SolarEdge Home Battery 400V

Installation on HD Wave Inverter

Connection via RS485

Revision 1.5 March - 2023

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Distances, cables & Part Numbers

Technical data and Part Numbers

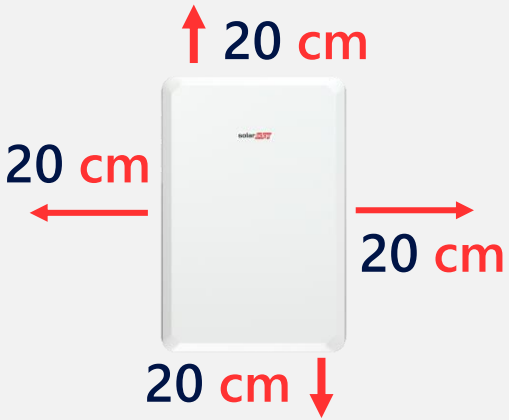
PN - HD WAVE	INVERTER DESCRIPTION - TECHNICAL SHEET HERE
SEXXXXH-XXXXXBXX4	Single-phase inverter with HD-Wave technology, Inverter with SetApp configuration
PN – AC COUPLE	**INVERTER DESCRIPTION - TECHNICAL SHEET HERE**
SEXXXXH-WSACBXXXX	StorEdge AC Coupled Single Phase Inverter with HD-Wave Technology

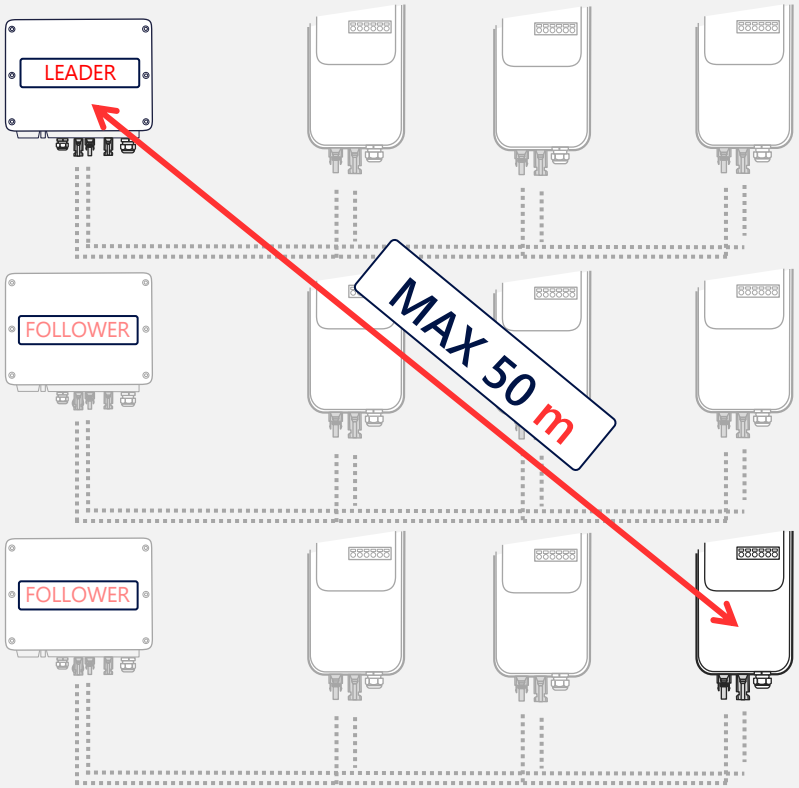
PN - ACCESSORIES	DESCRIPTION
IAC-RBAT-RWYCBL-01	SolarEdge Energy Bank Branch Connector set (10 pairs in a box)
IAC-RBAT-HANDLE-01	SolarEdge Energy Bank Mounting Handles (4 handles in a box)
IAC-RBAT-FLRSTD-01	SolarEdge Energy Bank Floor Stand

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)

