



Installation Guide

Home Battery (Low Voltage)

Installation Guide

with SetApp Configuration

MAN-01-00954-1.0

For Europe and APAC

Version 1.0

Disclaimers

Important Notice

Copyright © SolarEdge Inc. All rights reserved.

No part of this document may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic, mechanical, photographic, magnetic or otherwise, without the prior written permission of SolarEdge Inc.

The material furnished in this document is believed to be accurate and reliable. However, SolarEdge assumes no responsibility for the use of this material. SolarEdge reserves the right to make changes to the material at any time and without notice. You may refer to the SolarEdge web site (www.solaredge.com) for the most updated version.

All company and brand products and service names are trademarks or registered trademarks of their respective holders.

Patent marking notice: see <http://www.solaredge.com/patent>

The general terms and conditions of delivery of SolarEdge shall apply.

The content of these documents is continually reviewed and amended, where necessary. However, discrepancies cannot be excluded. No guarantee is made for the completeness of these documents.

The images contained in this document are for illustrative purposes only and may vary depending on product models.

Contents

Disclaimers	1
Important Notice	1
Revision History	3
Handling and Safety Instructions	4
Installation	4
Operation	5
Installation Tools	8
Charging cable requirements	8
What's in the Package	9
Battery accessories	9
Selecting and Preparing the Installation Site	10
Configurations	10
General Guidelines and Requirements	11
Restricted Locations	11
Clearance	12
Residential Barrier	13
Installing the Battery Modules	14
Battery description	14
Installation procedure	15
Connecting a Single Battery Module	19
Connecting Multiple Battery Modules	25
Powering on the Battery Module	27
Top Cover Installation	27
LED Indications	29
Support Contact Information	32

Revision History

Version 1.0 (June 2022)

-  First version of this guide

Handling and Safety Instructions

Read these instructions carefully before installing or operating the SolarEdge Home Battery (Low Voltage) (referred to as the *Battery* or *Battery Pack*). Failure to do so or to follow any of the instructions or warnings in this document can result in electrical shock, serious injury, or death, or may damage the battery and other property.

Failure to abide by these instructions may void your warranty!

Do not discard this document! After installation, keep it adjacent to the battery for future reference!

Installation

WARNING!



Install the battery according to national and local codes and standards and in locations compliant with local building codes and standards.

WARNING!



The battery installation must be carried out only by qualified electricians who have been trained in handling low voltage electricity works.

WARNING!



The battery module is heavy. Adhere to local regulations for material handling and heavy lifting, when installing heavy equipment.

WARNING!



Do not install the battery in habitable spaces, including sleeping rooms.

WARNING!



Make sure the mounting surface can sustain the total weight of the battery module and mounting bracket.

WARNING!



Do not install the battery, if it has been dropped, crushed, or has signs of physical damage.

WARNING!



When the battery is installed in a residential environment, fire detection and protection equipment must be installed in accordance with local building and fire codes.

WARNING!



Do not install the battery near heating equipment, ignition sources, or open flames.

WARNING!



Install the battery only on non-combustible surfaces and under non-combustible ceilings, overhangs, or eaves.

WARNING!

Do not install the battery in proximity to gas meters, valves, regulators, lines, or gas appliances. Follow local codes. However, 2m or more spacing is highly recommended. A failing battery may ignite flammable gasses resulting in property damage, serious injury, or death.

**WARNING!**

Avoid installing the battery in direct sunlight.

**WARNING!**

Install the battery in a location protected from flooding.

**WARNING!**

Do not install the battery in the vicinity of water sources, including downspouts, sprinklers, or faucets.

**WARNING!**

When installing the battery in a garage or near vehicles, keep it out of the driving path. If possible, install the battery on a side wall and/or above the height of vehicle bumpers.

**WARNING!**

Before beginning the wiring, ensure that the battery is switched off. Also, make sure that the DC safety switch of all inverters in the PV system is turned off.

Operation

WARNING!

The battery contains rechargeable lithium-ion cells that are potentially hazardous and can present a serious fire hazard, injury and/or property damage if damaged, defective or improperly used.

**WARNING!**

Lithium-ion batteries and products that contain lithium-ion can expose you to chemicals, including antimony trioxide, cobalt lithium nickel oxide, and nickel.

**WARNING!**

In case of an electrolyte leak from the battery, avoid contact with electrolyte and follow the instructions in the SolarEdge Home Battery (Low Voltage) Emergency Response Guide.

**WARNING!**

Use the battery only as directed in this document.

**WARNING!**

Do not use the battery if it is defective, appears cracked, broken, or otherwise damaged, or fails to operate. The battery and its components are not user-serviceable.

