SolarEdge Home Battery 400V

Installation on HD Wave Inverter

Connection via Home Network

Revision 1.5 March - 2023

solaredge

Distances, cables & Part Numbers

Technical data and Part Numbers

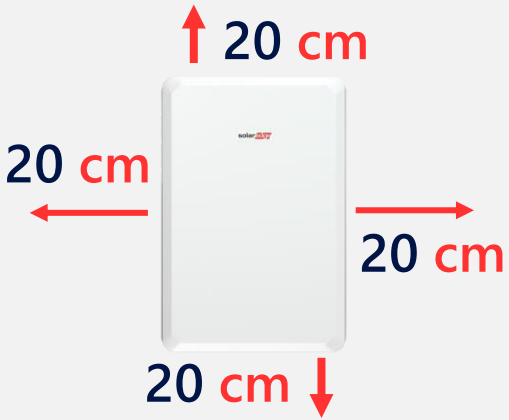
PN - HD WAVE	INVERTER DESCRIPTION - TECHNICAL SHEET HERE
SEXXXXH-XXXXXBXX4	Single-phase inverter with HD-Wave technology, Inverter with SetApp configuration
PN – AC COUPLE	**INVERTER DESCRIPTION - TECHNICAL SHEET HERE**
SEXXXXH-WSACBXXXX	StorEdge AC Coupled Single Phase Inverter with HD-Wave Technology

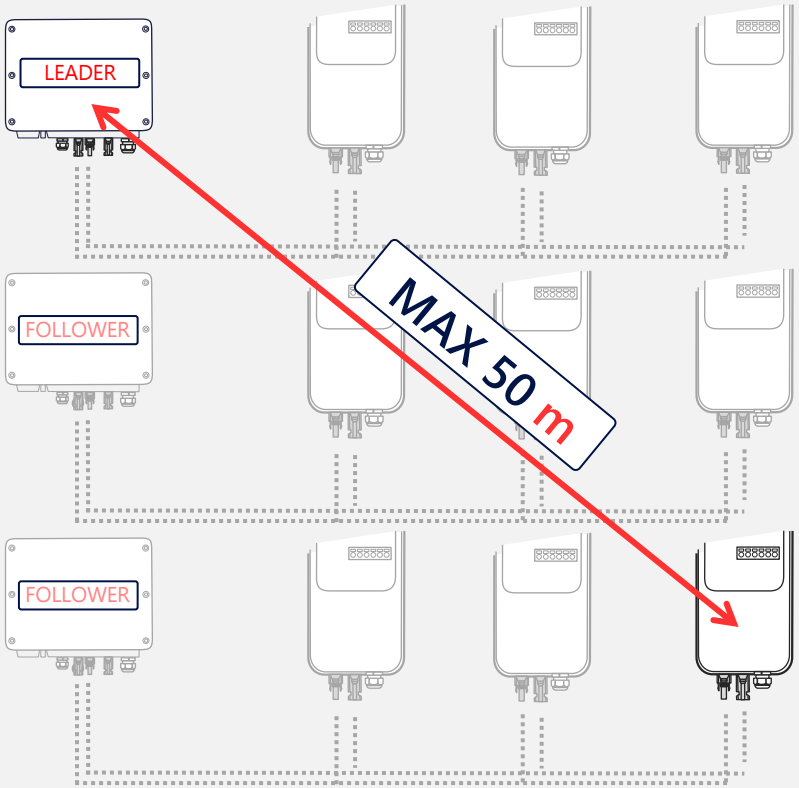
PN - ACCESSORIES	DESCRIPTION
IAC-RBAT-RWYCBL-01	SolarEdge Energy Bank Branch Connector set (10 pairs in a box)
IAC-RBAT-HANDLE-01	SolarEdge Energy Bank Mounting Handles (4 handles in a box)
IAC-RBAT-FLRSTD-01	SolarEdge Energy Bank Floor Stand

Maximum distance between inverter & battery

The maximum distance allowed between the inveretr and the battery is 50m

In the case of Multi-Inverter and Multi-Battery systems, the maximum distance of 50m should be understood as the distance between the Leader inverter and the physically farthest battery





Communication and power cable specifications

INVERTER / METER Communication	Cable Type
Type of connection cables between Inverter and Meter	Shielded cable with at least 3 twisted conductors with a section of 0.2–1 mm^2. A CAT 5/6 STP cable can be used

INVERTER / METER Communication	Max Distance
Max distance of RS485 cable between inverter and meter	**100 m** with category 5/6 cable
	1000 m with RS-485 category cable

DC CABLES BATTERY/INVERTER	CABLE TYPE
Type of DC cables between the battery and Inverter	6 mm2 (6-10 mm2), 600 V insulated
Type of grounding cable	6 mm2 (6–10 mm2)