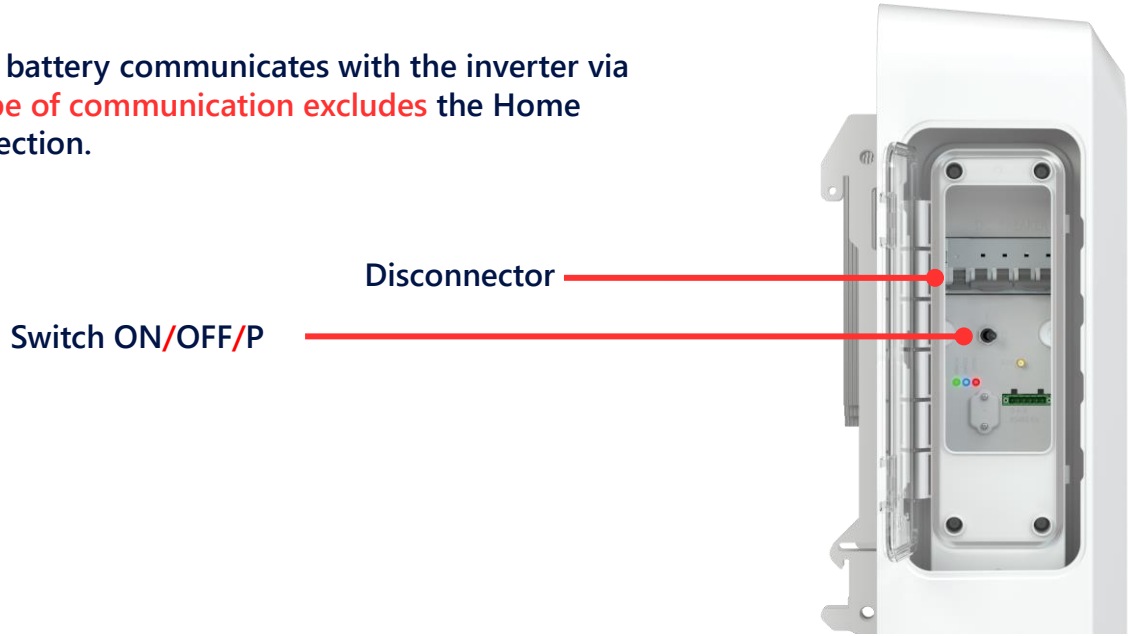
Please Note: The connection must use twisted cables for terminations A & B (eg. the Blue cable for A & the White/Blue for B). We recommend the use of Cat5/6 shielded Ethernet cable with the same colors shown in this manual

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 RS485, this type of communication excludes the Home Network connection.



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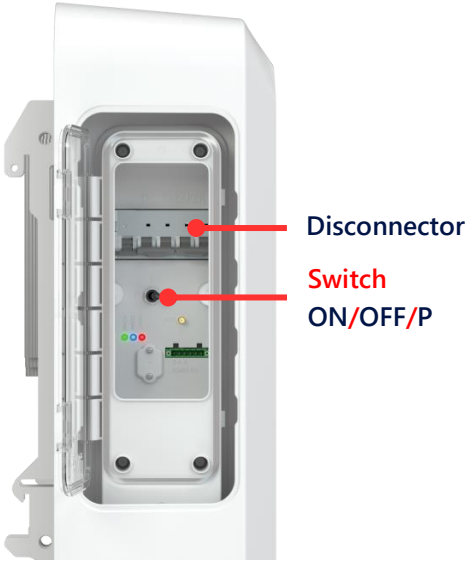
Battery switch on/off procedure

Inverter and battery shutdown procedure

- 1 – Set the inverter **Switch P/1/0 to 0**
- 2 – Check that the inverter **Vdc** 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 that the **inverter Switch P/1/0** is in position **0** & the Vdc is less than 50v
- 2 – Set the **battery disconnector** to **ON**
- 3 – Turn **ON** the battery **ON/OFF/P Switch**
- 4 – Set the inverter **Switch P/1/0** on **1**

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.

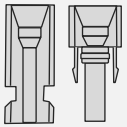
Once the wiring has been completed, it is also extremely important to make sure that the polarity has not been inverted. **An inversion of polarity may result in the invalidation of the product warranty.**

The following pages show different connection modes between inverter and battery according to 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.

Configuration 1: DC connections on a single battery

DC connections 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.

