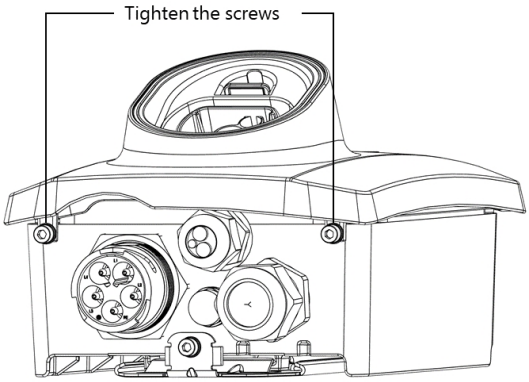
Closing the SolarEdge Home EV Charger Covers

→ To close the SolarEdge Home EV Charger covers:

1. Place the bottom cover on the SolarEdge Home EV Charger and tighten the screws (see the following figure).



2. Place the top cover on the bottom cover, insert and tighten screws (see the following figure).



→ To configure the RS485 bus connection to the SolarEdge Home Wave Inverter, Single Phase:

1. Connect all the inverters and SolarEdge Home EV Chargers to the RS485 bus.
2. Turn on all the inverters and the SolarEdge Home EV Chargers.
3. Set up the SolarEdge Home EV Charger:
   a. Login in to SetApp or download and sign in using one of these following barcodes:

Available on the App Store

Get it on Google play

SetApp

   b. Follow the on-screen instructions.

NOTE

The connection to the Internet is established via RS485

4. On the SolarEdge Home EV Charger:

a. Long press the Push Button
b. Scan the QR Code Pairing Label

5. Perform follower detection on the leader inverter:
   a. RS485 ➔Protocol ➔SolarEdge
   b. RS485 ➔Follower detect
6. Open the leader inverter's **Communication** menu that is connected to the SolarEdge Home EV Charger with AC and RS485 wires.

   Select, Communication ➔ Samrt EV Charger ➔Select ID of SolarEdge Home EV Charger
7. Verify that the SolarEdge Home EV Charger is connected to the monitoring platform.

   The Ring LED is Green either: blinking, pulsating or continually on.

Setting the Circuit Breaker Limit Value

In case you are using a SolarEdge Home Wave Inverter, Single Phase and SetApp, set the circuit breaker limit value to prevent tripping.

→ To set the circuit breaker limit value:

1. Open the leader inverter's **Maintenance** menu then select **Circuit Breaker**.
2. In the Circuit Breaker field add the limit value of the installed circuit breaker.

Verifying that the EV is Charging

→ To verify that the EV is charging:

1. On the SolarEdge Home EV Charger, short press the Push Button.
2. Verify that the Ring indicator is Green.

Chapter 4: Configuring and Using SolarEdge Home EV Charger with mySolarEdge

After installing the SolarEdge Home EV Charger configure it, then enable charging and other advanced features (e.g. scheduling, excess solar charging) with mySolarEdge.

Using mySolarEdge

The following procedure describes the main actions required for using mySolarEdge to configure and use the SolarEdge Home EV Charger. You can download the app from the Apple App Store or from Google Play, then click mySolarEdge icon.

mySolarEdge

→ To sign up to mySolarEdge:

1. Tap **Sign up** then follow the on- screen instructions until you get to the **Scan the QR Barcode** screen.
2. Scan the QR barcode on the silver sticker located on the side of the device.

→ To configure and use mySolarEdge:

1. Login using your credentials.
2. Press the SolarEdge Home EV Charger pushbutton (*Figure 2*) for 5 seconds to establish a Wi-Fi connection between the SolarEdge Home EV Charger and the smartphone.
3. Connect to the SolarEdge Home EV Charger using the Connecting to Wi-Fi screen.
4. Once successfully connected return to mySolarEdge Welcome screen.
5. On the Welcome screen tap EV Charger, then tap the car icon to access the SolarEdge Home EV Charger configuration screens.

