Schneider Boost

BATB3KEU3, BATPMEU2

Installation and Operation Guide

https://www.se.com/

Legal Information

Contact Information

For country-specific details, please contact your local Schneider Electric Sales Representative or visit the Schneider Electric website at: https://www.se.com/

Information About Your System

As soon as you open your product, inspect the contents and record the following information and be sure to keep your proof of purchase. If any damage is found, contact customer support.

Serial Number	_____	Purchased From	_____
Product Number	_____	Purchase Date	_____

Document Number: TME27412B **Date:** March 2025

Information on Non-Inclusive or Insensitive Terminology

As a responsible, inclusive company, Schneider Electric is constantly updating its communications and products that contain non-inclusive or insensitive terminology. However, despite these efforts, our content may still contain terms that are deemed inappropriate by some customers.

Validity Note

This document is valid only for the Schneider Boost BATB3KEU3 and BATPMEU2.

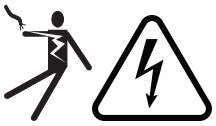
If this manual is in any language other than English, although steps have been taken to maintain the accuracy of the translation, the accuracy cannot be guaranteed. Approved content is contained with the English language version which is posted at https://www.se.com/.

The characteristics of the products described in this document are intended to match the characteristics that are available on https://www.se.com/. As a part of our corporate strategy for constant improvement, we may revise the content over time to enhance clarity and accuracy. If you see a difference between the characteristics in this document and the characteristics on https://www.se.com/, consider https://www.se.com/ to contain the latest information.

Safety Information

Important Information

Read these instructions carefully and look at the equipment to become familiar with the device before trying to install, operate, service or maintain it. The following special messages may appear throughout this documentation or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.



The addition of either symbol to a “Danger” or “Warning” safety label indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

Stored energy hazard and discharge time

Hot surface

Protective Earth (grounding) conductor terminal

Refer to the Installation or Operation instructions

⚠ DANGER

DANGER indicates a hazardous situation which, if not avoided, **will result in** death or serious injury.

⚠ WARNING

WARNING indicates a hazardous situation which, if not avoided, **could result in** death or serious injury.

⚠ CAUTION

CAUTION indicates a hazardous situation which, if not avoided, **could result in** minor or moderate injury.

NOTICE

NOTICE is used to address practices not related to physical injury.

Audience

This manual is intended for use by qualified personnel installing and operating a system involving Schneider Boost battery.

The qualified personnel have training, knowledge, and experience in:

- Installing electrical equipment.
- Applying all applicable installation codes.
- Analyzing and reducing the hazards involved in performing electrical work.
- Installing and configuring inverters and Li-Ion batteries.
- Selecting and using Personal Protective Equipment (PPE).

Qualified personnel have also received specific training from the manufacturer on installing and operating the Schneider Boost.

Contents

Figures

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About

Scope

This document introduces the Schneider Boost series 7 to 20 kWh home energy storage system (hereinafter referred to as "product", "equipment" or "energy storage") including product introduction, installation, commissioning, system maintenance and technical specifications.

Abbreviations and Acronyms

Abbreviations and Acronyms	
AC	Alternating current
BMS	Battery Management System
CAN	Controller Area Network
DC	Direct current, see also VDC
GFPS	Ground Fault Protection System
GND	Ground (see also, PE)
IP	Internet Protocol OR Ingress Protection
LAN	Local Area Network
LED	Light Emitting Diode
LFP	Lithium ion phosphate battery
LOTO	Lock-out and tag-out
PCE	Power Conversion Equipment
PE	Protective earth (ground)
PPE	Personal Protective Equipment
PV	Photovoltaic
SOC	State of charge
VDC	Volts direct current
W	Watt

Related Information

For more information about the Schneider Boost, related documents, specifications, and compatible equipment, see https://www.se.com/.

Related Documents

Note: For the Installation Guide in other languages, go to https://www.se.com/de/de/product-range/234870270 (Germany) or https://www.se.com/es/es/product-range/234870270 (Spain).

- *Schneider Inverter Installation Guide (TME26990)*, 3-Phase
- *Schneider Inverter Installation Guide (TME38690)*, 1-Phase
- *Wireless LAN Smart Dongle Guide (TME34287)*

For Germany

Scan or Visit

https://www.se.com/de/de/product-range/234870270

For Spain

Scan or Visit

https://www.se.com/es/es/product-range/234870270

Product Safety Information

READ AND SAVE THESE INSTRUCTIONS - DO NOT DISCARD

Before installing, uninstalling, or operating the Schneider Boost, read all instructions and cautionary markings on the unit, and in this document.

IMPORTANT: Refer to your warranty for instructions on obtaining service.

⚠ ⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, ARC FLASH, AND FIRE

- This equipment must only be installed, configured, and serviced by qualified electrical personnel.
- Qualified electrical personnel must apply appropriate personal protective equipment (PPE), follow safe electrical work practices, and adhere to all applicable local and national electrical codes.
- Do not disassemble, alter the product, or modify the software code without authorization.
- Never operate energized with covers removed.
- Energized from multiple sources. Before working with cables identify all sources, de-energize, lock-out, and tag-out and wait five minutes for circuits to discharge.
- Always use a properly rated voltage sensing device to confirm that all circuits are de-energized.

Failure to follow these instructions will result in death or serious injury.

⚠ ⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, ARC FLASH, AND FIRE

Thoroughly inspect the battery prior to energizing. Verify that no tools or materials have inadvertently been left inside or on top of the battery, and that all covers are properly secured.

Failure to follow these instructions will result in death or serious injury.

⚠ ⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, ARC FLASH, AND FIRE

- Disconnect negative and positive DC conductors before servicing. Treat DC conductors as Hazardous Live and must be disconnected.
- Normally earthed (grounded) conductors may be unearthed (ungrounded) and energized when an earth (ground) fault is indicated. Must be serviced by qualified personnel.

Failure to follow these instructions will result in death or serious injury.

⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

Verify cable polarity at both the battery and the inverter. Positive (+) must be connected to positive (+). Negative (–) must be connected to negative (–).

Failure to follow these instructions will result in death or serious injury.

⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, ARC FLASH, AND FIRE

Do not dispose of the battery in a fire. Always follow local guidelines for recycling and disposal.

Failure to follow these instructions will result in death or serious injury.

⚠ DANGER

UNEARTHED (UNGROUNDED) EQUIPMENT

- Equipment earth (ground) terminals must be reliably connected to ground by appropriately sized earthing (grounding) conductors. All installations must comply with national and local codes. Consult national and local codes for specific earthing (grounding) and bonding requirements.
- When installing this equipment, install a protective earth (PE) wire first; When removing this equipment, the protective earth wire must be removed last.
- Verify that there is no damage to the earth (ground) conductor.
- Do not operate the device without a earthing (grounding) conductor installed.
- The device should be permanently connected to earth, and the protected area. Before operating this equipment, check the electrical earth connection to verify that the equipment is reliably earthed (grounded).

Failure to follow these instructions will result in death or serious injury.

⚠ WARNING

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR EQUIPMENT DAMAGE

- The battery must only be used with a compatible Schneider Inverter (HY8K3EU1, HY10K3EU1, HY14K3EU1, HY5K1EU1, HY6K1EU1, HY8K1EU1).
- Before energizing, make sure that all Schneider Boost batteries in the system are installed and that the conductors are properly terminated.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

⚠ ⚠ WARNING

HAZARD OF ELECTRIC SHOCK AND FIRE

- Before powering on equipment, verify that all wiring is in good condition and that wires are not undersized. Do not operate the battery with damaged or substandard wiring.
- Do not operate the battery if it has been damaged in any way.
- Do not disassemble the battery except where noted for connecting wiring and cabling.
- Use only the accessories that are recommended by the manufacturer.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

⚠ ⚠ WARNING

HAZARD OF ELECTRIC SHOCK, EXPLOSION, ARC FLASH, AND FIRE

All cable entry points must be sealed to meet and maintain the requirements for IP 55 enclosure standards.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

⚠ ⚠ WARNING

HAZARD OF ELECTRIC SHOCK AND FIRE

Verify that only one neutral-to-earth (ground) bond exists in the system.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

⚠⚠ WARNING

HAZARD OF ELECTRIC SHOCK, EXPLOSION, ARC FLASH, AND FIRE

- Store the batteries indoors in a dry, well ventilated, and clean area protected from dust and moisture.
- The temperature and humidity in the storage environment must meet the requirements noted in the specifications section of this document. For more information, see "Specifications" on page 83.
- Do not store batteries where they are exposed to direct sunlight or significant radiation such as infrared rays. Do not expose to organic solvents, corrosive gases, flammable gases, or conductive dust.
- Place batteries according to the markings on their packaging. When stacking, follow the stacking requirements indicated on the outer packaging.
- Do not stack on top of or under other equipment.
- Do not store batteries upside down, on their sides, or in an inclined position.
- Sites storing a large number of batteries are recommended to have fire-fighting equipment such as fire sand and fire extinguishers on site.
- If storing batteries for an extended period of time, logs of conditions such as temperature, humidity, photo records of storage environment, and inspection reports should be kept.
- Batteries that have been stored for an extended period should be inspected and tested before being used. For more information, see "Specifications" on page 83.
- In the event of battery damage or malfunctions such as carbonization, leakage, swelling, or water ingress, batteries should be promptly transferred to a separate storage area for hazardous materials. Keep damaged batteries at least three meters away from flammable materials. Scrap and properly dispose of damaged batteries as soon as possible.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

⚠ WARNING

POTENTIAL COMPROMISE OF SYSTEM AVAILABILITY, INTEGRITY, AND CONFIDENTIALITY

Follow the cybersecurity best practices in this document to help prevent unauthorized access to the system software.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

⚠ CAUTION

RISK OF PERSONAL INJURY OR EQUIPMENT DAMAGE

- Install the battery in a location where the ambient temperature is between -20 to +55°C.
- Do not install the battery near heat sources such as steam exhausts from boilers and dryers, or engine compartments. Do not install in a location that is exposed to direct sunlight. A shaded location is recommended.
- Avoid installing the battery in a dusty environment.
- Always install the battery in a location that minimizes the risk of water damage. Do not install the battery in a location that is prone to flooding, or near water sprinklers or high pressure water jets.
- Install as a floor-standing unit only on a horizontal supporting surface strong enough to support the battery and all other equipment that is installed on the same surface. Do not install the battery on a spongy surface or soil, or a surface that is prone to subsiding.
- The battery bracket must be mounted onto a vertical supporting surface strong enough to support the battery and all other equipment that is installed on the same surface. Brick or concrete walls are recommended.
- If the strength of the wall is insufficient (such as column walls or wall covered with a thick decorative layer), reinforce the wall.
- The mounting surface must be made of fire-resistant material.
- Mount the battery bracket to a vertical surface, where the slope of the wall is within ±5°.
- Do not expose this unit to excessive shock or vibration.
- Do not install the battery at an altitude higher than 2000 meters above mean sea level.
- Do not install near a TV antenna or antenna cable.