WARNING!

Do not attempt to open, disassemble, repair, tamper with, or modify the battery. The battery cells are not replaceable.

WARNING!

Do not operate the battery at ambient temperatures of above 50°C or below -10°C.

WARNING!

Do not expose the battery or its components to direct flame.

WARNING!

Do not store flammable liquids or gasses in the same room with the battery. When the battery is installed outdoors, keep any flammable liquids or gasses at a distance of at least 15m from the battery.

WARNING!

Do not place any combustible items within less than 2m of the battery.

WARNING!

If the battery catches fire, or if fire breaks out near the battery, call the fire department immediately and follow the instructions in the SolarEdge Home Battery (Low Voltage) Emergency Response Guide.

WARNING!

The battery is prone to re-ignition after extinguishing. Use caution and follow the emergency response instructions. .

WARNING!

Do not immerse the battery or its components in water or other fluids.

WARNING!

Operating the battery in temperatures outside the specified range might cause damage to the battery.

WARNING!

Do not use solvents to clean the battery, or expose the battery to flammable or harsh chemicals or vapors.

WARNING!

Do not use fluids, parts, or accessories other than those specified in this guide, including use of non-genuine SolarEdge parts or accessories, or parts or accessories not purchased directly from SolarEdge or a SolarEdge certified party.

WARNING!

After the installation, do not place the battery in storage conditions for more than one (1) month, or permit the power feed to the battery to be discontinued for more than one (1) month.

**WARNING!**

Do not paint any part of the battery, including any internal or external components such as the exterior shell or casing.

**WARNING!**

Ensure that snow does not accumulate around the battery.

**WARNING!**

A non-functioning battery must be handled with caution. The battery state of charge and risk of venting may be unknown. Contact SolarEdge for assistance.

**WARNING!**

Do not attempt to remove or transport a damaged or non-functioning battery. Contact SolarEdge or your SolarEdge certified installer for support.

**WARNING!**

Do not dispose of this product with general household waste. Consult your local regulations for proper disposal instructions.

Installation Tools

Make sure you have the following tools, before starting the installation:

- Crimping tool
- Torque wrench
- Drilling machine
- Level
- Phillips screwdriver
- Flat-blade screwdriver
- Cable cutter
- Wall plugs and screws
- Hammer

Charging cable requirements

- Conductor cross section - 35mm^2
- Outer diameter 14-21mm
- maximum cable length 5m

What's in the Package

- Battery module
- Mounting bracket
- 2 x M5 screws

Battery accessories

SOLAREEDGE HOME BATTERY - ACCESSORIES (PURCHASED SEPARATELY)	
DESCRIPTION	PN
Accessory SolarEdge Home Battery, Low Voltage, mechanical top cover (1 required per tower)	IAC-RBAT-5KMTOP-01
Accessory SolarEdge Home Battery, Low Voltage to SolarEdge Home Hub Inverter – Three Phase (PN SE*K-RWB48)	IAC-RBAT-5KCINV-01
Accessory SolarEdge Home Battery, Low Voltage cable set SolarEdge Home Battery, Low Voltage to SolarEdge Home Wave Inverter – One Phase (PN SE*K-RWS)	IAC-RBAT-5KCINV-02
Accessory SolarEdge Home Battery, Low Voltage, cable set battery module to battery module	IAC-RBAT-5KCBAT-01
Accessory SolarEdge Home Battery, Low Voltage, cable set tower to tower	IAC-RBAT-5KCTOW-01
Floor stand support SolarEdge Home Battery, Low Voltage (optional)	IAC-RBAT-5KFSTD-01
Accessory 10 * Spare connector kit for battery to Inverter connection, SolarEdge Home Battery, Low Voltage	IAC-RBAT-5KCNCT-01
Accessory 10 * Spare connector kit for tower to tower connection, SolarEdge Home Battery, Low Voltage	IAC-RBAT-5KCNCT-02

Selecting and Preparing the Installation Site

Make sure to observe the following requirements, when selecting an installation site.

Configurations

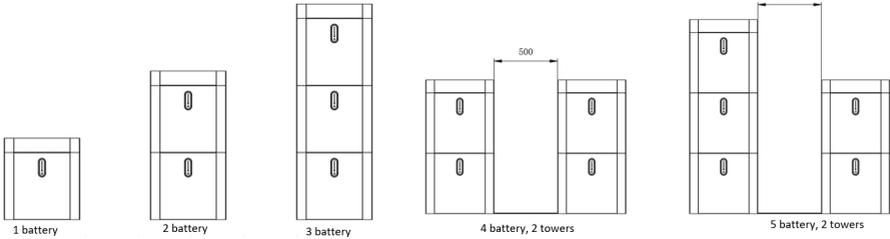
The term *Battery module* refers to a single battery. The term *Battery Tower* or *Tower* refers to a number of modules stacked on top of each other and connected in parallel. The term *Battery pack* or *Battery* refers to all the battery modules connected to each other and to the same inverter, in one or two towers.