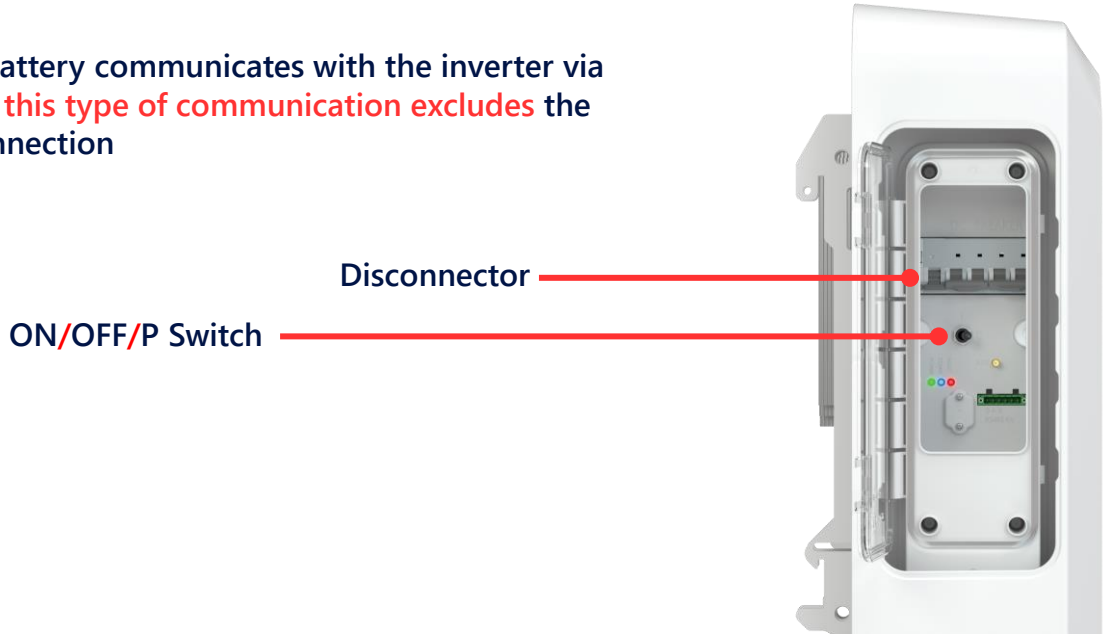
Please Note: The connection must use twisted cables for terminations A & B (eg. the Blue cable for A & the White/Blue for B). We recommend the use of Cat5/6 shielded Ethernet cable with the same colors shown in this manual

Power on & off

Attention

The "SolarEdge Home Battery 400V" must be turned off before installation. Failure to follow the correct battery shutdown/ignition procedure may damage the product. This type of damage, deriving from installation negligence, puts the product out of warranty.

The SolarEdge battery communicates with the inverter via Home Network, this type of communication excludes the wired RS485 connection



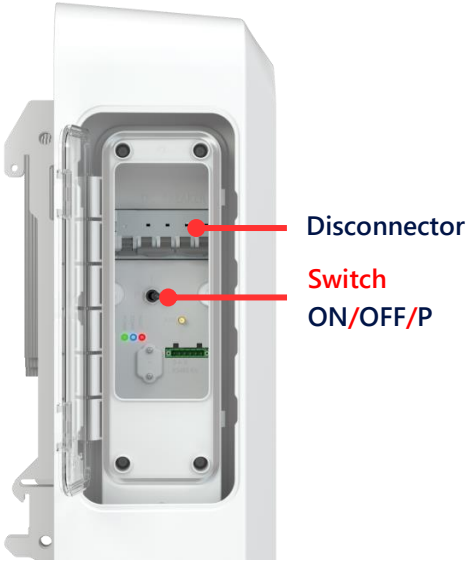
Battery switch on/off procedure

Inverter and battery shutdown procedure

- 1 – Set the inverter **switch P/1/0 to 0**
- 2 – Verify that the **Vdc** of the inverter reaches a **safety voltage** (less than 50V)
- 4 – Turn the battery **ON/OFF/P switch** to **OFF**
- 5 – Set the battery **disconnector** to **OFF**

Battery & inverter start-up procedure

- 1 – Make sure the **inverter switch P/1/0** is in the **0 position** & the Vdc is les than 50V
- 2 – Set the battery **Battery disconnector** to **ON**
- 3 – Turn **ON** the battery **ON/OFF/P Switch**
- 4 – Set the inverter **Switch P/1/0** to **1**



DC wiring

Attention

Before wiring the battery and the inverter, please perform the **shutdown procedure** indicated on page 8 of this manual.

We then invite you, in order to have a clearer view of the installation, to wire the **battery using the same colors** used in this guide.

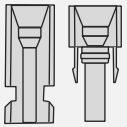
Once the wiring has been completed, it is also extremely important to make sure that the polarity has not been reversed. **A reversed polarity may result in the invalidation of the product warranty.**

The following pages show different connection modes between inverter and battery depending on the various installation possibilities: An inverter with a battery, an inverter with a maximum number of 3 batteries in parallel and finally several inverters in Leader\Follower connection all with a maximum number of 3 batteries per inverter in parallel.

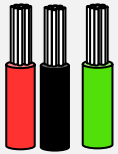
For the configuration of your system, please refer to the pages of your interest only. In the case of a Multi-Inverter\Multi-Battery connection, the search, pairing, updating, and self-test of the batteries must all be performed by the Leader inverter.