Failure to follow these instructions can result in injury or equipment damage.

Note: If installed outdoors, a shade is recommended above the battery.

⚠ CAUTION

HEAVY EQUIPMENT

- Each Schneider Boost battery module weighs approximately 29 kg: a stack of three modules plus the battery controller weighs approximately 109 kg. A stack of six modules plus the battery controller weighs approximately 196 kg. A minimum of two people must be present to lift the battery.
- To prevent personal injury, always use proper lifting techniques during installation, and follow local work safety rules.
- Do not allow the batteries to tip or fall.

Failure to follow these instructions can result in serious injury or equipment damage.

⚠ CAUTION

HOT SURFACE

Never touch the enclosure of an operating battery.

Failure to follow these instructions can result in injury.

NOTICE

RISK OF EQUIPMENT DAMAGE

- Similar cables should be tied together, and different types of cables should be arranged at least 30 mm apart. Avoid cable cross-over.
- Tighten the cables to the torque specifications in this guide.

Failure to follow these instructions can result in equipment damage.

NOTICE

RISK OF EQUIPMENT DAMAGE

Always turn the DC Switch at the bottom of the Schneider Inverter to the **ON** position before starting the Schneider Boost. For more information, see the *Schneider Inverter Installation and Operation Guide*.

Failure to follow these instructions can result in equipment damage.

NOTICE

RISK OF EQUIPMENT DAMAGE

- A maximum of six battery modules can be installed per battery controller.
- Do not install the Schneider Boost with other types of batteries.

Failure to follow these instructions can result in equipment damage.

NOTICE

RISK OF EQUIPMENT DAMAGE

- Use only a soft cloth dampened with water and mild soap to clean the battery.
- Do not use solvents or chemicals that are corrosive or flammable.

Failure to follow these instructions can result in equipment damage.

Limitations on Use

⚠ WARNING

HAZARD DUE TO UNINTENDED USE

The battery is not intended for use in connection with life support systems or other medical equipment or devices. The battery can only be used in grid-interconnected, off grid, and integrated PV systems. It is not suitable for any other application areas.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

Explosive Gas Precautions

⚠ WARNING

IGNITION AND FIRE HAZARD

This equipment is not ignition protected. To prevent fire or explosion, do not install this product in locations that require ignition-protected equipment. This includes any confined space containing lead acid batteries, or flammable chemicals such as, natural gas (NG), liquid petroleum gas (LPG) or gasoline (Benzine/Petrol).

- Do not install in a confined space with machinery powered by flammable chemicals, or storage tanks, fittings, or other connections between components of fuel or flammable chemical systems.
- Do not install the battery on a flammable surface. If installing the battery on a wood surface, ensure that the wood is flame retardant.
- Do not install the battery near readily flammable materials such as cloth, paper, straw, or plastic sheeting. Keep flammable materials a minimum distance of 60 cm (24 in.) from the top surface and 30 cm (12 in.) from either side surface and the front of the Schneider Boost.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

1 Introduction

What's in This Chapter?

Overview

The Schneider Boost is a high-voltage Lithium Ion Phosphate (LFP) battery storage system, which includes a battery controller (BATPMEU2) and two to six battery modules (BATB3KEU3). The Schneider Boost is intended for energy management in residential applications. The Schneider Boost is required to be installed with the Schneider Inverter (HY8K3EU1, HY10K3EU1, HY14K3EU1, HY5K1EU1, HY6K1EU1, HY8K1EU1) in all cases. The Schneider Inverter can connect to one Schneider Boost system. When installed together, the Schneider Inverter and Schneider Boost can be configured and monitored remotely, using the Installer Portal (for qualified personnel).

Note:

- When designing your system, ensure that only compatible part numbers are selected, as described in the Schneider Inverter and Schneider Boost manuals.
- Obtain all necessary permits prior to starting the installation. Installations must meet all local codes and standards.
- Before installing the Schneider Boost, check it over for any signs of shipping damage. If any damage is found, contact Technical Support.

System Connection Diagram

Figure 1 System connection diagram (Spain)

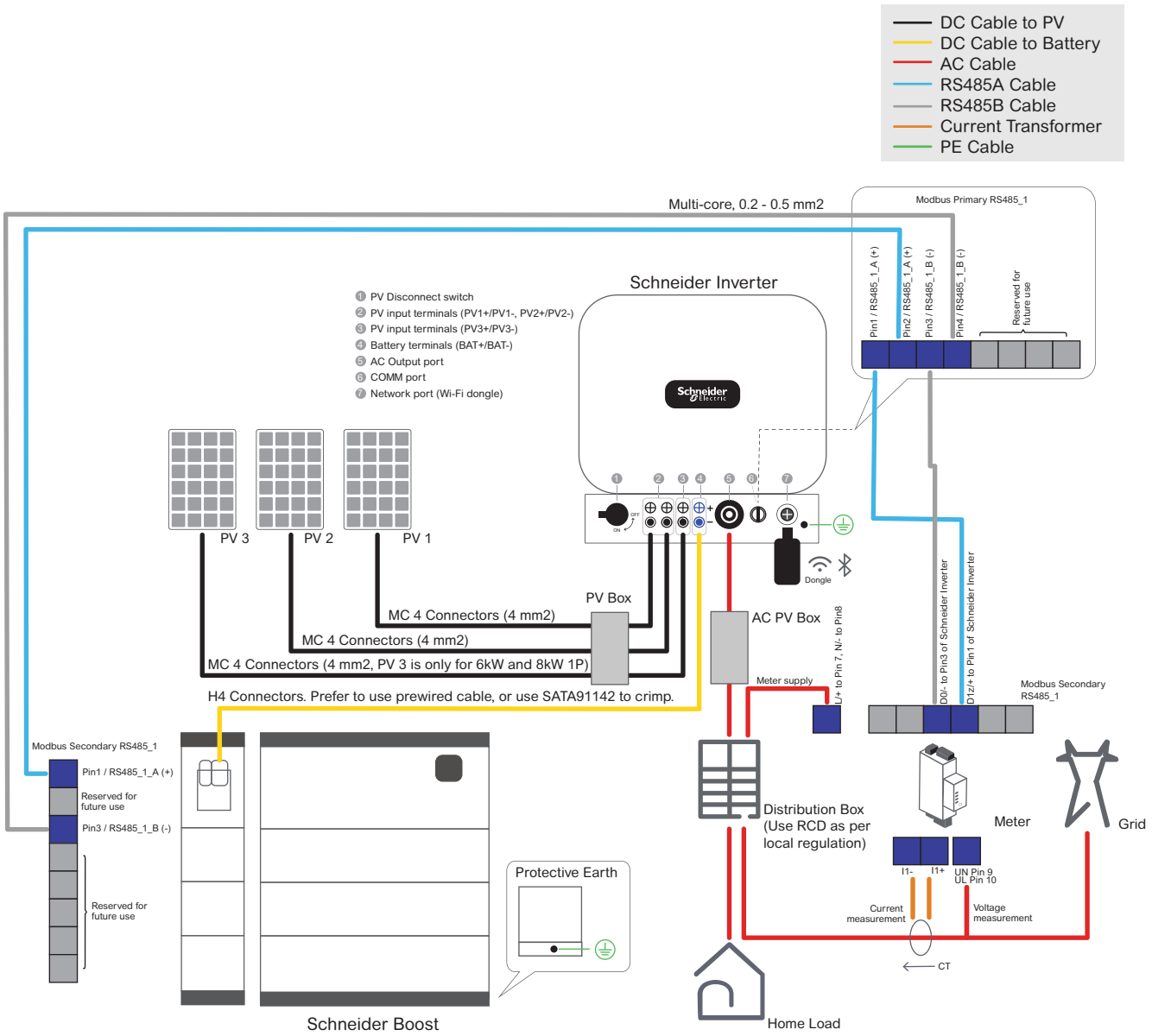
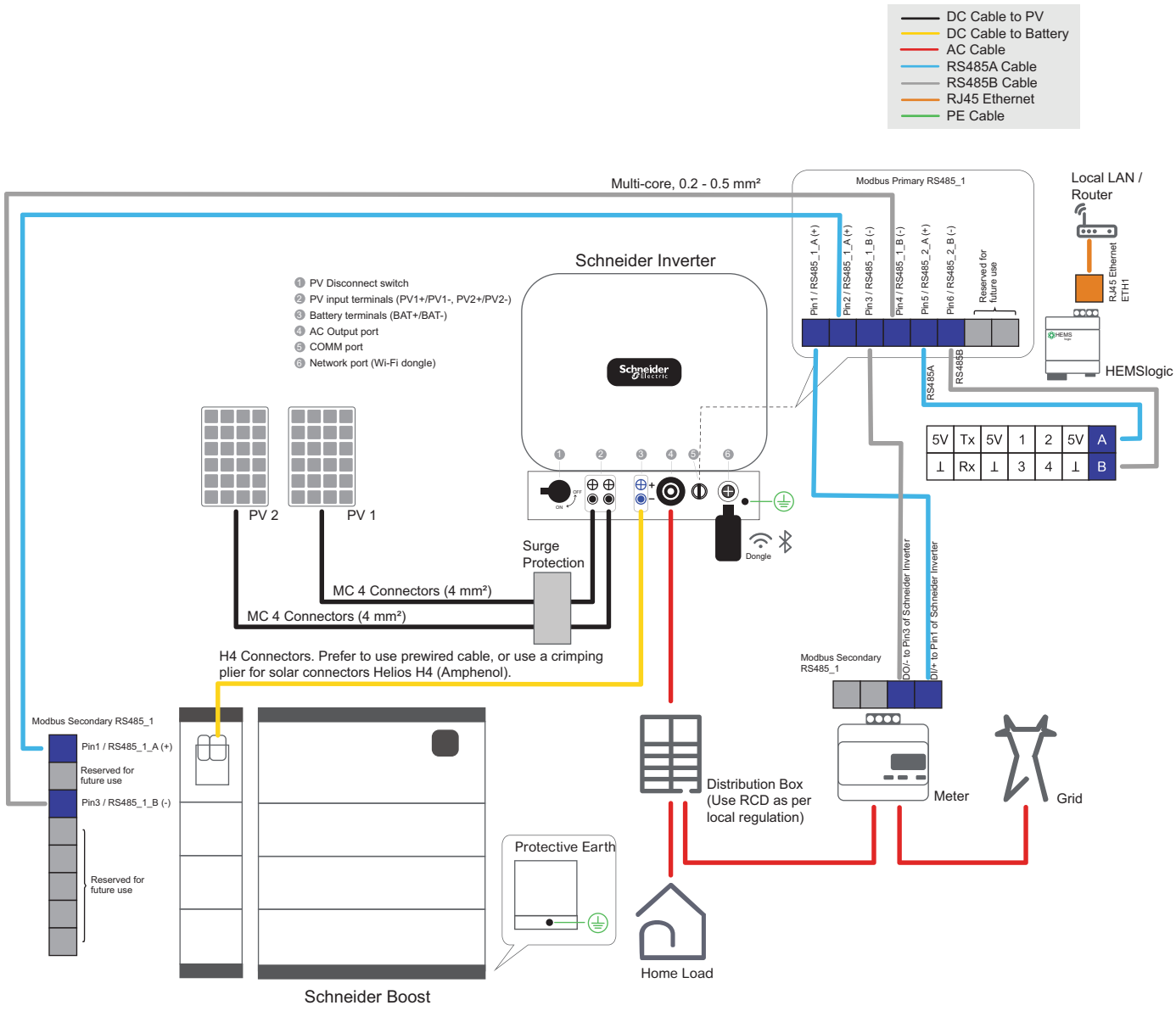