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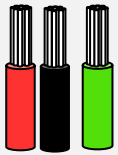
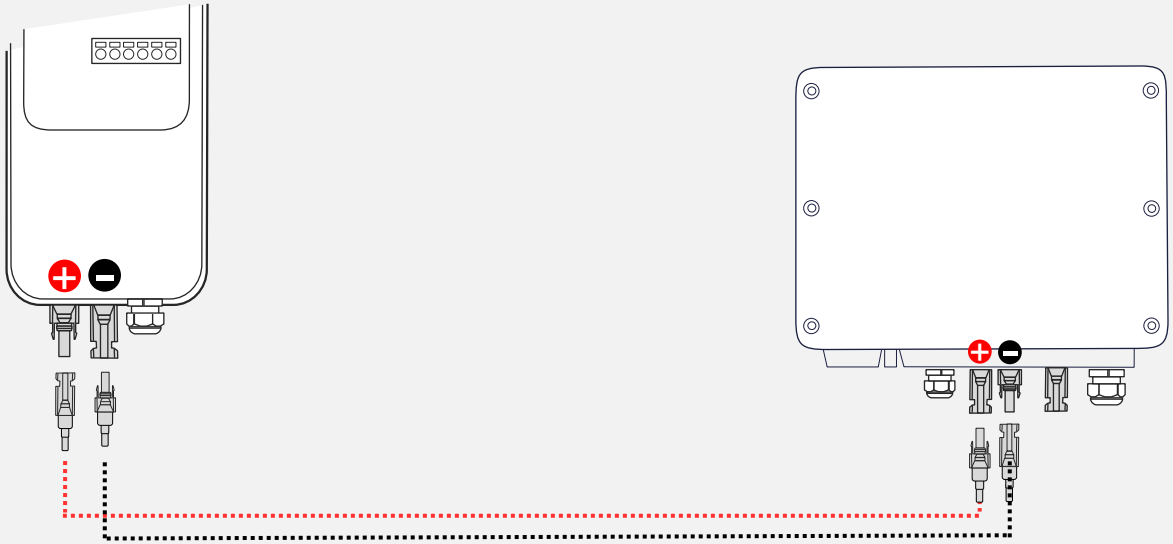


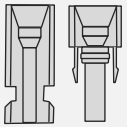
For the DC connection use a 6mm2 (6-10mm2), 600V insulated cable.

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



Configuration 2: DC connections in Multi-Battery Systems

DC connections of the batteries to the inverter



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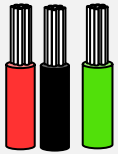
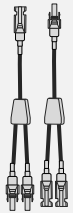


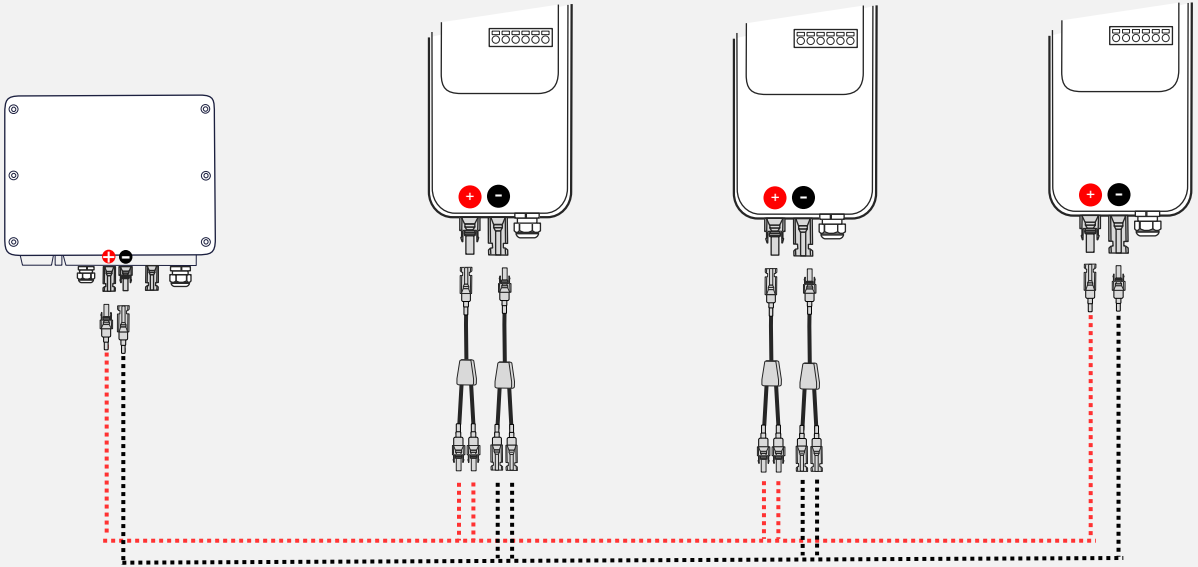
For the DC connection use a 6mm2 (6-10mm2), 600V insulated cable.