In a single battery module configuration, a single battery module may be installed and connected to the inverter.

Up to five battery modules in two towers may be installed in a multiple battery module configuration, with a maximum of three battery modules in a tower.

Content	PN	Number of Towers		1		2		2	
		1 battery	2 battery	3 battery	2 battery	3 battery	4 battery (3+1 or 2+2)	5 battery (3+2 or 4+1)	
Battery pack with	BAT-05K48M0B-01	1	2	3	2	3	4	5	
Tower cover with 5 screws	IAC-RBAT-5KMTOP-01	1	1	1	2	2	2	2	
Battery to battery cable kit same tower	IAC-RBAT-5KCBAT-01	0	1	2	0	1	2	3	
Tower to tower cable set	IAC-RBAT-5KCINV-01	0	0	0	1	1	1	1	
Battery to inverter cable set	IAC-RBAT-5KCTOW-01	1	1	1	1	1	1	1	
Floor support stand*	IAC-RBAT-5KFSTD-01	1	1	1	2	2	2	2	
* floor stand is									

Number of Towers		1	1	1	2	2	2	2
Content	PN	1 battery	2 battery	3 battery	2 battery	3 battery	4 battery (3+1 or 2+2)	5 battery (3+2 or 4+1)
recommended								



General Guidelines and Requirements

- The battery may be installed in an outdoor or indoor location.
- Since the battery must be secured to a wall using the supplied mounting bracket, the installation location must be adjacent to a wall.
- When installed indoors, the battery must not be obstructed by any building structure, room furniture or equipment.
- The battery shall not be exposed to direct sun or rain.
- Since the battery has natural convection, the installation site must be clean, dry and well ventilated.
- The installation location must allow easy access to the battery for installation and maintenance.
- The front panel should not be covered.

Restricted Locations

Do not install the battery at any of following locations:

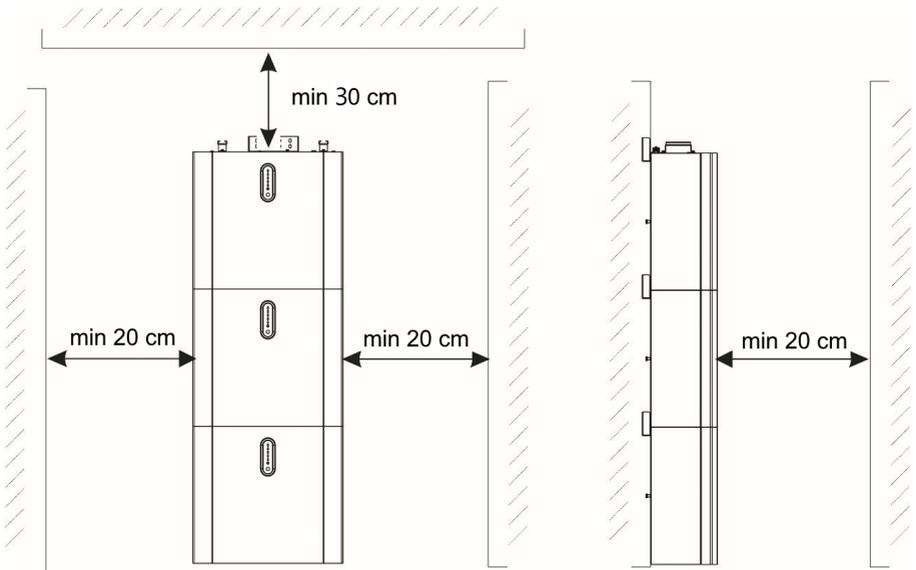
- residential rooms
- wall or ceiling niches
- entrance/exit areas or below a staircase/passage
- environments with humidity and condensed water level of over 90%

- earthquake zones where additional safety measures are required
- sites at altitudes of more than 2000 meters above the sea level
- sites exposed to direct sunlight or sites where the ambient temperature may exceed the specified maximum temperatures
- near flammable materials or gases or explosive environments

Clearance

Observe the following minimum clearance:

- 20 cm from all sides of the battery module



- 30 cm from another battery module or any heat source, such as water heater unit, gas-fueled heater, air conditioning unit or any other equipment
- 100 cm from emergency exits
- 30 cm from doors
- 20 cm from windows or air vents
- 20 cm from other devices