Configuration 1: DC connections on a single battery

DC connection of the batteries to the inverter

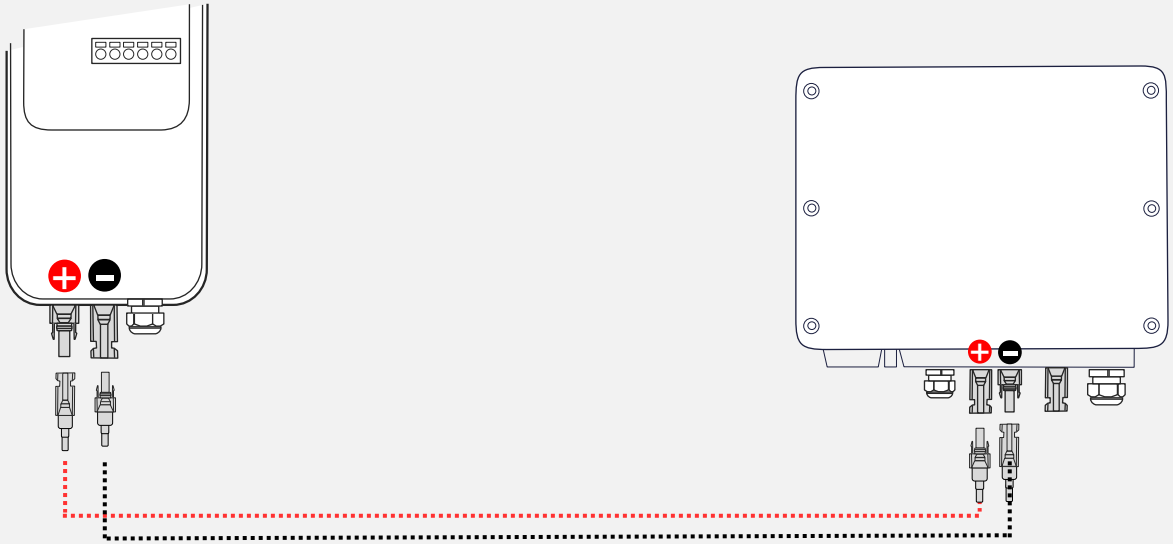


The SolarEdge Home battery, in non-StorEdge inverters, must be connected using one of the inputs for the PV strings. In case of only one input, it must be put in parallel with the PV strings.



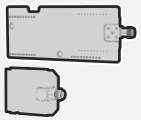
For the DC connection use a 6mm2 (6-10mm2), 600V insulated cable.

Connect the ground cables as indicated in the "Quick Installation guide".

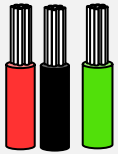


Configuration 2: DC connections in a Multi-Battery systems

DC connections of the batteries to the inverter

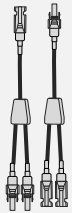


SolarEdge Home batteries communicate with the inverter via a Home Network device. The only cable connection required with the inverter is the DC one.



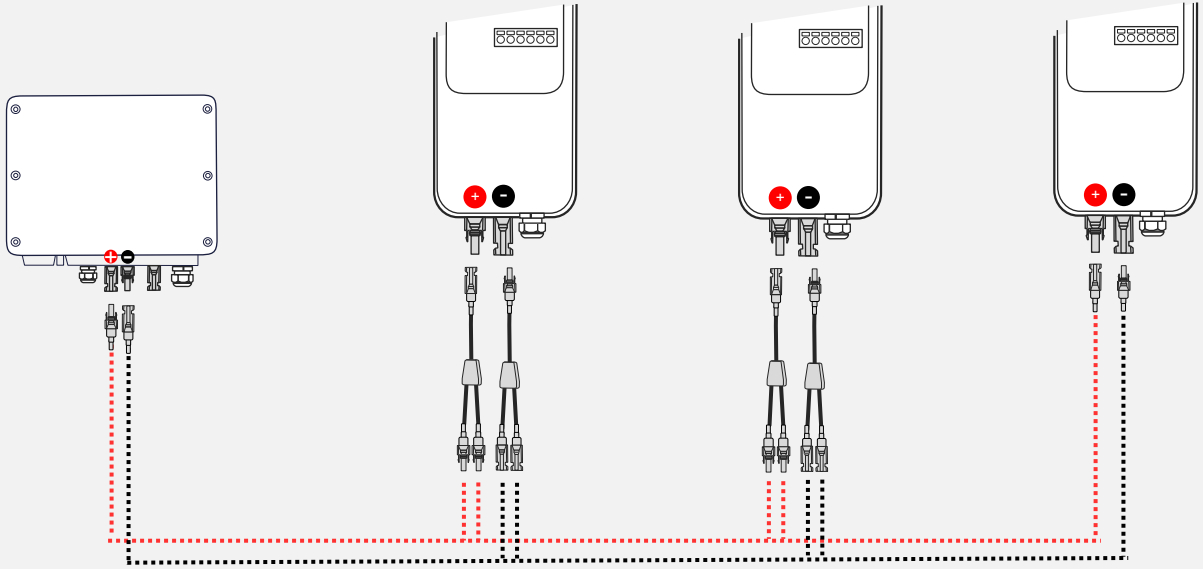
For the DC connection use a 6mm2 (6-10mm2), 600V insulated cable.