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



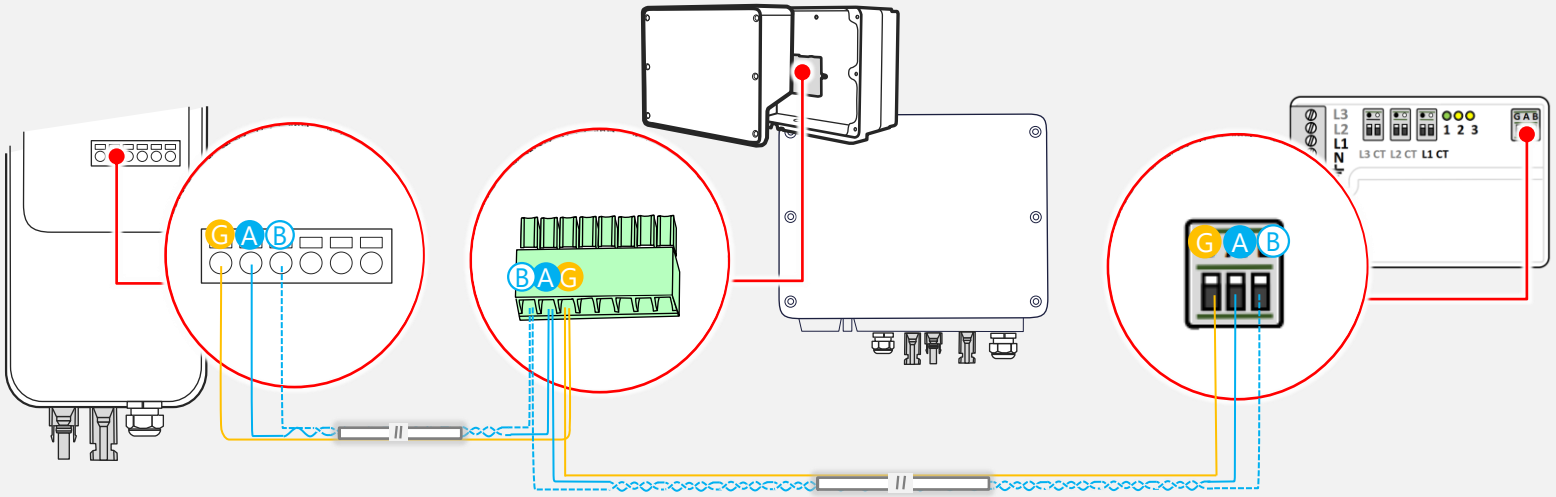
We recommend using SolarEdge cables for parallel connection of batteries with PN:

IAC-RBAT-RWYCBL-01



Configuration 1: RS485 connections on a single battery

RS485-1 connection between battery, inverter & meter

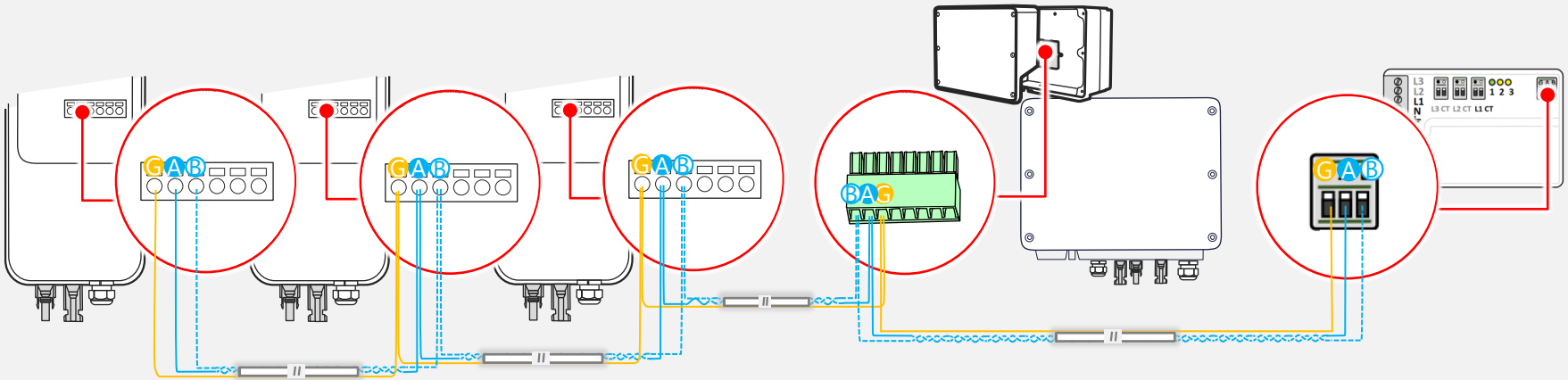


G = Orange
A = Blue
B = White/Blue

Use only the **RS485-1** port for communication connections between inverter, battery and meter. Please use the same wire colors as shown on this sample page.