Residential Barrier

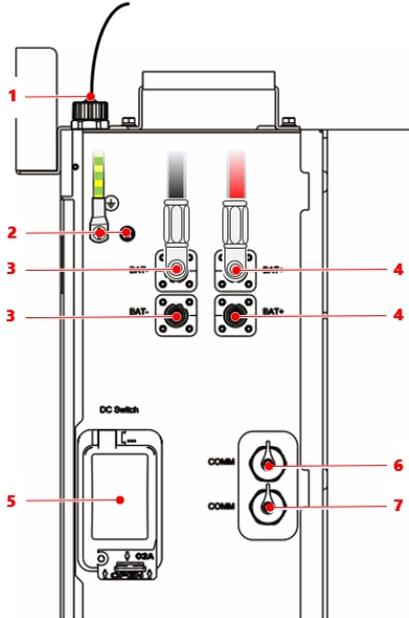
In order to prevent a fire from spreading, install a non-combustible barrier on the other side of the wall or structural surface, on which the battery is installed. If the installation surface is not made of a non-combustible material, a non-combustible barrier can be installed between the battery and the wall or structural surface.

If the Battery pack is installed on a wall or at a distance of 300mm from the wall that isolates the energy storage system from a residential space, the distance from other structures or objects must be increased.

Installing the Battery Modules

Battery description

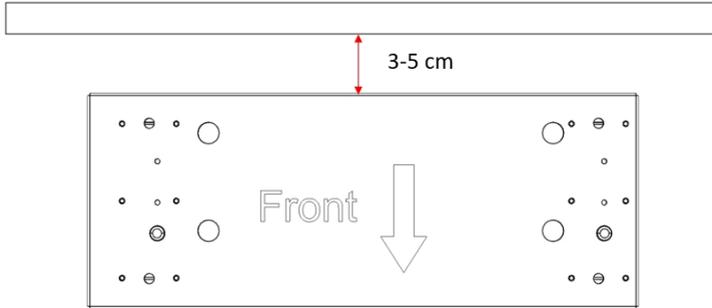
Figure below shows the single battery module with completed connections.



1	CAN-bus (RJ45) connection to inverter communication	5	Circuit breakers, 120A
2	Grounding terminal	6	RS485 Communication cable to connect the battery module to inverter
3	DC bat - connector	7	Communication cable to connect the battery module above to the battery module below (in a battery tower)
4	DC bat + connector		

Installation procedure

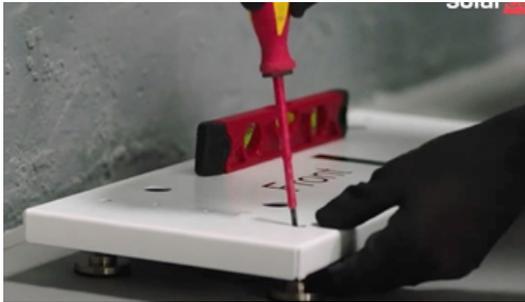
1. Install a floor stand (recommended by SolarEdge):
 - a. Place the floor stand at a distance of 3-5cm from the wall.



NOTE

The arrow should point at the battery module front.

- b. To level the floor stand, adjust each of the four legs by turning the screw using a flat screwdriver.

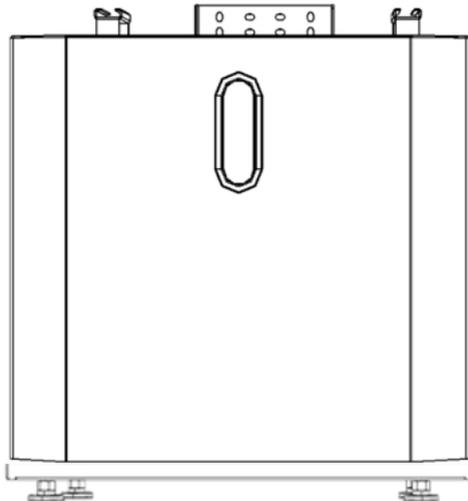


- c. When the floor stand is balanced, tighten the nut with an open wrench in order to secure the leg's height, then close the nut.

**CAUTION!**

Before moving the battery module to its location, make sure that both the CB switch and the soft switch of the battery module are off.

2. Take the battery module out of the box, move it to the installation location. You can use the battery handles located at the top of the battery for convenience of moving and placing it on the the right position.
3. Place the battery module on the floor stand using the top handles.



- Put the bracket on the wall, mark the drilling holes location, then remove the bracket and drill holes in the wall.