Connect the ground cables as indicated in the "Quick Installation guide".



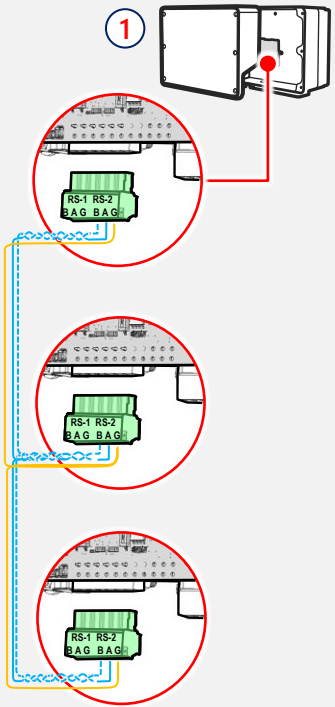
We recommend using SolarEdge cables for parallel connection of batteries with PN:

IAC-RBAT-RWYCBL-01



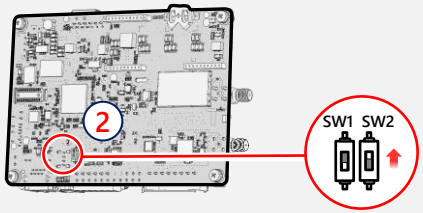
Configuration 3: Connections in Multi-Inverter/Battery systems

Create a Leader/Follower Communication

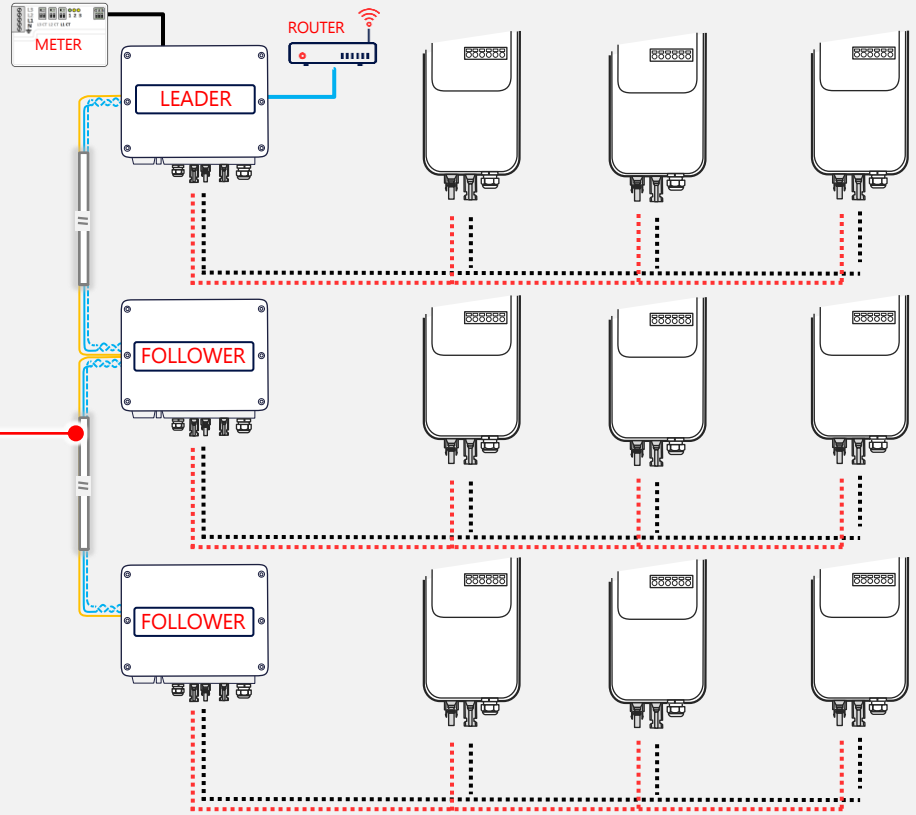


Use the RS485-2 communication bus for the Leader/Follower connection between the inverters.

Shielded cable with at least 3 twisted conductors with a section of 0.2–1 mm². A CAT 5/6 STP cable can be used



Set the SW2 DIP switch to ON (high) to terminate the first and last inverters on the RS485 bus

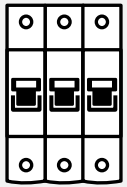


Configuration 3: Connections in Multi-Inverter/Battery systems

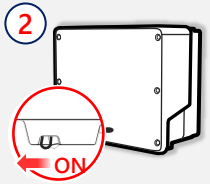
Complete the Leader/Follower detection via SetApp

Connect to the first or last inverter in the chain, as indicated on page 13, to set the Leader inverter.