6. Follow the on-screen instructions to configure and use mySolarEdge with SolarEdge Home EV Charger.

Chapter 5: Charging Instructions

1. Verify that the green LED ring is ON indicating that the SolarEdge Home EV Charger is ON and ready to charge.
2. Unplug the SolarEdge Home EV Charger plug.
3. Connect the SolarEdge Home EV Charger plug to the charging socket of the vehicle and push firmly until it clicks into the socket. The SolarEdge Home EV Charger will sound 1 short beep and the green LED will change from breathing to blinking indicating a proper connection.

   The charging starts automatically, indicated by 2 short beeps and 1 long beep while the green LED is steadily on.

   When the charging is complete, the green LED starts blinking.
4. Press the SolarEdge Home EV Charger plug latch and pull it from the vehicle's EV charging socket.
5. Wind the SolarEdge Home EV Charger cable around the device and put the plug back in the holder.

Chapter 6: Qualified Electrician - Setting Up Communication

This section describes how to set up communication between the SolarEdge Home EV Charger and the monitoring platform through the Internet (wired/ wireless).

Communication setup is not required for charging, however it is needed for using advanced features (e.g. scheduling, excess solar charging) and for transferring EV charging related information to the monitoring platform.

NOTE

It is recommended to connect communications before connecting the AC, for easier access to the communication board.

Communication Options

The following types of communication can be used to transfer the monitored information from the SolarEdge Home EV Charger to the monitoring platform.

Only communication products offered by SolarEdge are supported.

Wi-Fi

A Wi-Fi connection is provided for connecting my SolarEdge app and SetApp to the monitoring platform. An antenna is required and available from SolarEdge for extending the Wi-Fi range.

The Wi-Fi access point is built into the SolarEdge Home EV Charger.

Ethernet

Ethernet is used for a LAN connection. For connection instructions refer to *Creating an Ethernet (LAN) Connection* on page 35.

RS485

The RS485 ports are used for communicating with:

- SolarEdge Home Wave Inverter, Single Phase. For connection instructions refer to *Creating an RS485 Bus Connection* - on page 1.
- Import/Export Meter. For connection instructions refer to *Qualified Electrician - Connecting the SolarEdge Home EV Charger to an Energy Meter* on page 46.

Cellular

This wireless communication option (purchased separately) enables using a cellular network to connect to the monitoring platform.

The Cellular Plug-in is provided with a user manual, which should be reviewed prior to connection. Refer to https://www.solaredge.com/sites/default/files/se-cellular-plug-in-for-inverters-with-setapp-installation-guide.pdf

Communication Connectors

A communication gland with multiple openings is used for connection of the various communication options. The table below describes the functionality of each gland opening. Unused openings should remain sealed.

Opening for cable size (diameter)	Connection type
2.5 - 5 mm	RS485
4.5 - 7 mm, with cut	Ethernet (CAT5/6)
2 - 4 mm, with cut	Cable for external wireless or cellular communication

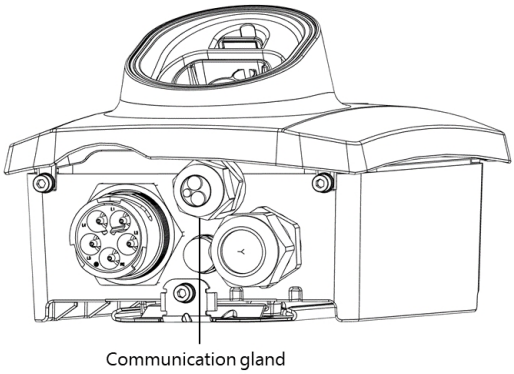


Figure 12: Communication Gland

The communication board has a standard RJ45 terminal block for Ethernet connection and a 6-pin terminal block for RS485 connection.