Configuration 2: RS485 connections in Multi-Battery Systems

RS485-1 connection between batteries, inverter & meter

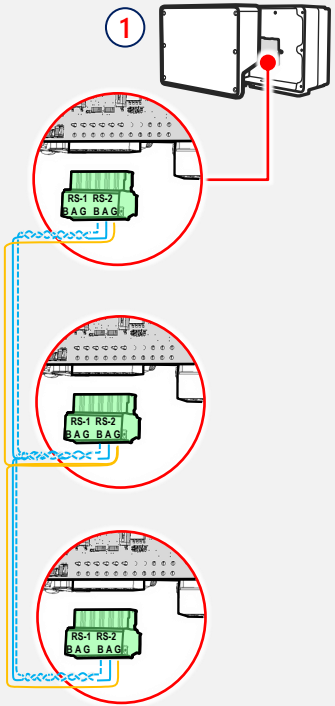


G = Orange
A = Blue
B = White/Blue

Use only the **RS485-1** port for communication connections between inverter, battery and meter. Please use the same wire colors as shown on this sample page.

Configuration 3: Connections in Multi-Inverter/Battery Systems

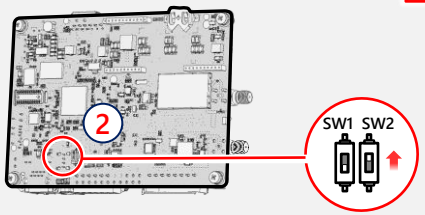
Create a Leader/Follower Communication



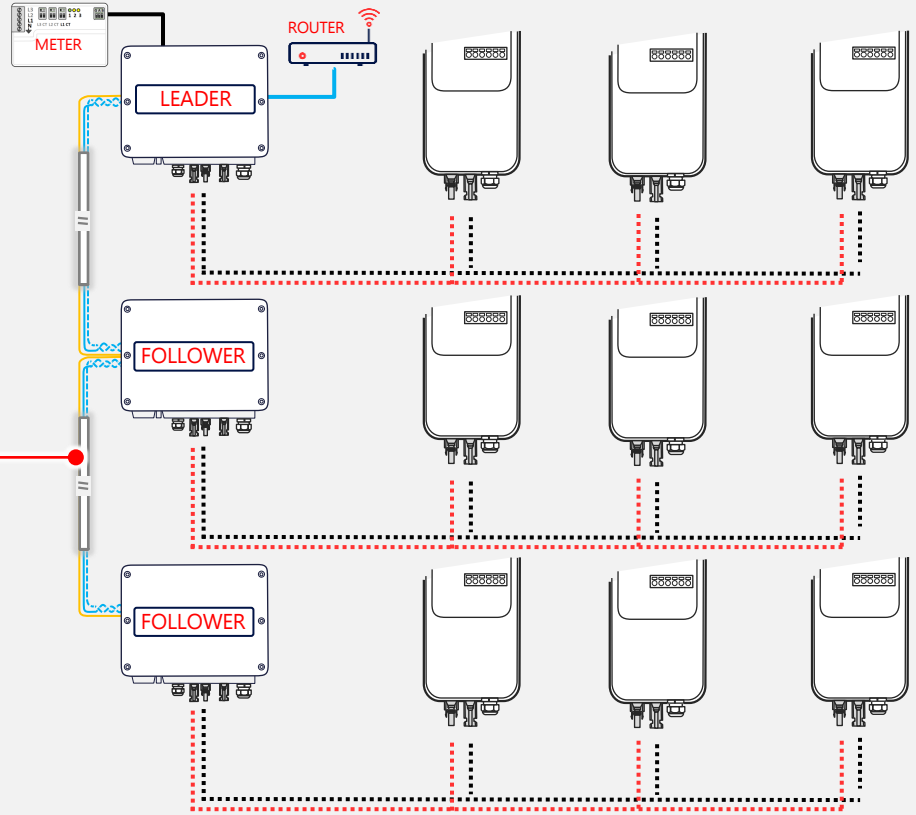
Use the RS485-2 communication bus for the Leader/Follower connection between the inverters.

Use the RS485-1 communication bus for communication between the inverter, meter and the batteries to be associated with it as indicated on page 14.

The Meter must be connected on the same RS485-1, used for the connection with the batteries, of the Leader inverter only.



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



Commissioning

Attention

In the event of a Multi-Inverter/Multi-Battery connection, please be aware that the search, pairing, updating, and self-test of the batteries must all be performed by each inverter singularly.

Only after completing all the steps above indicated, in all the inverters, is possible to connect the full system in leader\follower communication and complete the commissioning by setting the Energy Control Mode by the inverter leader.