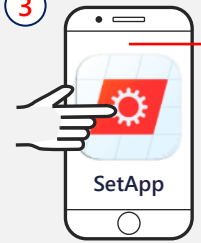
1



2



3



Site Communication

↓

RS485-2

↓

Protocol – SolarEdge Follower

↓

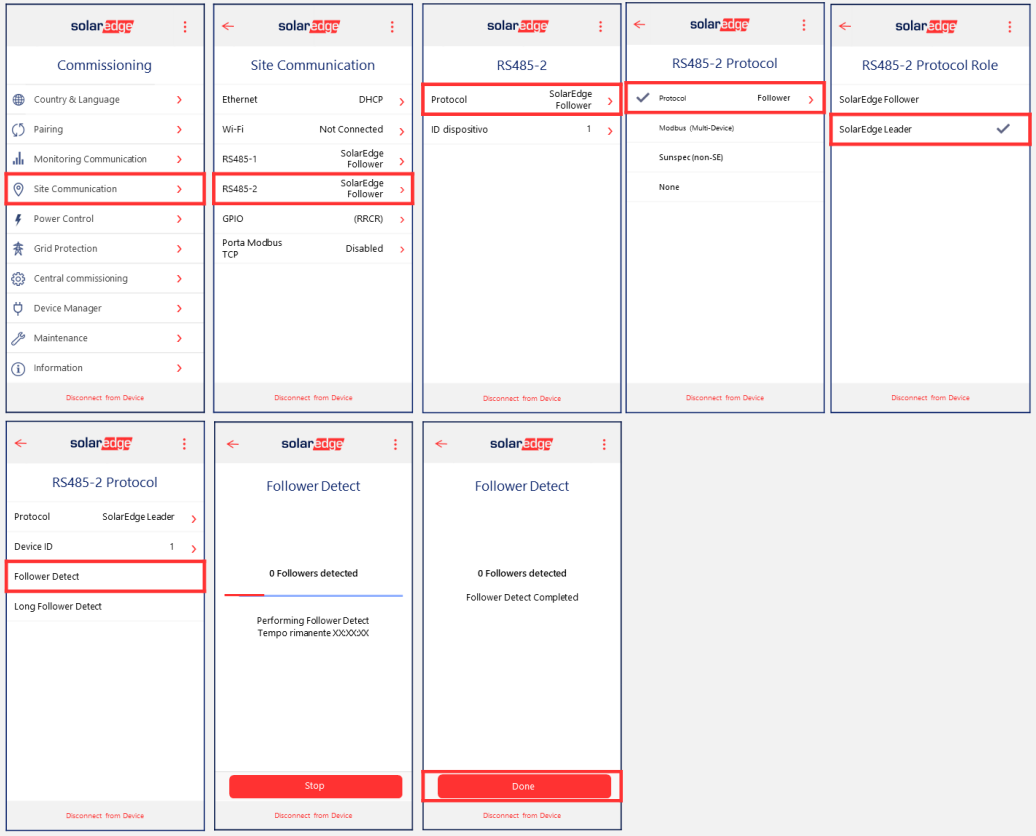
Protocol – Follower

↓

SolarEdge Leader

↓

Follower Detect



Commissioning

Installing the plug-in card for Home Network

Attention

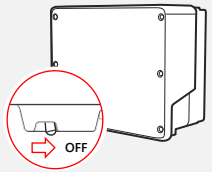
Installation of the plug-in card for SolarEdge Home Network can only be done by a qualified installer.

In case of Multi-Inverter/Multi-battery installation, each inverter must be equipped with an Home Network board.

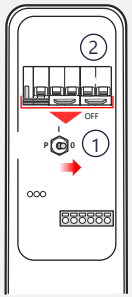
To avoid electric shock, refer to the safety instructions in the inverter installation guide before removing the inverter cover

1. Inverter & Battery shutdown process

1. Turn off the inverter ON/OFF/P switch and the DC safety switch (if applicable)

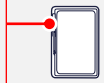


2. Wait 5 minutes

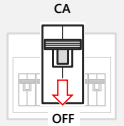


3. **Turn OFF the battery**
Turn the battery ON/OFF/P switch to OFF

Set the battery disconnector to OFF.

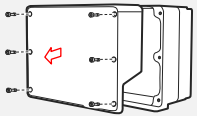


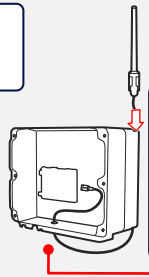
4. Turn off the AC power to the inverter on the main power panel.



2. Antenna installation

1. Open the covers of the inverter & connection unit (if applicable)

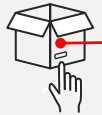




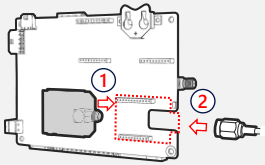
2. Hook the antenna (supplied) to a fin of the heatsink

3. Pass the antenna cable through a communication cable gland.

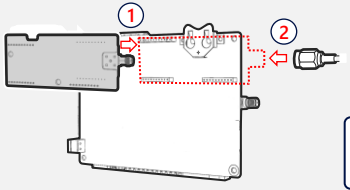
3. Install & connect the plug-in board



ENET-HB**NP**-01

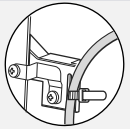


ENET-HB**CL**-01

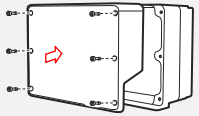


1. Connect Home Network plug-in board to the dedicated socket on the communication board for each battery inverter
2. Connect the antenna to the Home Network plug-in card.