Figure 2 System connection diagram (Germany)

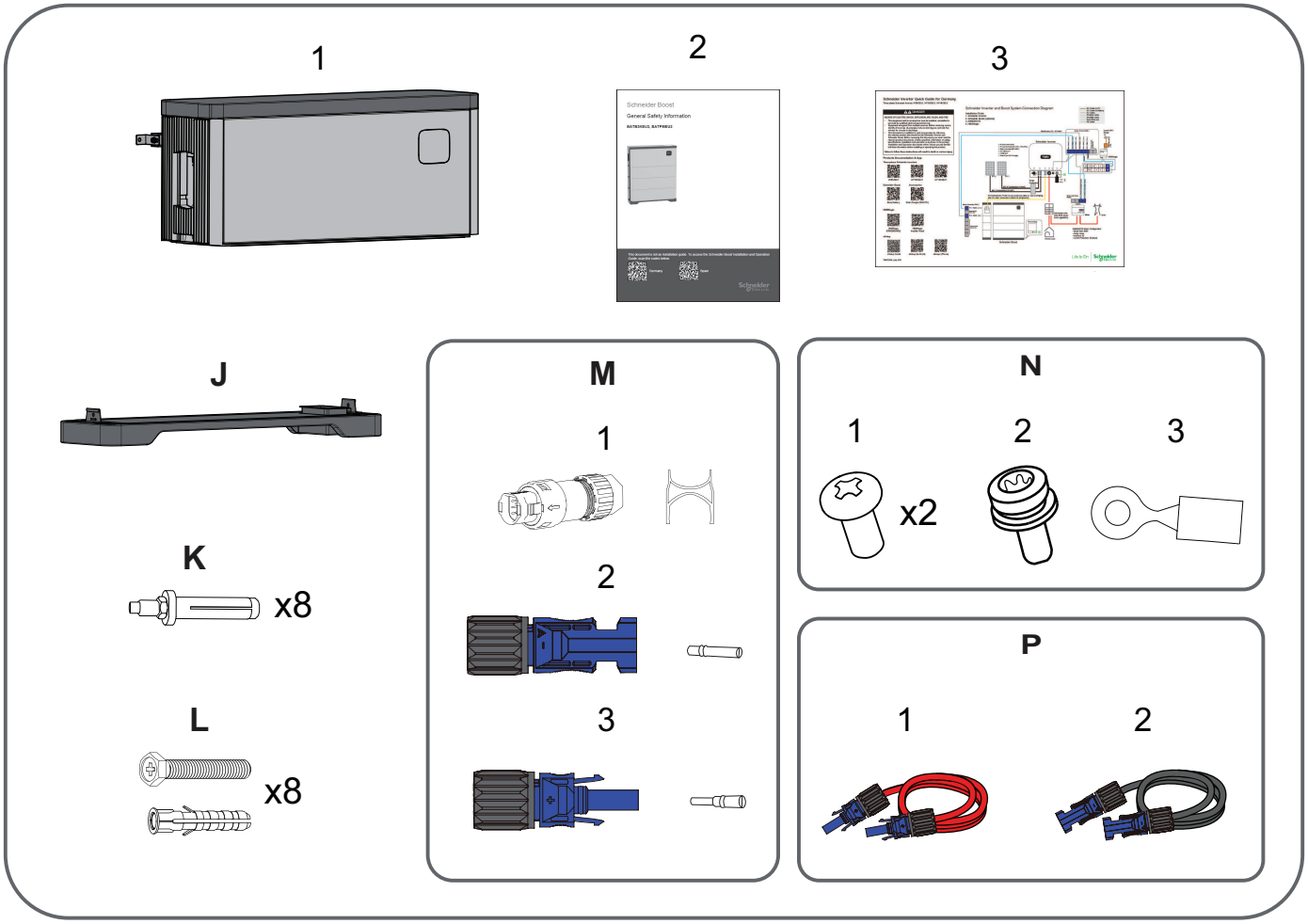


What's in the Box

IMPORTANT: Inspect the package for damage. If any damage is found, contact Schneider Electric customer service.

BATPMEU2

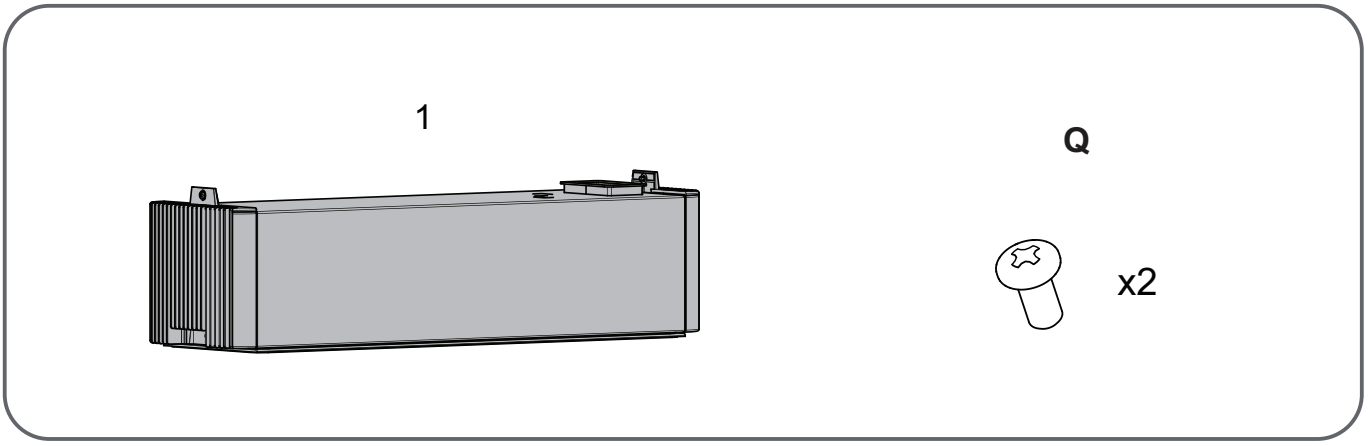
Figure 3 BATPMEU2 package contents



1	Schneider Boost battery controller (BATPMEU2) (1)	M1	Comm. Connector with wrench (1)
2	Safety Guide (1)	M2	H4 Battery Connector (F) (1)
3	Quickstart Guide (1)	M3	H4 Battery Connector (M) (1)
J	Base (1)	N1	Cross recessed pan head screw (M5×10) (2)
K	Stainless steel expansion bolt M6x60 (8)	N2	Earthing screw (1)
L	Nylon expansion bolt 8x40 (8)	N3	Protective earth crimping terminal (1)
P1	Power cable (red +) with H4 connector (F) (3 m) (1)		
P2	Power cable (black -) with H4 connector (M) (3 m) (1)		