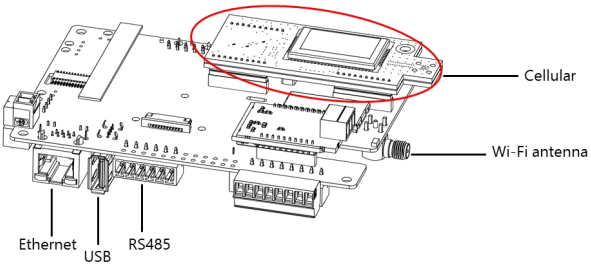


Figure 13: Communication board connectors

Creating an Ethernet (LAN) Connection

This communication option enables using an Ethernet connection to connect the SolarEdge Home EV Charger to the monitoring platform through a LAN.

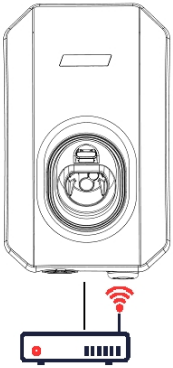


Figure 14: Example of Ethernet connection

Ethernet cable specifications:

- Cable type – a shielded Ethernet cable (Cat5/5E STP) may be used
- Maximum distance between the SolarEdge Home EV Charger and the router –.

NOTE

If using a cable longer than in areas where there is a risk of induced voltage surges by lightning, it is recommend to use external surge protection devices. For details refer to: .

→ To connect the Ethernet cable:

1. Remove the SolarEdge Home EV Charger covers as described in *Removing the EV Charger Standalone Covers* on page 1.

2. Open the communication gland.

CAUTION!

The gland includes a rubber waterproof fitting, which should be used to ensure proper sealing.

3. Remove the plastic seal from one of the large openings.
4. Remove the rubber fitting from the gland and insert the CAT5/6 cable through the gland and through the gland opening in the SolarEdge Home EV Charger.
5. Insert the cable through the opening in the SolarEdge Home EV Charger towards the communication board.
6. Push the cable into the cut opening of the rubber fitting (see the following figure).

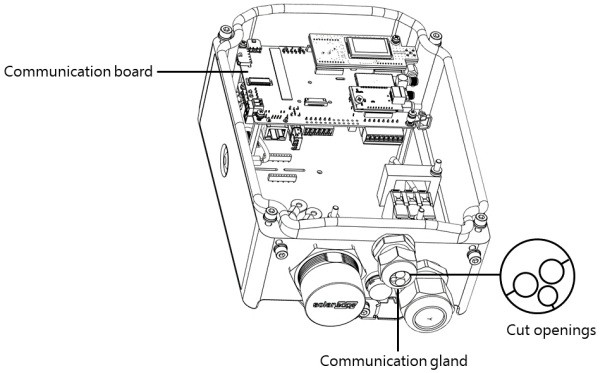


Figure 15: Communication gland and rubber fitting

CAT5/6 standard cables have eight wires (four twisted pairs), as shown in the diagram below. Wire colors may differ from one cable to another. You can use either wiring standard, as long as both sides of the cable have the same pin-out and color-coding.

RJ45 Pin #	Wire Color[1]		10Base-T Signal 100Base-TX Signal
	T568B	T568A	
1	White/Orange	White/Green	Transmit+
2	Orange	Green	Transmit-
3	White/Green	White/Orange	Receive+
4	Blue	Blue	Reserved

[1]The SolarEdge Home EV Charger connection does not support RX/TX polarity change. Supporting crossover Ethernet cables depends on the switch capabilities.

RJ45 Pin #	Wire Color[1]		10Base-T Signal 100Base-TX Signal
	T568B	T568A	
5	White/Blue	White/Blue	Reserved
6	Green	Orange	Received-
7	White/Brown	White/Brown	Reserved
8	Brown	Brown	Reserved