3. Secure the antenna cable to the communication card bracket with a plastic tie (supplied).



4. Replace the covers of the inverter and connection unit (if applicable). Torque the screws to 8.4Nm / 74lb



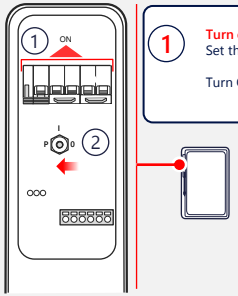
Commissioning of devices

Attention

Please pay particular attention to the ignition process of the products. The SolarEdge battery must be turned on before the inverter, according to the methods indicated alongside.

Make sure that your phone's GPS and its internet connection are enabled in your device settings.

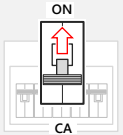
4. Switching on the devices following the order



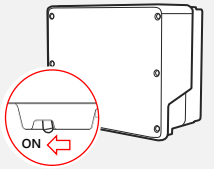
1 **Turn on the battery**
Set the battery disconnector to ON

Turn ON the battery ON/OFF/P switch

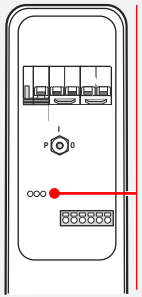
2 Turn on the AC power to the inverter on the main power panel.



3 Turn on the inverter ON/OFF/P switch and DC safety switch (if applicable).



5. Check for errors



Power	Comm.	Error	
Flashing Charging/Discharging	**ON** Communication OK	**ON** Error	**All LEDs ON** Start/Reset
Flickering Standby/Pairing	**Flashing** In search of network	**Fast Flashing** FW Update	

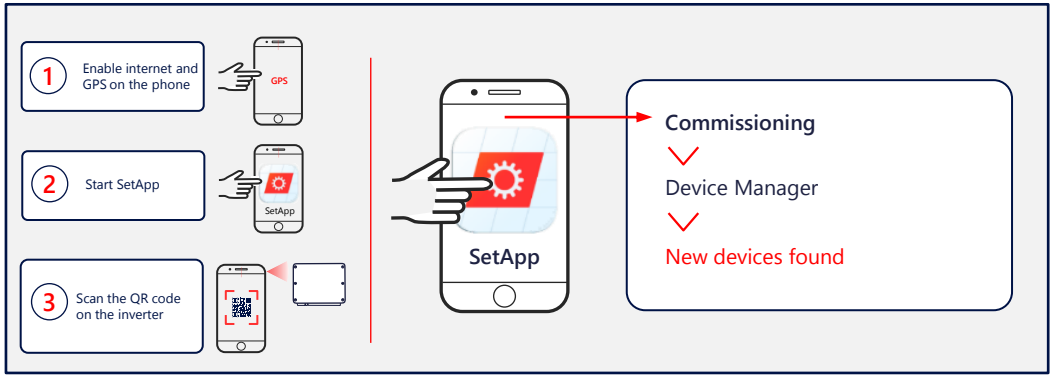
Once the SolarEdge Home Battery battery is turned on, before powering the inverter, make sure that there is no red light on but that the blue is flashing.

If there is a red error light, please move the ON/OFF/P switch to P for 5 seconds.

Once the error has disappeared, turn the battery off and on again as described above.

Commissioning of devices

6. Connection via SetApp & Battery Communication Check

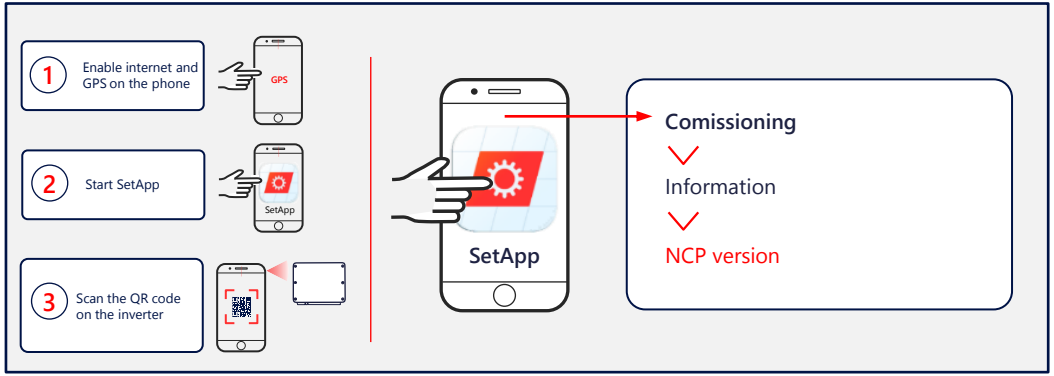


⚠ Important Notice

The SolarEdge Home battery must not be added in the system «Site Communication» menu but is automatically identified under the device management menu. When this happens, the item «New devices found» is visable in red.