BATB3KEU3

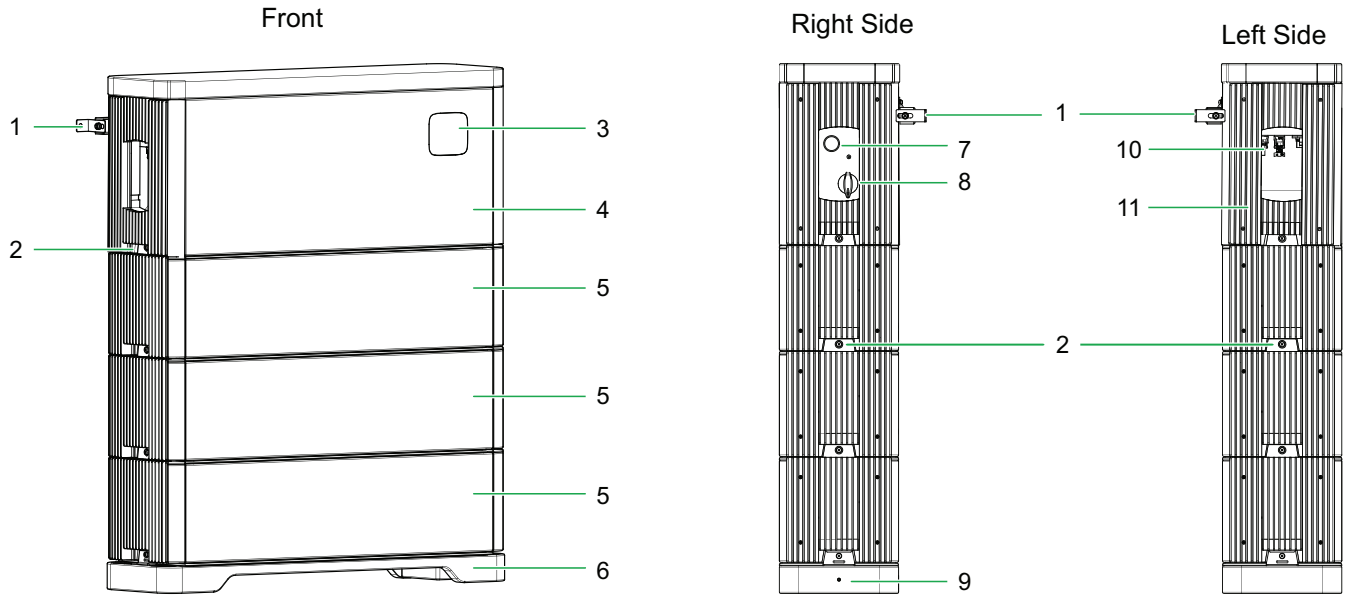
Figure 4 BATB3KEU3 package contents



1	Schneider Boost battery module (BATB3KEU3)
Q	Cross recessed pan head screw (M5×10) (2)

Physical Features

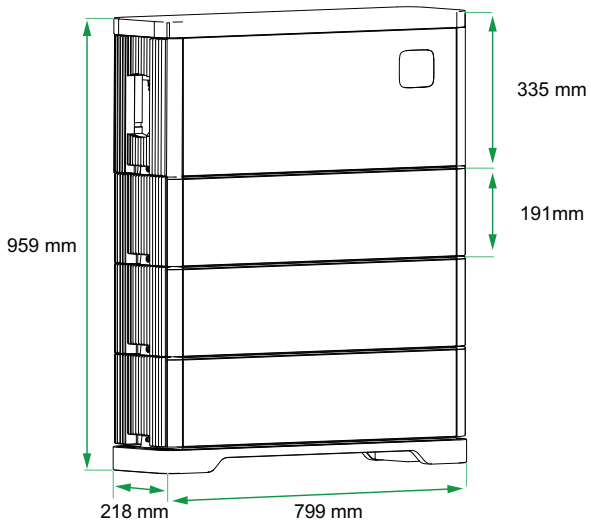
Figure 5 Schneider Boost features



1	Mounting bracket	7	Black Start button
2	Connecting fastener	8	DC disconnect switch
3	LED indicators	9	Protective Earth terminal
4	Battery controller	10	Energy Storage and Communication terminals
5	Battery module	11	Decorative cover
6	Base		

Dimensions

Figure 6 Battery controller and module dimensions



Energy Storage Capacity

One battery controller supports two to six battery modules, providing approximately up to 20 kWh.

Related Installer Web Portal

To access the Installer Portal, go to https://installerportal.se.com.

For more information, see the *Schneider Inverter Installation and Operation Guide*.

Required Installer App

Wiser Home App for Spain

To complete the installation, you need the Wiser Home commissioning app.

Download the **Wiser Home** app from the relevant app store by searching " Wiser Home" or by scanning the QR code below.

Apple App Store

Google Play

Table 1 Software requirements

iOS™	Android™
iOS 12.0 or later	Android 5.0 or later

Wiser Device User Guide

For commissioning steps and instructions, see the *Wiser Device User Guide*.

Scan the QR code for the Wiser Device User Guide and then select a language.

eSetup™ App for Germany

eSetup is a mobile app that allows qualified installers to monitor and configure the battery for first-time setup and commissioning. For details, see the *Schneider Inverter Installation and Operation Guide*.

Download eSetup to commission your inverter and system.

Apple App Store

Google Play

Cybersecurity Guidelines

This section includes information on how to help secure your system.

⚠ WARNING

POTENTIAL COMPROMISE OF SYSTEM AVAILABILITY, INTEGRITY, AND CONFIDENTIALITY

Follow the cybersecurity best practices in this document to help prevent unauthorized access to the system software.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

To find out about the latest cybersecurity news, sign up for security notifications, or to report a vulnerability, visit the Schneider Electric Cybersecurity Support Portal.

Recommended Actions

Note: The list of recommended actions below is not a complete list of possible cybersecurity measures. It is meant to be a starting point to improve the security of your system.

Passwords

- Passwords should include upper case, lower case, number, and special characters
- The password must have 8 characters minimum
- The password should not be easily found in the dictionary and a phrase is preferred.
- Passwords should be changed frequently, at least once a year
- A default password must be changed immediately when first received and after a factory reset
- Never reuse passwords
- Never share passwords with unauthorized personnel

Network

- Schneider Electric devices should only be used in your personal home network
- Schneider Electric devices should not have a publicly accessible IP address
- Do NOT use port forwarding to access a Schneider Electric device from the public internet
- Schneider Electric devices should be on their own network segment. If your router supports a guest network or VLAN, it is preferable to locate the devices there
- Use the strongest Wi-Fi encryption available
- Use HTTPs in local network

Physical Site Security

To help prevent physical attacks:

- Install the system on private property, away from public passageways.
- Properly reinstall and close all covers.
- Route all cables through conduits.

Decommissioning

Before a device is permanently removed from your network, perform a full factory reset to erase all data

2 Pre-Installation

What's in This Chapter?

Pre-Installation

Pre-installation Inspection

Before unpacking the battery, inspect the outer packaging for visible damage, such as holes, cracks, or other signs of possible internal damage. Also verify that the battery model on the label is the correct one. If there is any abnormal packaging, or the battery model does not match, do not open it and contact your dealer immediately.

After unpacking the battery controller and modules, confirm that the contents are complete, and that there is no obvious external damage. If any items are missing or there is any damage, contact your dealer. For the list of expected items, see "What's in the Box" on page 24.

Required Tools and Materials

The following materials and tools are not supplied but are required for installation.

Required for LOTO

- Appropriate PPE (e.g. safety glasses, gloves, protective footwear, etc.)
- Lock-out/Tag-out (LOTO) kit
- Calibrated professional digital multimeter (1100 VDC range)

Required Tools

- Impact drill Φ8 mm
- Socket wrench
- Phillips screwdriver
- Diagonal pliers
- Adjustable wrench
- Markers
- Rubber hammer
- Tool knife
- Wire cutters
- Level
- Heat guns
- Tape measure
- MC4 connector crimping tool
- SATA-91142 hydraulic pliers ($2.5mm^2$ - $6mm^2$) (Spain)
- Helios H4 (Amphenol) crimping pliers for solar connectors (Germany)
- Torque wrench

Required Cables and Accessories

Note: For cable specifications, see Wiring on page 49.

- Protective Earth (PE) cables
- DC power cables
- Communication cables
- Cable conduits and fittings per IEC 60364 requirements
- Cable ties
- Heat shrink tubing

Choosing a Location

⚠ CAUTION

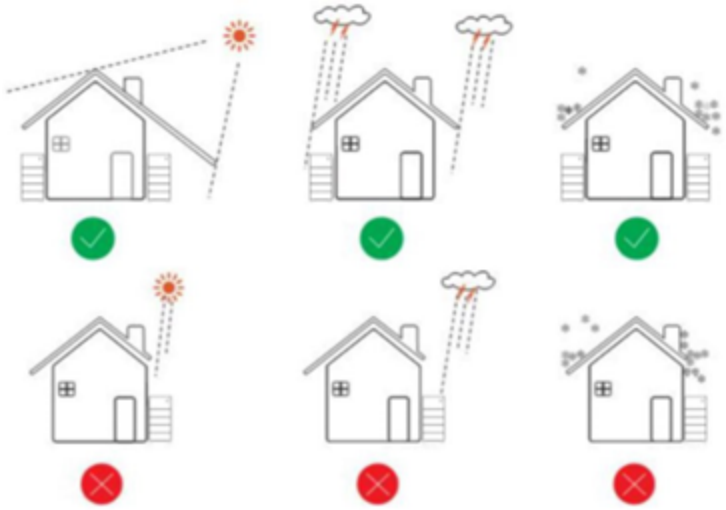
RISK OF PERSONAL INJURY OR EQUIPMENT DAMAGE

- Install the battery in a location where the ambient temperature is between -20 to +55°C.
- Do not install the battery near heat sources such as steam exhausts from boilers and dryers, or engine compartments. Do not install in a location that is exposed to direct sunlight. A shaded location is recommended.
- Avoid installing the battery in a dusty environment.
- Always install the battery in a location that minimizes the risk of water damage. Do not install the battery in a location that is prone to flooding, or near water sprinklers or high pressure water jets.
- Install as a floor-standing unit only on a horizontal supporting surface strong enough to support the battery and all other equipment that is installed on the same surface. Do not install the battery on a spongy surface or soil, or a surface that is prone to subsiding.
- The battery bracket must be mounted onto a vertical supporting surface strong enough to support the battery and all other equipment that is installed on the same surface. Brick or concrete walls are recommended.
- If the strength of the wall is insufficient (such as column walls or wall covered with a thick decorative layer), reinforce the wall.
- The mounting surface must be made of fire-resistant material.
- Mount the battery bracket to a vertical surface, where the slope of the wall is within ±5°.
- Do not expose this unit to excessive shock or vibration.
- Do not install the battery at an altitude higher than 2000 meters above mean sea level.
- Do not install near a TV antenna or antenna cable.