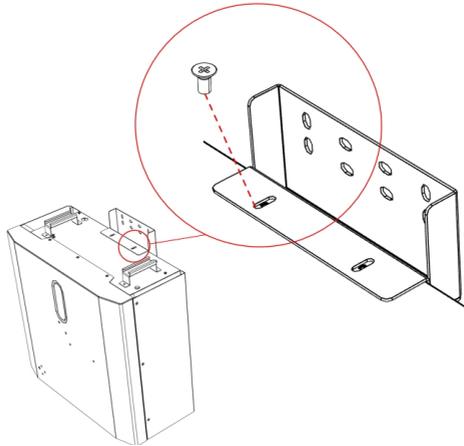
**NOTE**

Don't drill through the bracket.

- Assemble the supplied mounting bracket to the battery module using two M5 screws. Tighten the screws to a torque of 2.5Nm.

NOTE

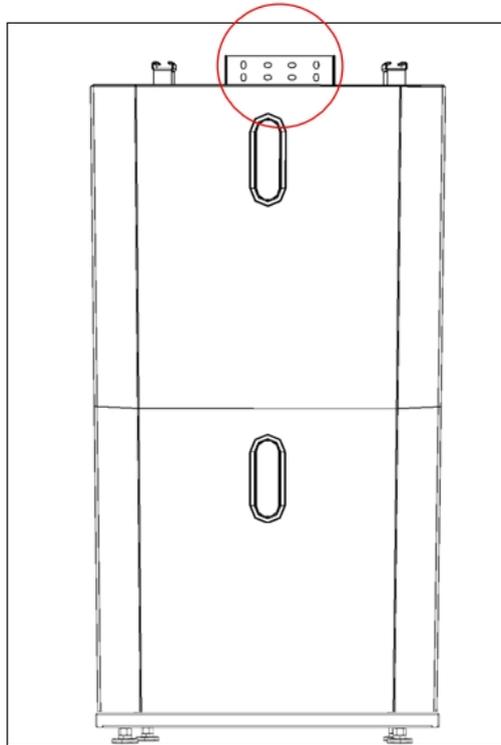
For better cable routing, use the mounting bracket oval hole in a way to enable the maximum available distance between the battery module and the wall.



- Secure the battery module to the wall with screws and wall plugs. When using only two screws, make sure to use the two outer screws as shown on the figure below.



7. When installing battery modules in a tower configuration (one on top of the other):
- Before securing the wall brackets, make sure the battery modules are aligned (see the figure below).
 - Secure all battery modules to the wall as described above.
 - Note that the maximum allowed amount of battery modules in a tower is three.



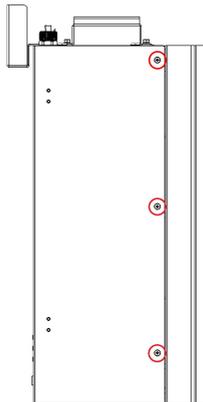
Connecting a Single Battery Module

If you are installing a single battery module, connect it to the inverter as follows:

1. Make sure the battery module's DC switch is off.
2. Before connecting the cables to the inverter, make sure the accessory kit is on the correct length. If you need longer cable, you will have to crimp the connectors yourself using one of the following kits:

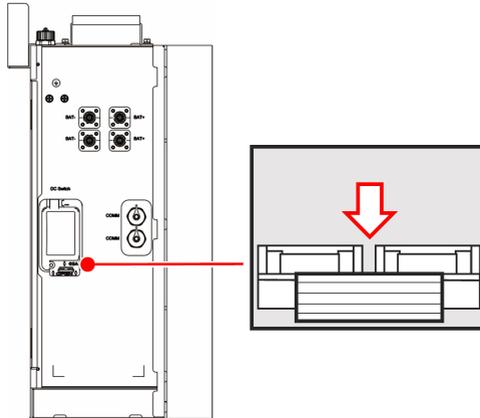
IAC-RBAT-5KCNCT-01	10 DC connector (red) 10 DC connector (black) 10 RJ45 connector 10 waterproof RJ45 connector
IAC-RBAT-5KCNCT-02	20 DC connector (red) 20 DC connector (black) 20 waterproof RJ45 conn

3. Release the three screws and slide the side door, that covers control interfaces on the left side of the battery module, to allow clear and secure access to the battery module interfaces.