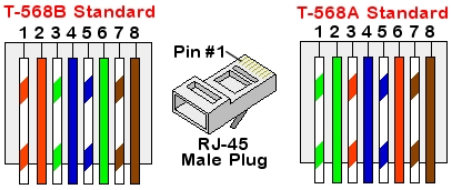


Figure 16: Standard cable wiring

7. Use a pre-crimped cable to connect via gland #1 to the RJ45 plug on the SolarEdge Home EV Charger's communication board or, if using a spool of cable, connect as follows:
   a. Insert the cable through the gland.
   b. Remove the cable's external insulation using a crimping tool or cable cutter and expose eight wires.
   c. Insert the eight wires into an RJ45 connector, as described in *Figure 16*
   d. Use a crimping tool to crimp the connector.
   e. Connect the Ethernet connector to the RJ45 port on the communication board.
8. For the switch/router side, use a pre-crimped cable or use a crimper to prepare an RJ45 communication connector: Insert the eight wires into the RJ45 connector in the same order as above (Figure 2).
9. Connect the cable RJ45 connector to the RJ45 port of the Ethernet switch or router. You can connect more than one SolarEdge Home EV Charger to the same switch/router or to different switches/routers, as needed. Each SolarEdge Home EV Charger sends its monitored data independently to the SolarEdge monitoring platform.
10. The SolarEdge Home EV Charger is configured by default to LAN.

[1]The SolarEdge Home EV Charger connection does not support RX/TX polarity change. Supporting crossover Ethernet cables depends on the switch capabilities.

a. Turn ON the AC to the SolarEdge Home EV Charger by turning ON the circuit breaker on the main distribution panel.

WARNING!

ELECTRICAL SHOCK HAZARD. Do not touch uninsulated wires when the SMI cover is removed.

b. Configure the connection with SetApp. Refer to *Qualified Electrician - Configuring and Using SolarEdge Home EV Charger with SetApp* on page 39.

11. Verify the connection with SetApp. Refer to *Verifying the Connection to the Monitoring Platform* on page 38.

Verifying the Connection to the Monitoring Platform

After connecting and configuring a communication option, perform the following steps to check that the connection to the monitoring server has been successfully established.

→ To verify the connection to the monitoring platform:

1. Open SetApp and follow the instructions on the screen. The mobile device creates a Wi-Fi connection with the SolarEdge Home EV Charger and displays the main Commissioning screen.
2. From the **Commissioning** menu select **Status**.
3. Check that **S_OK - Server Connected** status appears in the main SolarEdge Home EV Charger section.
4. Scroll down to the **Communication** section and check that the communication options are as required. Refer to *Viewing Communication Status* on page 40.

Chapter 7: Qualified Electrician - Configuring and Using SolarEdge Home EV Charger with SetApp

After installing the SolarEdge Home EV Charger configure it, then enable charging and other advanced features (e.g. scheduling, excess solar charging) with SetApp.

You can connect communication options at this stage, as described in*Qualified Electrician - Setting Up Communication* on page 33.

You can download the SetApp from the Apple App Store and Google Play prior to reaching the site.

Internet connection is required for the download and for the one-time registration, however not required for using the SetApp.

Configuring the SolarEdge Home EV Charger

1. Download and Follow the on- screen instructions to configure and use SetApp with SolarEdge Home EV Charger.

Configuring Communication Options

Communication settings can be configured only after communication connections are complete. Refer to *Qualified Electrician - Setting Up Communication* on page 33.

→ To configure communication options:

1. Tap the **Communication** menu to define and configure the following:

- The communication option used by the SolarEdge Home EV Charger to communicate with the monitoring platform.
- The communication option used to communicate between multiple SolarEdge devices.

2. Tap the **Server** red arrow to set the communication method to be used for communication between the SolarEdge Home EV Charger and the SolarEdge monitoring platform. The default is LAN.

NOTE

The Server menu shows only the communication options installed in the SolarEdge Home EV Charger.

For detailed information about all the configuration options, refer to the *Communication Options Application Note*, available on the SolarEdge website at https://www.solaredge.com/sites/default/files/solaredge-communication_options_application_note_v2_250_and_above.pdf.

Viewing Communication Status

The Communication screen displays the status of connection option(s): LAN, RS485, Wi-Fi and cellular.