Failure to follow these instructions can result in injury or equipment damage.

Note: If installed outdoors, a shade is recommended above the battery.

Figure 7 Recommended outdoor battery installation



Clearance Requirements

Ensure that there is 300 mm of clearance on all sides of the battery. Install the inverter and battery with a minimum distance of 300 mm and a maximum distance of 10 m.

Figure 8 Recommended clearances for installation

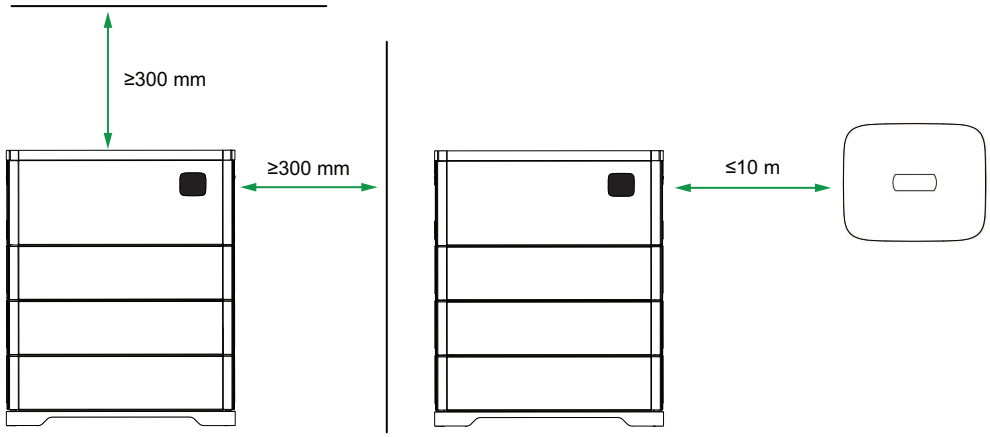


Table 2 Clearance requirements

Direction	Clearance
Left	≥ 300 mm
Right	≥ 300 mm
Above	≥ 300 mm
Between battery and inverter	≥ 300 mm to ≤ 10 m

3 Installation

What's in This Chapter?

Installation

Lock-out and Tag-out (LOTO) Procedure

Before uninstalling or installing the Schneider Boost and Schneider Inverter, de-energize, lock-out and tag-out all power sources.

⚠⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, ARC FLASH, AND FIRE

- This equipment must only be installed, configured, and serviced by qualified electrical personnel.
- Qualified electrical personnel must apply appropriate personal protective equipment (PPE), follow safe electrical work practices, and adhere to all applicable local and national electrical codes.
- Do not disassemble, alter the product, or modify the software code without authorization.
- Never operate energized with covers removed.
- Energized from multiple sources. Before working with cables identify all sources, de-energize, lock-out, and tag-out and wait five minutes for circuits to discharge.
- Always use a properly rated voltage sensing device to confirm that all circuits are de-energized.

Failure to follow these instructions will result in death or serious injury.

To lock-out and tag-out the Schneider Boost:

1. Identify the external AC (grid) disconnect, and then turn off/open, lock-out and tag-out the breaker.
2. Rotate the manual DC switch on the Schneider Boost 90 degrees counterclockwise to the **Off** position.
3. Identify and open the battery disconnect. Lock-out and tag-out the disconnect.
4. Wait five minutes for circuits to discharge.
5. Use a calibrated, properly rated voltage sensing device to confirm that all circuits are in a zero energy state before performing work.

Mounting the Battery

This section includes instructions to install the base, and mount the controller and battery module(s).

⚠⚠ WARNING

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR EQUIPMENT DAMAGE

- The battery must only be used with a compatible Schneider Inverter (HY8K3EU1, HY10K3EU1, HY14K3EU1, HY5K1EU1, HY6K1EU1, HY8K1EU1).
- Before energizing, make sure that all Schneider Boost batteries in the system are installed and that the conductors are properly terminated.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

⚠ CAUTION

HEAVY EQUIPMENT

- Each Schneider Boost battery module weighs approximately 29 kg: a stack of three modules plus the battery controller weighs approximately 109 kg. A stack of six modules plus the battery controller weighs approximately 196 kg. A minimum of two people must be present to lift the battery.
- To prevent personal injury, always use proper lifting techniques during installation, and follow local work safety rules.
- Do not allow the batteries to tip or fall.

Failure to follow these instructions can result in serious injury or equipment damage.

IMPORTANT: If you are installing a Schneider Inverter with the battery, the battery controller must be mounted before connecting the cables to the inverter.

Positioning the Base

Select where you want to install the battery, and then place the base flat on level ground, 40 - 60 mm from the wall with the base connector on your right.

Note:

- Check that there are no wires, pipes, or other obstructions below the floor where you plan to install battery.
- If the wall tilts toward the battery (less than 5°), place the base such that the battery stands upright as close to the wall as possible (maximum 80mm away from the wall base). If the wall tilts away from the battery (less than 5°), place the battery base flush to the wall base.
- The battery must be installed within 10 m of the Schneider Inverter.

Before proceeding, review "Pre-Installation " on page 33.

Mounting the Base to the Floor

Note: Securing the base to the floor is optional.

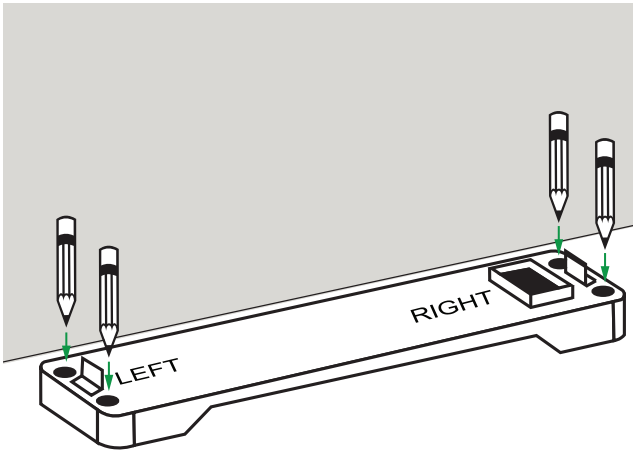
To mount the base to the floor, Follow one of the procedures below, depending on the mounting surface:

- For concrete or brick floors, on page 41
- For wood floors, on page 43

To mount the battery base on a concrete or brick floor:

1. Ensure that the base is placed flat on level ground, 40 - 60 mm from the wall with the base connector on your right.
2. Mark the location of the four mounting holes on the ground.

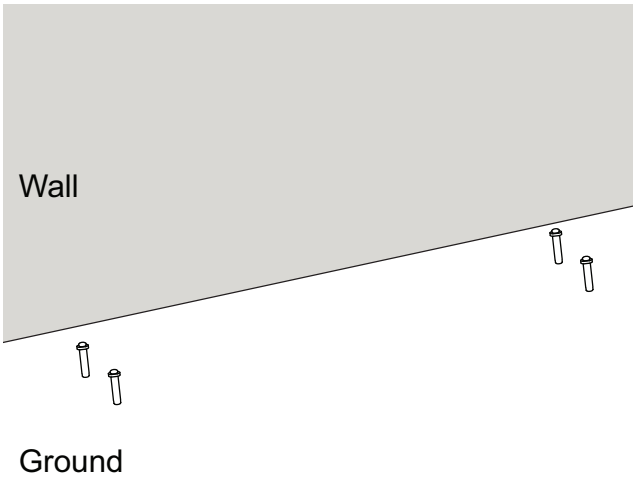
   Figure 9 Mark the location of the mounting holes



3. Remove the base.
4. Use an electric drill to drill holes with a diameter of 8 mm and a depth of 45~50 mm into the floor, and then clean up the debris.
5. Use a rubber hammer to knock the expansion bolts into the hole until the head washer of the expansion bolt is flush with the ground. If the length or number of the supplied expansion bolts does not meet the installation needs, please provide your own M6 stainless steel expansion bolts.
6. After tightening the nut clockwise, use a wrench to twist the nut 3~5 times to tighten the expansion bolts to the ground.

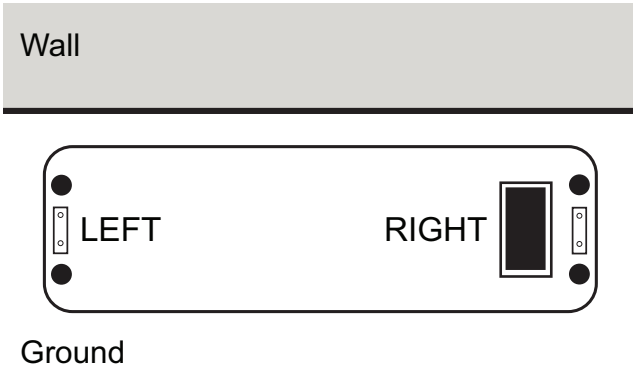
7. Unscrew the nut, metal spring and plate washer counterclockwise, leaving the bolt and expansion bolt fixed to the ground.

Figure 10 Leave expansion bolts fixed to ground



8. Place the mounting holes of the base over the expansion bolts in the ground and keep it flat with the ground, with the connector on your right.