4. Before continuing with the installation, please make sure the battery is OFF, then make sure that the front panel LEDs are OFF. If the battery is on, use the following procedure to turn it off:

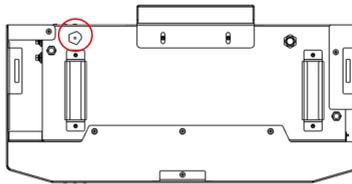
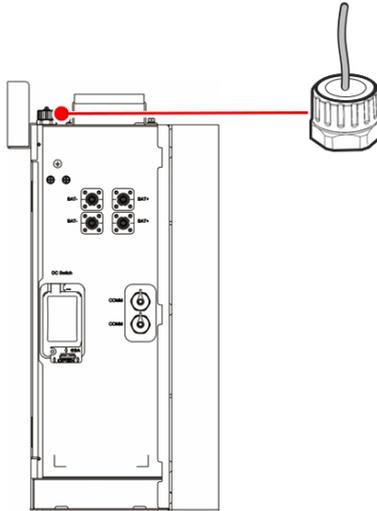
- a. To turn off the battery module circuit breaker, remove the cover screw, click the door open, turn off the circuit breaker.



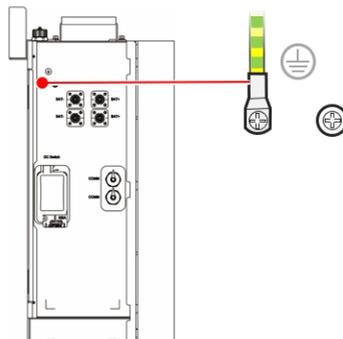
- b. Press the power button for 3-6 seconds until the indicator lights go out.



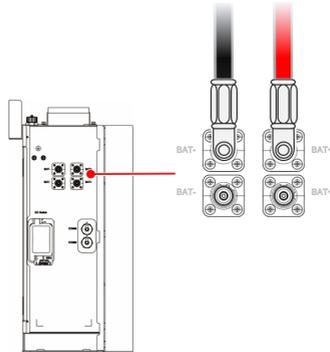
- 5. Connect the CAN-bus communication cable (RJ45) coming from the inverter, with the top battery module connector.



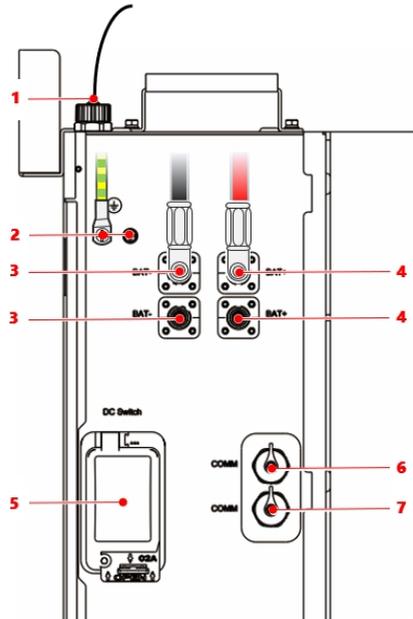
6. Use the left grounding terminal to connect the battery module, depending on the local regulation, to the inverter grounding or to the main grounding.



7. Use the upper pair of DC connectors (BAT- and BAT+) to connect power from the inverter. Note the polarity. Insert the connectors until you hear a click.

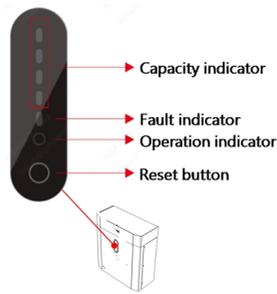


8. Figure below shows the single battery module with completed connections.



1	CAN-bus (RJ45) connection to inverter communication	5	Circuit breakers, 120A
2	Grounding terminal	6	RS485 Communication cable to connect the battery module to inverter
3	DC bat - connector	7	Communication cable to connect the battery module above to the battery module below (in a battery tower)
4	DC bat + connector		

- Turn on the battery modules, refer to *Powering on the Battery Module* on page 27. Press the soft switch shown on the figure below for 3-6 seconds, the LEDs will light. If this is a new battery (e.g. not RMA) only the first green LED or the first and second green LED should light constantly. No other LEDs should light. If you observe a different LEDs sequence, refer to *LED Indications* on page 1 for LED troubleshooting, or contact SolarEdge support with the Battery module SN and the LED sequence. Until this is solved, do not proceed with the installation.



CAUTION!



Before turning on the battery module circuit breaker, make sure that the cables to the inverter are connected, with the DC cables, to the inverter at the right polarity. Failing to do so, may cause either the battery or the inverter to malfunction.

11. Turn on the circuit breaker.
12. Close the side door and route all the cables above the door.
13. Fasten the side door with the three screws.