If this wording is not visible, the battery is not communicating and you must:
1 – Check the correct installation of the Home Network Board
2 – Repeat the procedure described on page 16

7. Check the correct installation of the Home Network board



To check the correct installation of the Home Network board, just go to the information item from the main menu of the SetAPP application and check that the wording «NCP version» is present. If this is not indicated, it is likely that the card is not installed correctly

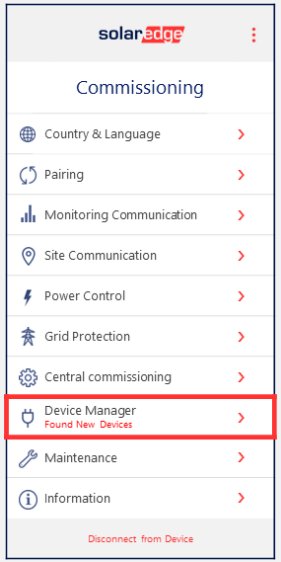
SetApp Configuration

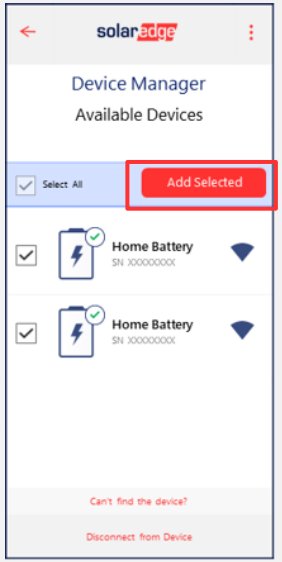
From the leader inverter

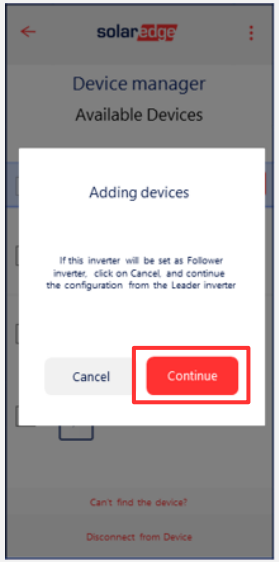
solaredge

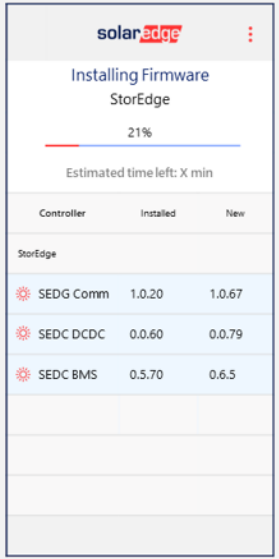
SetApp: Adding devices and battery update

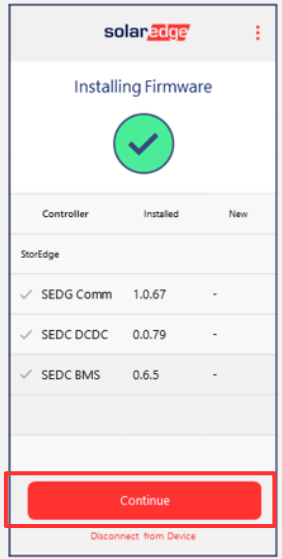
The SolarEdge Energy Bank battery must not be added in the «Site Communication» menu but is automatically identified under the device manager menu. When this happens, the item «New devices found» is visiable in red
In Multi-Inverter/Multi-Battery systems, the procedure for updating all batteries **is performed by the leader inverter**.









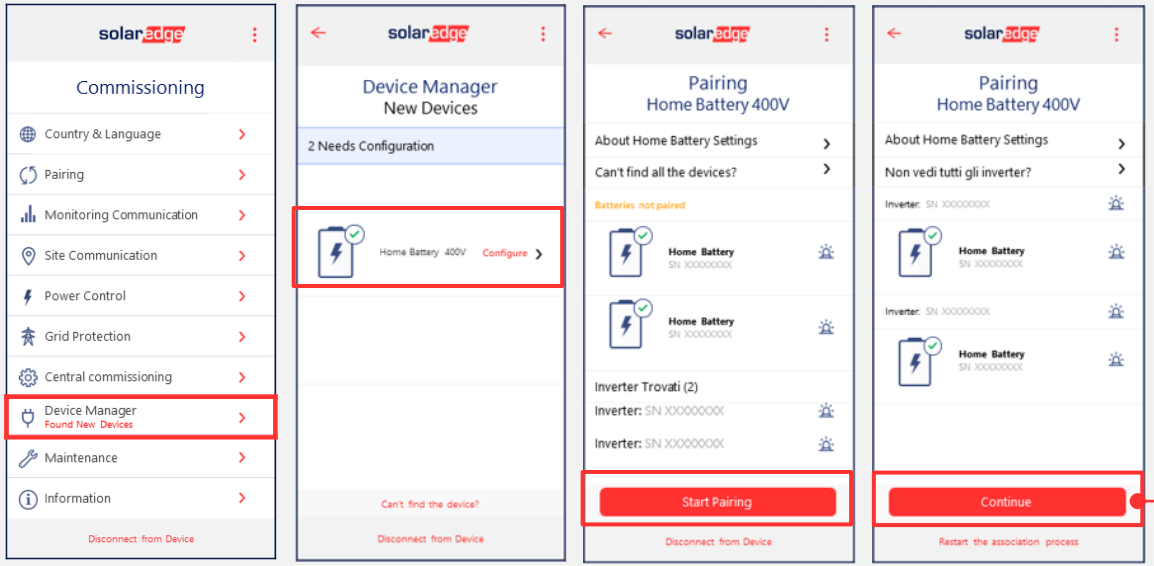


20 MIN

The battery update, via Home Network, can take up to 20 minutes to complete, for each battery.