Figure 11 Base orientation

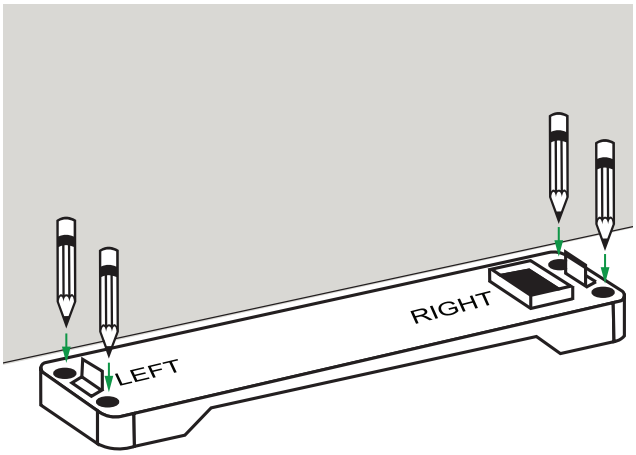


9. Install the spring and plate washer in turn, screw the nut clockwise, and then tighten it with a torque wrench. Torque to 5 Nm.

To mount the battery base on a wood floor:

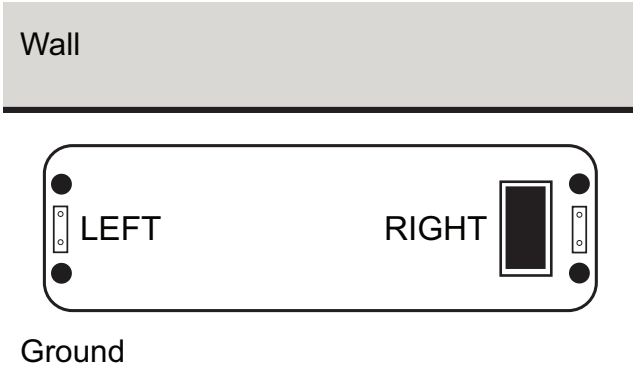
1. Ensure that the base is placed flat on level ground, 40 - 60 mm from the wall with the base connector on your right.
2. Mark the location of the four mounting holes on the ground.

Figure 12 Mark the location of the mounting holes



3. Remove the base.
4. Use an electric drill to drill holes with a diameter of 8 mm and a depth of 50~55 mm into the ground, and then clean up the debris.
5. Use a rubber hammer to knock the plastic sleeve for the nylon expansion bolts into the holes until the outer edge is flush with the floor.
6. Place the mounting holes of the base over the plastic sleeves in the ground and keep it flat with the ground.

Figure 13 Base orientation



7. Fasten the base with M6x50 cross-slot self-tapping screws, making sure that the end of the screw is flush with the base. Torque to 5 Nm.

Installing the Battery Controller and Modules

⚠ CAUTION

HEAVY EQUIPMENT

- Each Schneider Boost battery module weighs approximately 29 kg: a stack of three modules plus the battery controller weighs approximately 109 kg. A stack of six modules plus the battery controller weighs approximately 196 kg. A minimum of two people must be present to lift the battery.
- To prevent personal injury, always use proper lifting techniques during installation, and follow local work safety rules.
- Do not allow the batteries to tip or fall.

Failure to follow these instructions can result in serious injury or equipment damage.

NOTICE

RISK OF EQUIPMENT DAMAGE

- A maximum of six battery modules can be installed per battery controller.
- Do not install the Schneider Boost with other types of batteries.

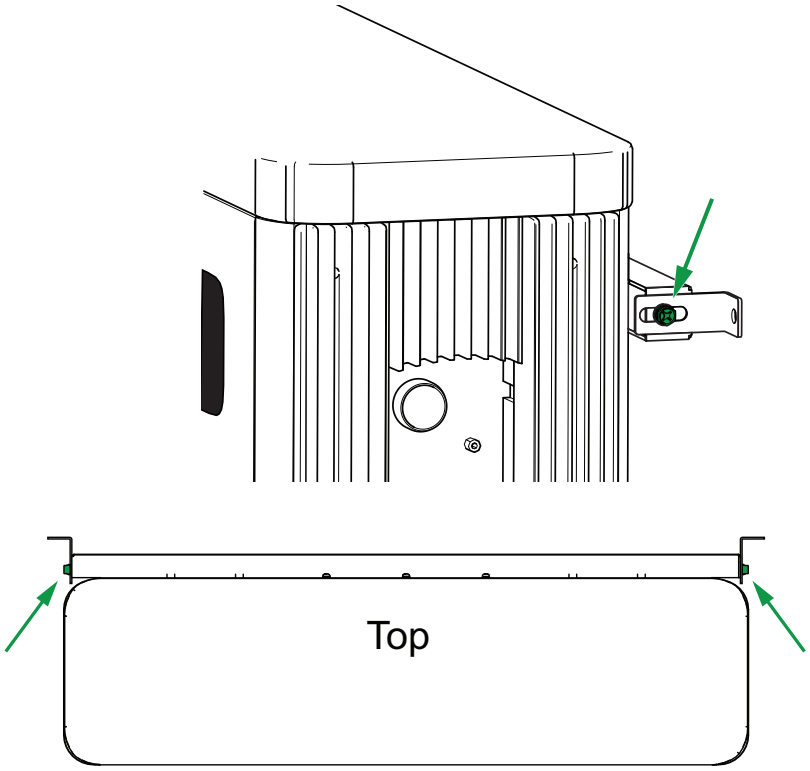
Failure to follow these instructions can result in equipment damage.

To install the controller and module(s):

1. Remove the plastic cover and shipping protection parts from the bottom connector of the first battery module.
2. Place the first battery module onto the base.
3. Install one M5×10 screw on the left and right side. Torque to 2.8 Nm.
4. Remove the bottom plastic cover and shipping protection parts from the additional battery modules and the top plastic cover of the installed module, and then stack additional battery modules on top. Connect each one with an M5×10 screw on the left and right sides. Torque to 2.8 Nm.

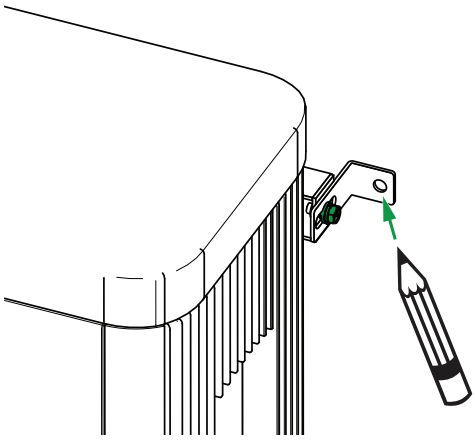
5. Attach the small brackets to both sides of the battery controller with M6*14 screws. Torque to 4.5 Nm.

Figure 14 Side and top view of attaching small brackets to controller bracket



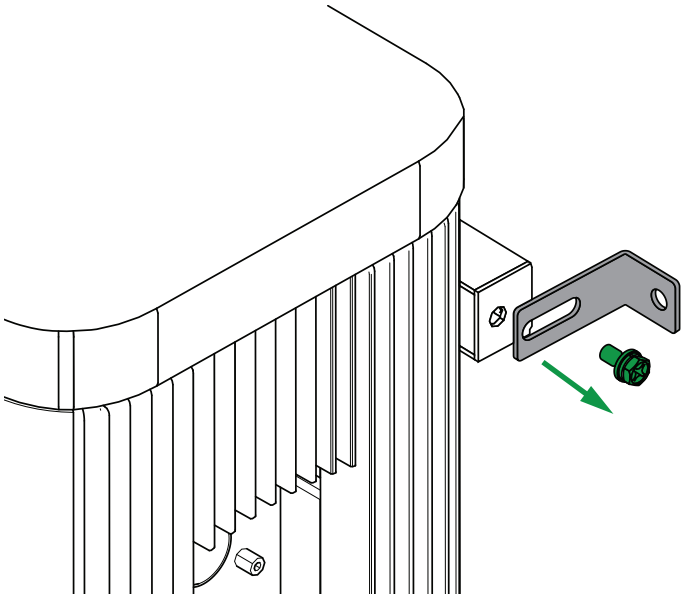
6. Stack the controller on top of the battery module and mark the location of the bracket hole on the wall.

Figure 15 Marking the bracket hole on the wall



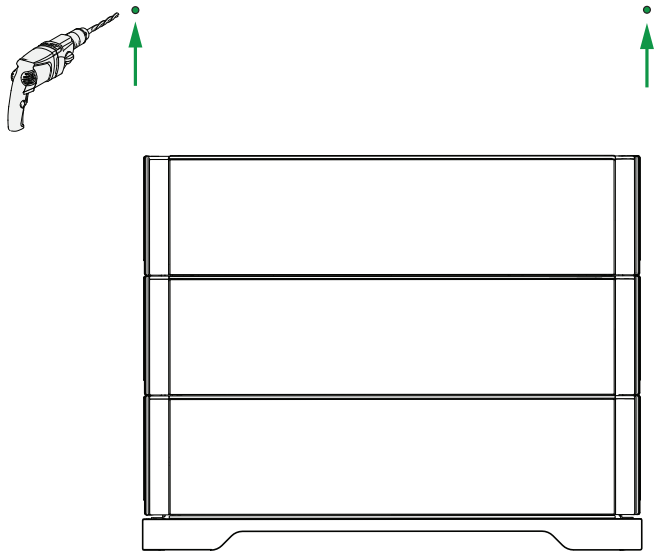
7. Remove the controller from the battery modules and unscrew the small brackets from the controller.

Figure 16 Unscrewing the small brackets from the controller



8. Use an electric drill holes with a diameter of 8 mm and a depth of 45~50 mm into the wall, and then clean up the debris.