→ To view communication status:

1. From the **Commissioning** menu select **Status** then scroll down to the **Communication** section.

For each communication option, one of the following statuses is displayed:

- **Connected**: The SolarEdge Home EV Charger established a successful connection and communication with the specified server port.
- **NC**: Not Connected
- **S_OK**: The connection to the monitoring platform is successful .
- **N/A** : Not Applicable
- Temporarily displayed (with a clock sign):
  - **Initializing communication**
  - **Connecting** to a network
  - **Connecting** to SolarEdge servers
- **Error message** (with the ⓘ sign)

Chapter 8: Errors and Troubleshooting

For the following system errors, when an error occurs, the red LED ring lights ON and the buzzer beeps 5 times.

The error messages are displayed on the mobile app screen.

If the error persists- contact SolarEdge Support.

Error code	Displayed Error message	Description and Troubleshooting
3x85	EVSE Comm. Error	**Licensed electrician required** **An internal communication error** When this error occurs, the red LED ring is not lit, the buzzer does not beep and charging is not affected. Check that the internal connections on the communication board are properly wired.
1Cx1; 1Cx8	Over Current Press Charge Now	**SolarEdge Home EV Charger AC over current** • Press the **Charge Now** push button on the SolarEdge Home EV Charger, see *Figure 2* -or- • Tap **Charge Now** on the SolarEdge Home EV Charger tab of the mySolarEdge App.
1Cx2; 1xC9	Over Voltage Press Charge Now	**SolarEdge Home EV Charger AC voltage is too high** • Press the **Charge Now** push button on the SolarEdge Home EV Charger, see *Figure 2* -or- • Tap **Charge Now** on the SolarEdge Home EV Charger

Error code	Displayed Error message	Description and Troubleshooting
		tab of the mySolarEdge App.

Error code	Displayed Error message	Description and Troubleshooting
1Cx3,Cx14; 1Cx15	Ground Fault (RCD) Press Charge Now	**SolarEdge Home EV Charger ground fault detected** • Press the **Charge Now** push button on the SolarEdge Home EV Charger, see *Figure 2* -or- • Tap **Charge Now** on the SolarEdge Home EV Charger tab of the mySolarEdge App.
1Cx4; 1Cx5; 1Cx12 -1Cx13	Internal Error Disconnect from EV	**Internal error** • Disconnect the SolarEdge Home EV Charger cable from the vehicle. • Turn the inverter AC circuit breaker OFF and ON. • Reconnect the SolarEdge Home EV Charger Cable to the vehicle. • If the EV Charger is powered by the inverter, then turn the inverter AC circuit breaker OFF and ON. • If the EV Charger is standalone, then turn the EV Charger AC circuit OFF and ON.
1CxB/D; 1Cx10 - 1Cx11	Interface Error (Pilot) Press Charge Now	• Press the **Charge Now** push button on the SolarEdge Home EV Charger, see *Figure 2* -or- • Tap **Charge Now** on the SolarEdge Home EV Charger tab of the mySolarEdge App.

Error code	Displayed Error message	Description and Troubleshooting
1Cx6	Ground Disconnected Disconnect from EV	**Ground Disconnected** • Disconnect the SolarEdge Home EV Charger cable from the vehicle. • Contact SolarEdge Support.
1Cx7	Over Temperature	**SolarEdge Home EV Charger over temperature** • Verify proper clearance around the SolarEdge Home EV Charger. Please refer to *"Main Procedures" on page 15* • After verification reconnect the SolarEdge Home EV Charger cable to the EV. • Contact SolarEdge Support.
1CxA	Under Voltage Press Charge Now	**SolarEdge Home EV Charger AC voltage too low** • Press the **Charge Now** push button on the SolarEdge Home EV Charger, see *Figure 2* -or- • Tap Charge Now on theSolarEdge Home EV Charger tab of the mySolaredge App.
1CxC	Vent not supported Disconnect from EV	The SolarEdge SolarEdge Home EV Charger does not charge vehicles that require ventilation while charging. If this error occurs, the vehicle cannot be charged.
1CxE;1CxF	Charging retries ended Disconnect from EV	**Charging retries ended** • Disconnect the SolarEdge Home EV Charger cable from

Error code	Displayed Error message	Description and Troubleshooting
		the vehicle. • Contact SolarEdge Support.