Connecting Multiple Battery Modules

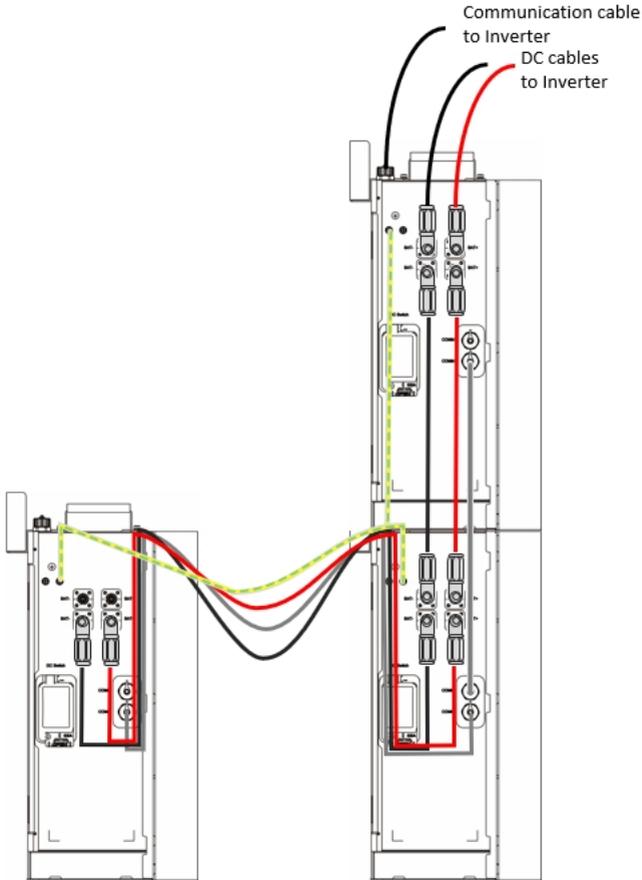


CAUTION!

Before connecting additional modules, make sure the CB and the LEDs are OFF

When installing multiple battery modules, connect them in parallel. Contact SolarEdge or your distributor to order the appropriate cable kit for your configuration. For cable kits and accessories, see *What's in the Package* on page 9.

1. Open the side doors of the battery modules.
2. We recommend to turn off the soft switch in all battery modules.
3. Connect the DC, communication and grounding cables between the battery modules, as shown below (example; your actual configuration may differ).



4. Connect the DC and communication cable of the first or last battery module to the inverter. See the inverter installation guide for connection instructions.

NOTE

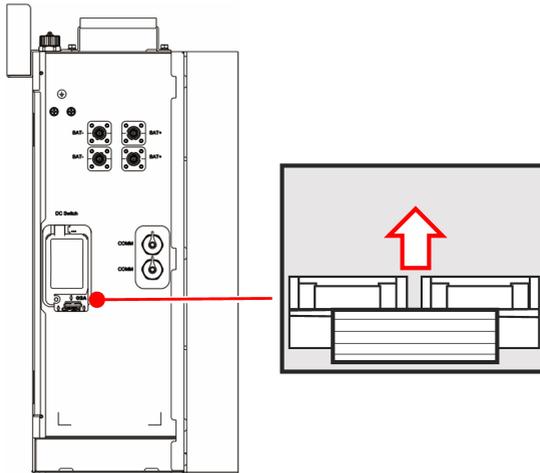


When you have two battery modules on top of each other, they are connected in a way that the top connectors of the lower battery module are connected to the bottom connectors of the upper battery module.

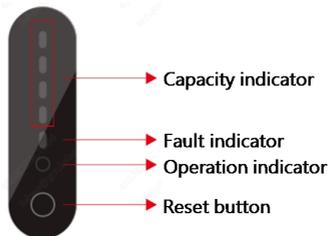
5. Fasten the side door with the three screws.

Powering on the Battery Module

1. Turn on the DC switch.



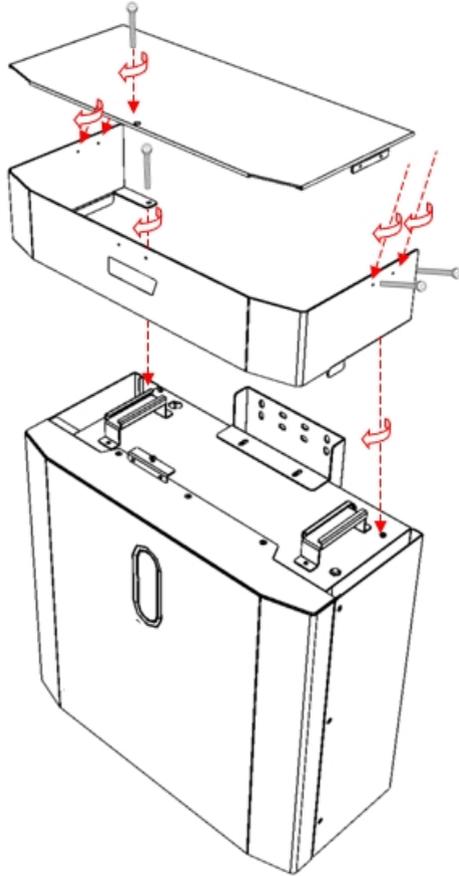
2. Press the power button for 3-6 seconds until the indicator lights are on.