Figure 17 drilling holes in the marked locations



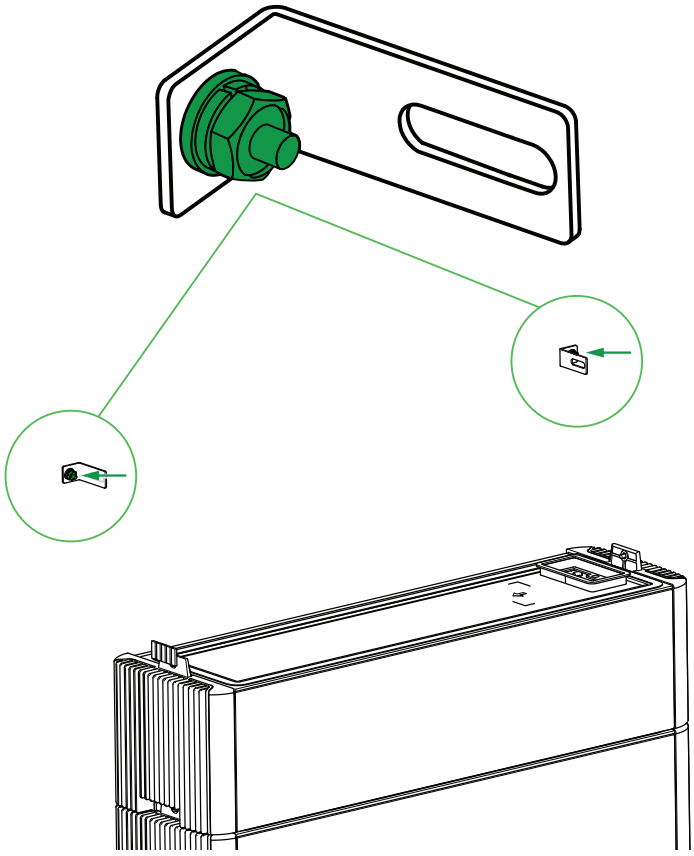
9. Use a rubber hammer to knock the supplied expansion bolts into the holes until the head washer of the expansion bolt is flush with the wall.

   Table 3 Wall fasteners

Wall Material	Supplied Fastener
Concrete or brick	Stainless steel expansion bolt (M6x50)
Wooden wall	Nylon expansion bolt (8x40)

10. Use a socket wrench to attach the small brackets to the wall with a nut. Torque to 5 Nm.

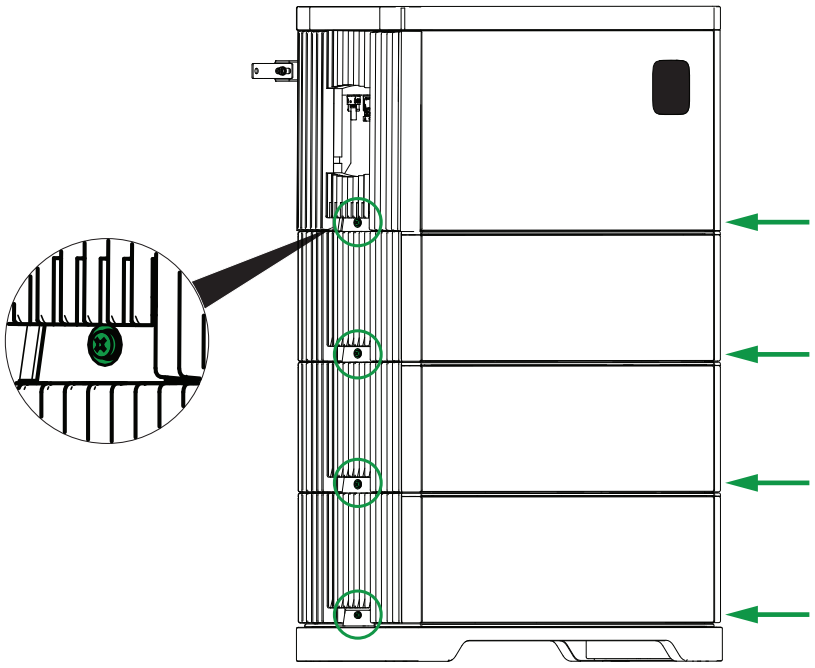
    Figure 18 Attaching the small brackets to the wall



11. Restack the controller on the battery modules and reattach the small brackets to the controller using M6*14 screws. Torque to 4.5 Nm.
12. Attach the battery controller to the top battery module by installing an M5×10 screw on the left and right side. Torque to 2.8 Nm.

13. Verify that all modules are connected on both sides.

Figure 19 Verifying module connection



Wiring

⚠⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, ARC FLASH, AND FIRE

- This equipment must only be installed, configured, and serviced by qualified electrical personnel.
- Qualified electrical personnel must apply appropriate personal protective equipment (PPE), follow safe electrical work practices, and adhere to all applicable local and national electrical codes.
- Do not disassemble, alter the product, or modify the software code without authorization.
- Never operate energized with covers removed.
- Energized from multiple sources. Before working with cables identify all sources, de-energize, lock-out, and tag-out and wait five minutes for circuits to discharge.
- Always use a properly rated voltage sensing device to confirm that all circuits are de-energized.

Failure to follow these instructions will result in death or serious injury.

⚠⚠ WARNING

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR EQUIPMENT DAMAGE

- The battery must only be used with a compatible Schneider Inverter (HY8K3EU1, HY10K3EU1, HY14K3EU1, HY5K1EU1, HY6K1EU1, HY8K1EU1).
- Before energizing, make sure that all Schneider Boost batteries in the system are installed and that the conductors are properly terminated.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

⚠⚠ WARNING

HAZARD OF ELECTRIC SHOCK, EXPLOSION, ARC FLASH, AND FIRE

All cable entry points must be sealed to meet and maintain the requirements for IP 55 enclosure standards.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

NOTICE

RISK OF EQUIPMENT DAMAGE

- Similar cables should be tied together, and different types of cables should be arranged at least 30 mm apart. Avoid cable cross-over.
- Tighten the cables to the torque specifications in this guide.

Failure to follow these instructions can result in equipment damage.

Cable Preparation

Table 4 Battery cable specifications

Cable	Type	Specification	Cable Source
DC input cable	Industry-wide outdoor photovoltaic	Conductor cross-sectional area: 4 mm² to 6 mm² Cable outer diameter: 4 mm to 7 mm	Included in package
Earthing cable	Outdoor single copper core cable	Conductor cross-sectional area: 6 mm^2	Not included in package
Communication cable	Outdoor twisted pair multi-core shielded wire	Conductor cross-sectional area: 0.2 mm² to 0.5 mm²	Not included in package

Installing the Protective Earth (PE) Cable

⚠ ⚠ DANGER

UNEARTHED (UNGROUNDED) EQUIPMENT

- Equipment earth (ground) terminals must be reliably connected to ground by appropriately sized earthing (grounding) conductors. All installations must comply with national and local codes. Consult national and local codes for specific earthing (grounding) and bonding requirements.
- When installing this equipment, install a protective earth (PE) wire first; When removing this equipment, the protective earth wire must be removed last.
- Verify that there is no damage to the earth (ground) conductor.
- Do not operate the device without a earthing (grounding) conductor installed.
- The device should be permanently connected to earth, and the protected area. Before operating this equipment, check the electrical earth connection to verify that the equipment is reliably earthed (grounded).

Failure to follow these instructions will result in death or serious injury.

⚠ ⚠ WARNING

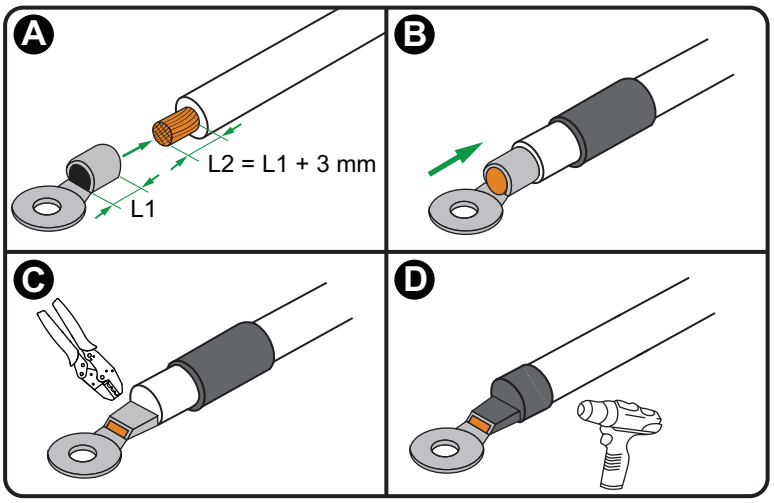
HAZARD OF ELECTRIC SHOCK AND FIRE

Verify that only one neutral-to-earth (ground) bond exists in the system.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

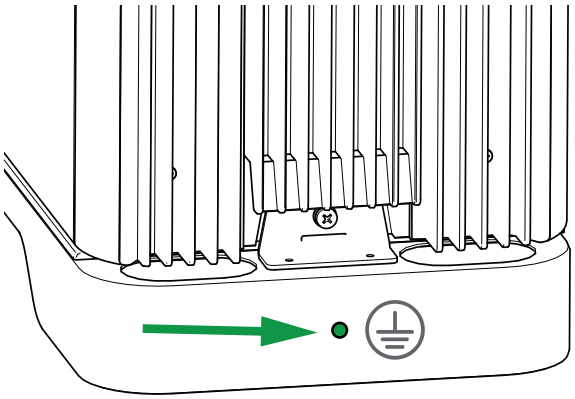
1. Crimp the supplied O-terminal to the earthing wire. A 6 mm^2 wire is recommended for the earthing wire.
    a. Strip the wire. Be careful not to scratch the wire core.
    b. Insert the stripped wire into the O terminal cavity. Ensure that wire core is completely covered by the conductor crimping piece of the O terminal, and that the wire core is tightly connected with the O terminal.
    c. Crimp the O terminal and wire.
    d. Cover the crimping area with heat shrink tubing or insulation tape.

    Figure 20 Cover the crimping area



2. Install the earthing (grounding) terminal of the crimped wire to the earthing terminal on the battery base shown below. Torque to 1.2 Nm.

    Figure 21 Earthing terminal location



3. In order to help improve the corrosion resistance of the terminal, it is recommended to apply heat shrink tubing to the earthing terminal after the earthing (grounding) cable assembly is completed.