Commissioning of devices

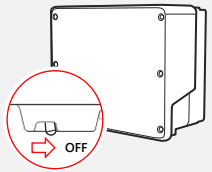
Attention

Before turning on the batteries, the inverter must also be turned off on the AC side.

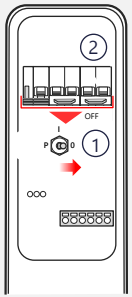
To avoid electric shock, refer to the safety instructions in the inverter installation guide before removing the inverter cover.

1. Inverter & battery shutdown

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

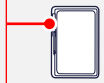


2. Wait five minutes.

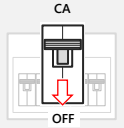


3. **Turn off the battery:**
Turn the battery ON/OFF/P switch to OFF

Set the battery disconnector to OFF.



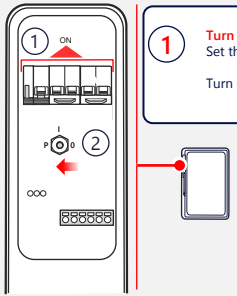
4. Turn off the AC power to the inverter on the main power panel.



2. Switch on the devices in the order indicated

Please pay particular attention to the ignition process of the products.

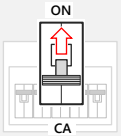
The SolarEdge Home battery must be turned on before the inverter, according to the methods indicated alongside.



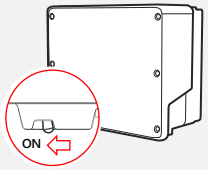
1. **Turn on the battery:**
Set the battery disconnector to ON

Turn ON the battery ON/OFF/P switch

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

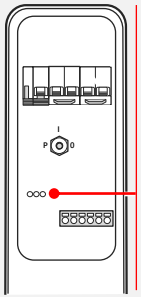


3. Turn on the inverter ON/OFF/P switch and DC safety switch (if applicable).



Commissioning of devices

3. Check for errors



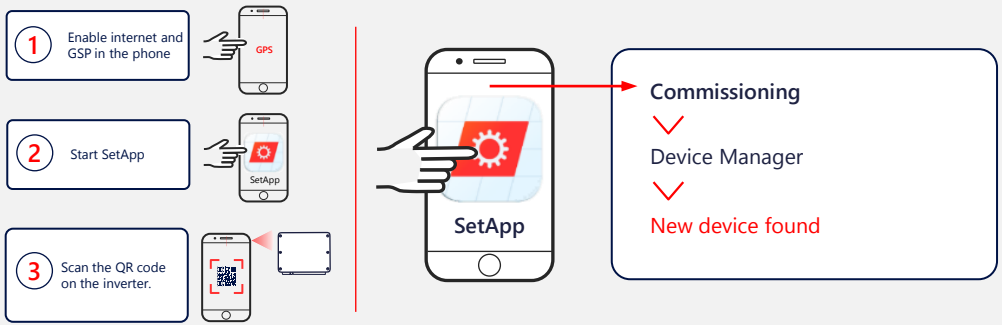
Power	Comm.	Error	
Flashing Upload/Download	**ON** Communication OK	**ON** Error	**All LEDs ON** Start/Reset
Flickering Standby/Pairing	**Flashing** In search of network	**Fast Flashing** FW Update	

⚠ Once the SolarEdge Home battery is turned on, before powering the inverter, make sure that no red light is 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 in this manual.

4. Connection Via SetApp and Battery Communication Check



⚠ Important Notice

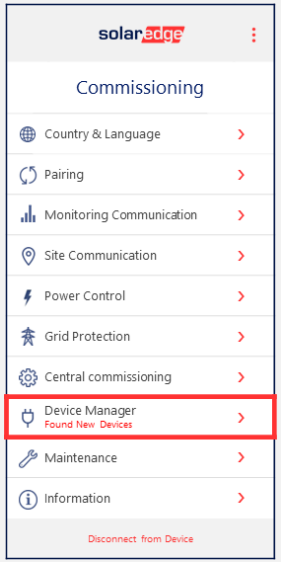
The SolarEdge Home battery must not be added to the «Site Communication» menu but is automatically identified under the device manager menu. When this happens, the item "Found new devices" is visible in red

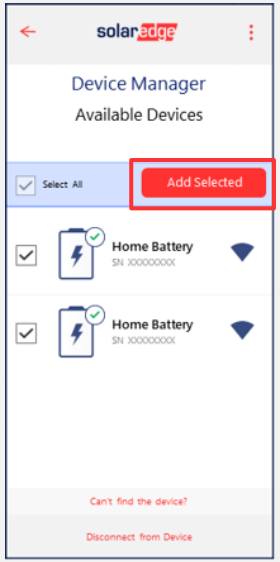
If this wording is not visible, the battery is not communicating, and you must:
1 - Check the RS485 communication wiring again
2 – Be sure that the battery is connected with the meter to the RS485-1 under “Multi-Device” protocol.