SetApp: Association process

The SolarEdge Home battery is associated with the corresponding inverter in DC. If the association fails, we invite you to double-check the DC wiring, connectors, and polarity, before making a new pairing

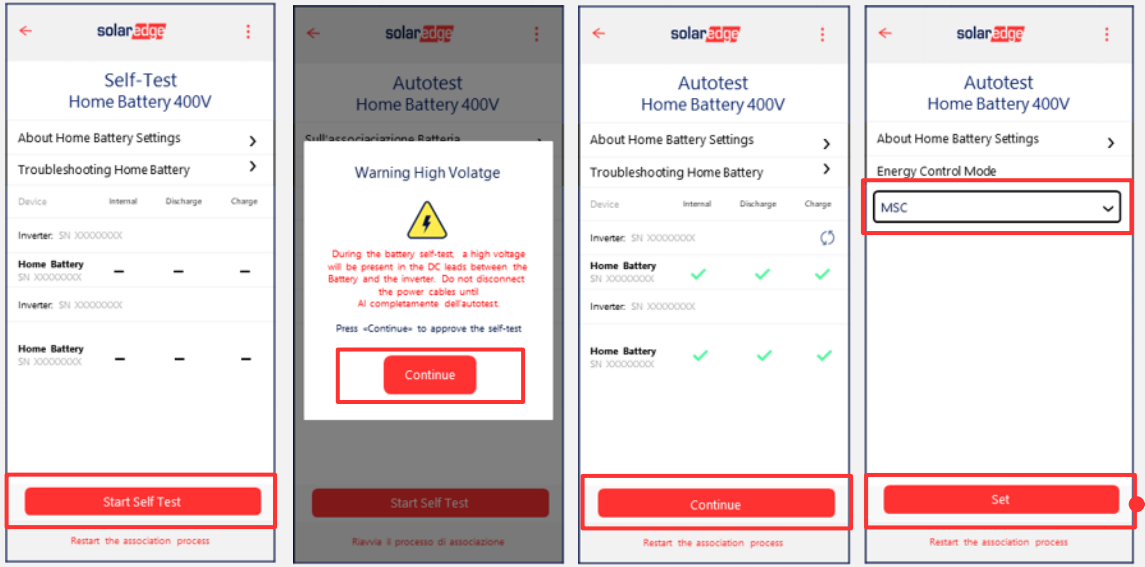


5 MIN

It takes 5 minutes to complete the association of the battery with the inverter. Should the association fail, we invite you to disconnect from the application and connect again after double-checking the DC wiring.

SetApp: Battery self-test and and Control Mode

Start the battery self-test to verify correct charging, discharging, and communication. In Multi-Inverter/Multi-Battery systems, the self-test procedure for all batteries is **performed by the Leader inverter.**

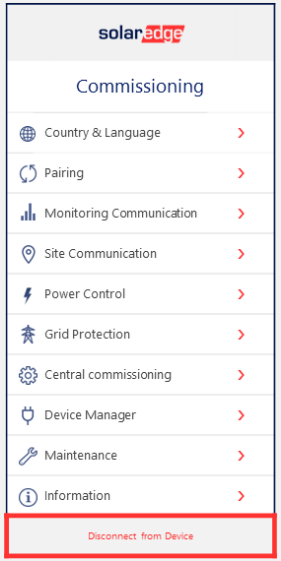


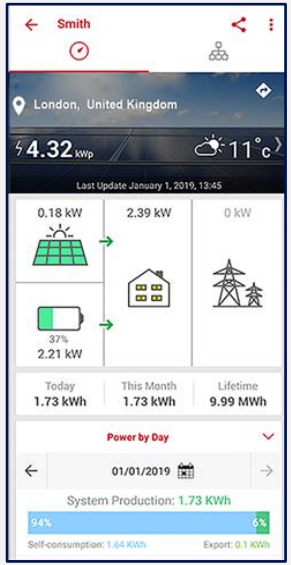
Set the battery operation mode to **Maximum Self Consumption** (MSC). Then check from the status section that the batteries have started working.

Disconnection

SetApp: Disconnection from the inverter

Once the commissioning of the inverter and battery has been completed, it is important to disconnect from the inverter, using the appropriate button of the application. Only in this way, in fact, will the monitoring portal be updated with the new components installed.





Thank You!

Cautionary Note Regarding Market Data & Industry Forecasts

This power point presentation contains market data and industry forecasts from certain third-party sources. This information is based on industry surveys and the preparer's expertise in the industry and there can be no assurance that any such market data is accurate or that any such industry forecasts will be achieved. Although we have not independently verified the accuracy of such market data and industry forecasts, we believe that the market data is reliable and that the industry forecasts are reasonable.

Version #: V.1.0
Version #: 12/2018/EN ROW

solaredge