Top Cover Installation

After installing the battery and making all the connections, install the top cover on the top battery module in every tower.

1. Take the top cover out of its box
2. Remove the top plate screws
3. Place the frame on top of the top battery module in the tower, secure it with the 3 screws provided in the kit
4. Assemble the top plate with the 5 screws.



LED Indications

The following section describes the LED behavior of the SolarEdge Home Battery – Low Voltage.

Mode	Behavior
Normal operation of the battery	Operational LED is ON or Blinking once NO other cases of operational LED
Alarm – there is an alarm, but battery still function	Operational LED blinks 3 times, Fault is OFF
Protection – battery have limited operation	Operational LED blinks 3 times, Fault is ON

Battery status	Mode of operation	Operation LED	Fault LED	Battery Level Indicator LED			
							
OFF	Hibernation	Off	Off	Off	Off	Off	Off
Normal	Idle	1 blink	Off	Indicates battery SoC level			
	Charge	On	Off	Indicates battery SoC level			
	Discharge	On	1 blink	Indicates battery SoC level			

Battery status	Mode of operation	Operation LED	Fault LED	Battery Level Indicator LED			
		●	●	●	●	●	●
Alarm	Module over voltage	3 blinks	Off	On	On	On	On
	Module Under voltage	3 blinks	Off	On	On	On	Off
	Cell over voltage	3 blinks	Off	On	On	Off	On
	Cell under voltage	3 blinks	Off	On	On	Off	Off
	Charge MOS fault	3 blinks	Off	On	Off	On	On
	Discharge MOS fault	3 blinks	Off	On	Off	On	Off
	Cell over temperature	3 blinks	Off	On	Off	Off	On
	Cell under temperature	3 blinks	Off	On	Off	Off	Off
	Charging Over Current	3 blinks	Off	Off	On	On	On
	Discharge Over Current	3 blinks	Off	Off	On	On	Off
	Cell sampling fault	3 blinks	Off	Off	On	Off	On
	Heating fault	3 blinks	Off	Off	On	Off	Off
	Low SoC	3 blinks	Off	Off	Off	On	On
	Temperature sensor malfunction	3 blinks	Off	Off	Off	On	Off
	Battery Cell malfunction	3 blinks	Off	Off	Off	Off	On
Communication failure	3 blinks	Off	Off	Off	Off	Off	

Battery status	Mode of operation	Operation LED	Fault LED	Battery Level Indicator LED			
		●	●	●	●	●	●
Protection	Short Circuit	3 blinks	On	On	On	On	On
	Charge						
	Module Over Voltage	3 blinks	On	On	On	On	Off
	Module Over current	3 blinks	On	On	On	Off	On
	Module Over voltage	3 blinks	On	On	On	Off	Off
	Module Under voltage	3 blinks	On	On	Off	On	On
	Reverse Polarity	3 blinks	On	On	Off	On	Off
	Cell Over voltage	3 blinks	On	On	Off	Off	On
	Cell Under voltage	3 blinks	On	On	Off	Off	Off
	Cell Over Temperature Charge/Discharge	3 blinks	On	Off	On	On	On
	Cell Under Temperature Charge/Discharge	3 blinks	On	Off	On	On	Off
	Ambient Over Temperature	3 blinks	On	Off	On	Off	On
	Ambient Under Temperature	3 blinks	On	Off	On	Off	Off
	Mosfet Over Temperature	3 blinks	On	Off	Off	On	On
	Reserved	3 blinks	On	Off	Off	On	Off
	Reserved	3 blinks	On	Off	Off	Off	On
	Battery Locked	3 blinks	On	Off	Off	Off	Off

Blink Mode	On	Off
Blinks once every 4 seconds	0.25S	3.75S
Blinks three times every 6 seconds	0.5S	1.5S

Support Contact Information

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



<https://www.solaredge.com/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 SetApp mobile application, LCD screen, on the monitoring platform, or by the LEDs, if there is such an indication.
- System configuration information, including the type and number of panels connected and the number and length of strings.
- The communication method to the SolarEdge server, if the site is connected.
- The product's software version as it appears in the ID status screen.

solaredge