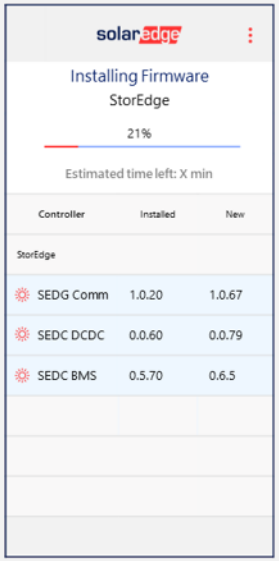
SetApp Configuration

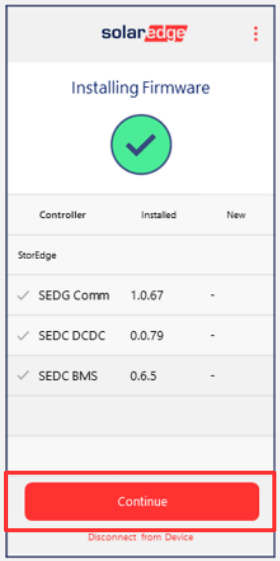
SetApp: Adding devices and battery update

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







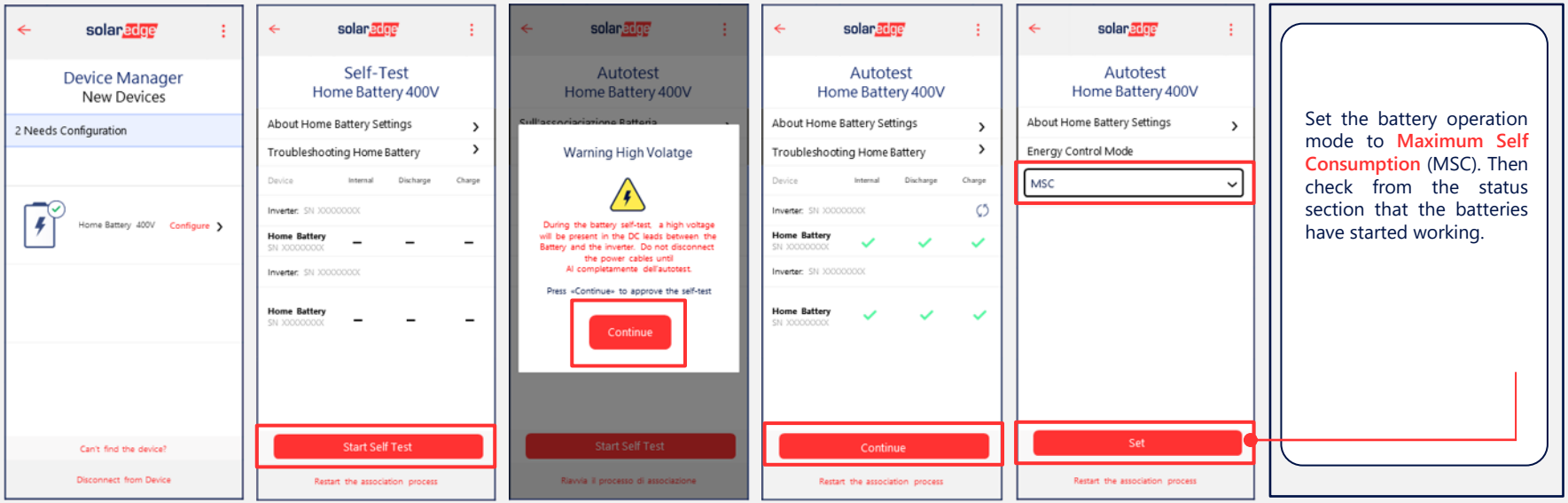


60/75 MIN

The SolarEdge Home Battery update, via RS585, can take up to 75 minutes to complete.

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 Energy Control mode can be set **by the Leader inverter after the leader\follower chain has been created.**

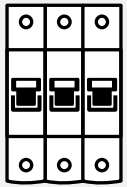


Configuration 3: Connections in Multi-Inverter/Battery Systems

Complete the Leader/Follower detection via SetApp

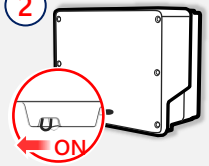
Connect to the first or last inverter in the chain, as indicated on page 15, to set the Leader inverter.