Appendix A: Qualified Electrician - Connecting the SolarEdge Home EV Charger to an Energy Meter

This section provides instructions for connecting the SolarEdge Home EV Charger to an Energy Meter. An Energy Meter is required for Smart Energy Management applications, such as controlled Excess Solar charging.

To install the Energy Meter, refer to the installation guide supplied with it:

Energy Meter DIP Switches

The following sections explain the DIP Switches IDs and termination.

Energy Meter ID DIP Switches

The ID DIP switches are used to set the Modbus address of the meter. The addressing options are listed in the table below. See the figure*ID and termination DIP switches* on page 47 for switch direction guidelines.

Table 1: Energy Meter ID DIP Switches

Modbus Address	ID 1	ID 2	ID 3
0	Down	Down	Down
1	Up	Down	Down
2	Down	Up	Down
3	Up	Up	Down
4	Down	Down	Up
5	Up	Down	Up
6	Down	Up	Up
7	Up	Up	Up

Energy Meter Termination DIP Switches

The Termination DIP switches are used to configure RS485 wiring termination. The termination options are listed in the table below. See the figure*ID and termination DIP switches* on page 47 for switch direction guidelines and refer to *Table 1*.

Table 2: Energy Meter ID DIP Switches

RS485 Termination	TERM 1	TERM 2
Terminated	Down	Down
Not Terminated (factory default)	Up	Up

Figure 17: ID and termination DIP switches

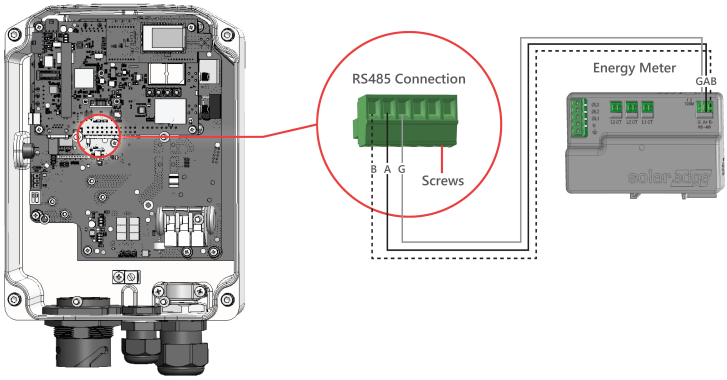


Figure 18: Meter connection

→ To connect the Energy Meter to the SolarEdge Home EV Charger:

1. Connect one end of the communication cable to the Energy Meter, as explained in the Energy Meter's installation guide.
2. Remove the seal from one of the openings in the communication gland at the bottom of the SolarEdge Home EV Charger and insert the RS485 wires from the meter through the opening (see *Figure 18*).
3. Remove the 3-pin connector from the RS485-1 port on the communication board (see *Figure 18*).

4. Loosen the screws of the connector and connect the Energy Meter wires according to the connector label B to B, A to A, and G ot G (see *Figure 18*).

   The wire for G is not from the same twisted pair as A or B.
5. Insert the twisted wires into the connector and tighten them with the screws.
6. Connect the connector back to the RS485-1 port.
7. In the meter, ensure the RS485-1 DIP switch is down. See *Figure 17*.
8. In the meter, set the Modbus address 1-3 of the meter according to *Table 1*

Mechanical Specifications

The following figure provides SolarEdge Home EV Charger dimensions in [in] / [mm].