1



ON

2



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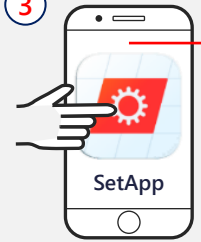

Site Communication

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RS485-2

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Protocol – SolarEdge Follower

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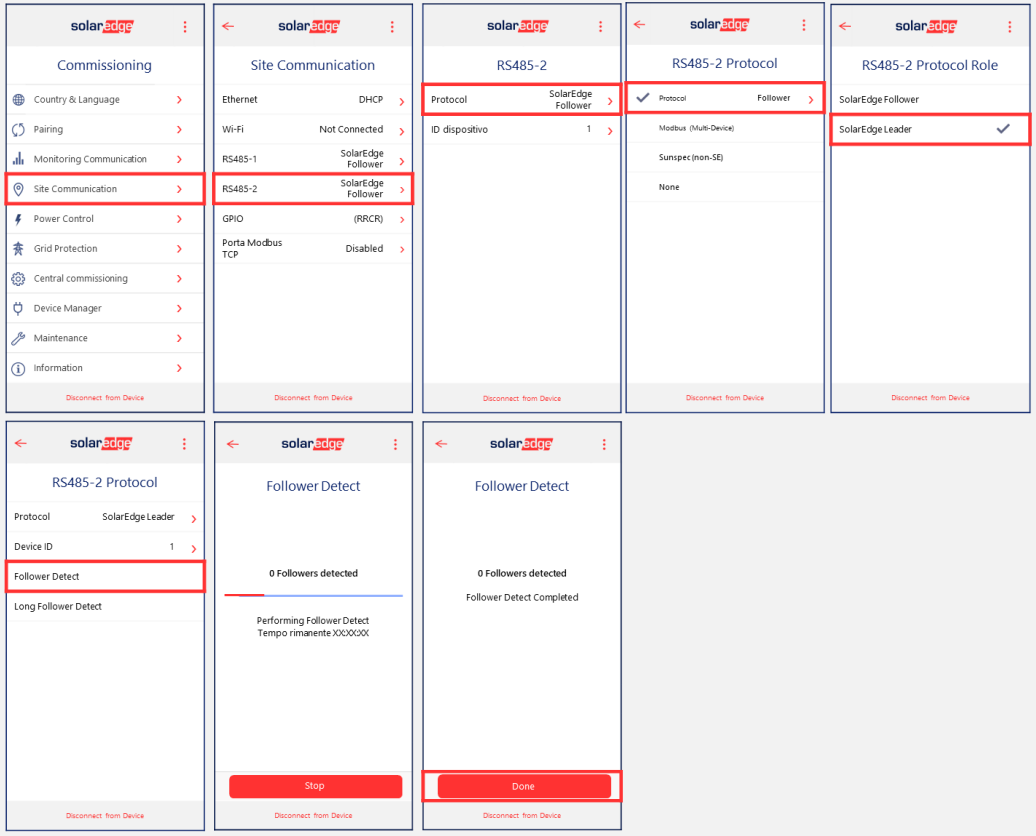
Protocol – Follower

↓

SolarEdge Leader

↓

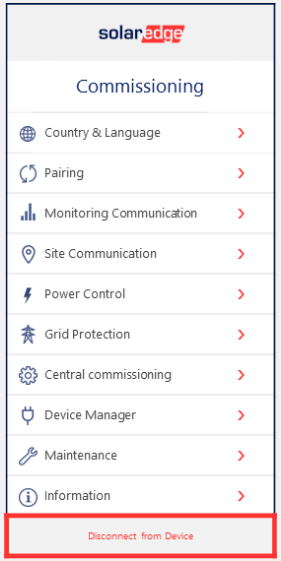
Follower detect

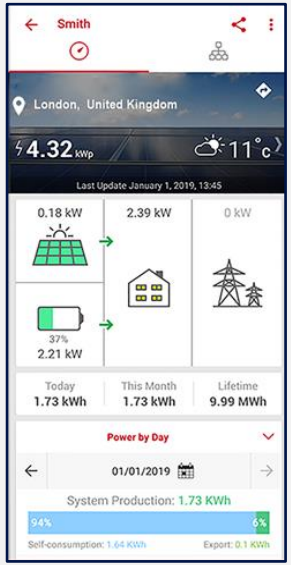


Disconnection

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

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