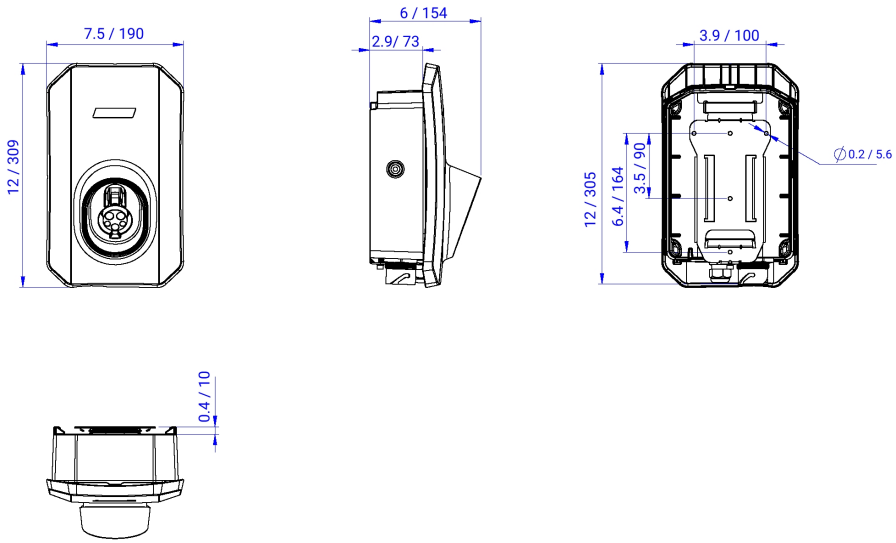


Figure 19: SolarEdge Home EV Charger dimensions

Technical Specifications - SolarEdge Home EV Charger (Australia and New Zealand)

EV CHARGER SPECIFICATIONS		
Charging Mode	AC Level 2 / Mode 3	
Rated AC Power Output	7.4	kW
Maximum Continuous Output Current @230Vac	32[1]	Vac
Nominal AC Output Voltage	230	Vac
Nominal AC Frequency	50 / 60	Hz
Residual Current Detector (AC)	Type A (30 mA rms)	
Supported Communication Interfaces	Wi-Fi (built-in antenna included)[2], Ethernet, RS485 and Cellular (optional)[3]	
CABLE SPECIFICATIONS		
EV Connector	IEC 62196 Type 2	
Length	4.5 / 7.6	m
Weight	3.5 / 5.7	kg
SUPPORTED FEATURES WHEN CONNECTED TO A SOLAREDGE INVERTER		
Smart Energy Management	Smart schedules, excess solar charging[4]	
ADDITIONAL FEATURES		
EV Charger Status LEDs, Fault Indicator	Yes	
EV Charger Unplugging Detection	Yes, current termination according to IEC 62196	
EV Charger Ground Connection Monitoring	Yes, continuous	
EV Charger Configuration	Installer commissioning via SetApp Homeowner configuration, controls and monitoring via mySolarEdge app	

[1] Configurable to the following max output current levels: 16 / 24 / 32 / 40 A.

[2] To extend Wi-Fi communication, use optional Wi-Fi antenna. For antenna specification refer to: https://www.solaredge.com/sites/default/files/se-wifi-zigbee-wireless-antenna-datasheet-na.pdf

[3] Optional cellular kit can be ordered

[4] When SolarEdge Home EV Charger is connected to the inverter, an import/export meter is required for controlled excess solar charging

STANDARD COMPLIANCE		
EMC	IEC 61851-21-2	
Safety	IEC 61851-1	
INSTALLATION SPECIFICATIONS		
Dimensions (H x W x D)	309 x 190 x 154	mm
EV Charger Weight	2.85	kg
Protection Rating(connected to EV or with dust cap)	IP54	
Operating Temperature Range	-30 to +50	˚C

Support Contact Information

If you have technical problems concerning SolarEdge products, please contact us:

https://www.solaredge.com/aus/service/support

Before contact, make sure to have the following information at hand:

- Model and serial number of the product in question.
- The error indicated on the product's mobile application.
- The communication method to the SolarEdge ,monitoring platform , if the site is connected.


solaredge