Installing the Power Cables

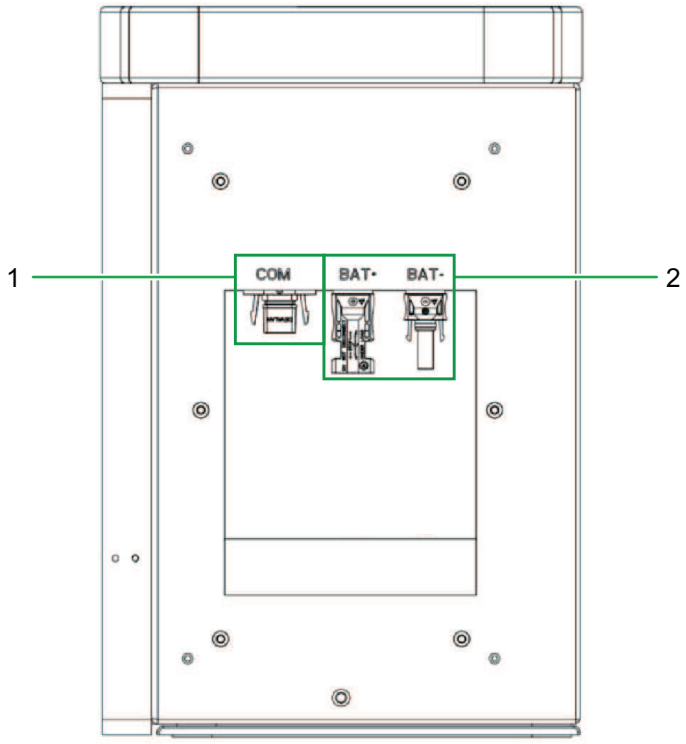
⚠ ⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

Verify cable polarity at both the battery and the inverter. Positive (+) must be connected to positive (+). Negative (–) must be connected to negative (–).

Failure to follow these instructions will result in death or serious injury.

Figure 22 Connection terminals



1	Communications terminal (COM)
2	Energy storage terminals (BAT+/BAT-)

A set of pre-crimped positive (red) and negative (black) power cables is included in the package for the Schneider Boost battery controller (BATPMEU2).

If the supplied cables are not sufficient for your installation, use the specifications below to make your own cables.

The distance between the battery and inverter cannot exceed 10 m. To select the appropriate cable and accessories, refer to " Power cable selection" on the facing page.

Table 5 Power cable selection

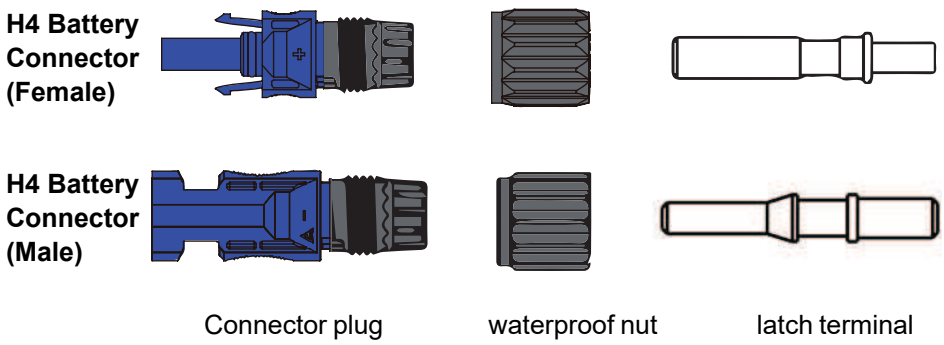
Distance between Battery and Inverter	Required Accessories	Procedure
≤ 3 m	■ Pre-crimped power cable (red +) with H4 connector (F) (Accessory P1) ■ Pre-crimped power cable (black -) with H4 connector (M) (Accessory P2)	See "To install the battery connectors using the provided pre-crimped cables:" below
> 3 m and ≤ 10 m	■ H4 Battery connector (F) (Accessory M1) ■ H4 Battery connector (M) (Accessory M2)	"To install the battery connectors using your own cable:" below
Note: For information on accessories, "What's in the Box" on page 24		

To install the battery connectors using the provided pre-crimped cables:

Connect the supplied positive (red) and negative (black) pre-crimped power cables from the Schneider Inverter battery terminals to the energy storage terminals on the Schneider Boost, and complete the snap lock.

To install the battery connectors using your own cable:

1. Open the DC terminal package, and remove the connector accessories, as shown below.



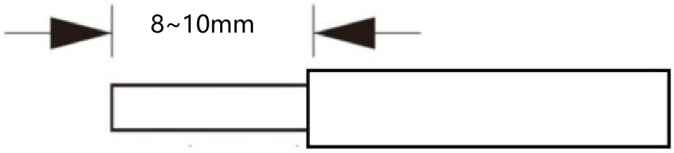
2. Turn the battery's disconnect switch to **OFF**.

Table 6 Battery cable specifications

Description	Specification
Cable size wire	4 mm²
Cable outer diameter	4~7 mm
Cable strip length	8~10 mm
Cable length	> 3 m and ≤ 10 m

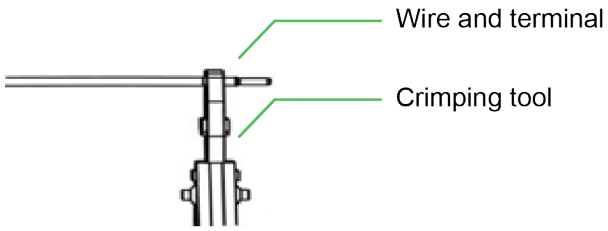
3. Use a wire stripper to remove the cable insulation sheath so that the conductor is exposed about 8~10 mm.

Figure 23 DC wire strip length



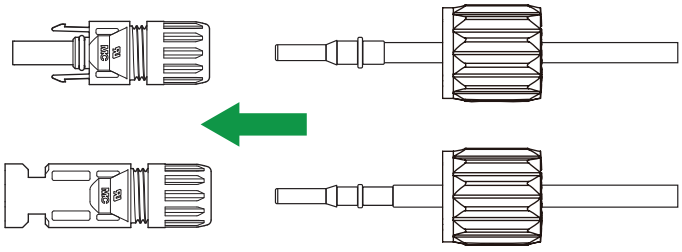
4. Insert the bare part of the cable into the latch terminal and make sure that all wire harnesses are stuck inside the pins.
5. Use SATA-91142 or Helios H4 (Amphenol) crimping pliers to crimp the terminal contact points so that the cable wire is firmly crimped with the crimp terminal.

Figure 24 Crimp the wire to the terminal



6. Insert the crimped cable through the nut into the plug, and tighten with a multi-contact MC4 wrench tool. When you hear a "click", the latch is correctly stuck in the connector plug.

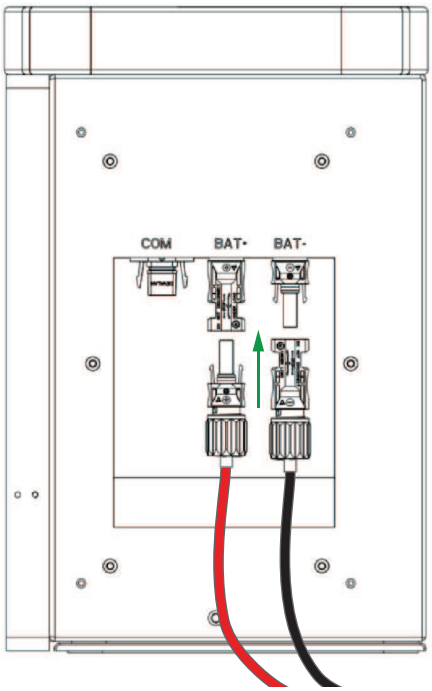
Figure 25 Assemble the cable, nut, and plug



7. Tighten the waterproof nut clockwise (torque 2.6~2.9 Nm).

8. Remove the BAT- and BAT+ connector socket dust caps, attach the (-) connectors to (-) terminals and (+) connectors to (+) terminals, and complete the snap lock.

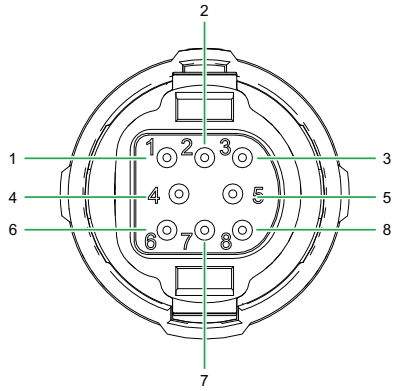
Figure 26 Battery connection



IMPORTANT: The connection between the battery and the inverter cannot exceed 10 m.

Installing the Communication Wiring

Figure 27 Communication cable pin definition



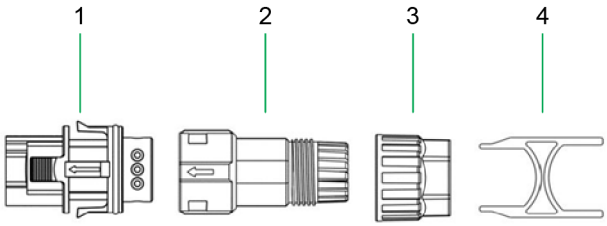
Pin	Definition	Function	Example
1	RS485_1_A	**RS485A** RS485 differential signal +	RS485 signal interface for communication with inverter.
2	RS485_1_A	**RS485A** RS485 differential signal +	Pin 2 has the same function as Pin 1: RS485 signal interface for communication with inverter.
3	RS485_1_B	**RS485B** RS485 differential signaling -	RS485 signal interface for communication with inverter.
4	RS485_1_B	**RS485B** RS485 differential signaling -	Pin 4 has the same function as Pin 3: RS485 signal interface for communication with inverter.
5	RS485_2_A	**RS485A** RS485 second differential signal +	RS485 signal interface for communication with Home Energy Management System (such as HEMSlogic Gateway) or external controllers. **Note**: For single-phase systems, reserved for future use.
6	RS485_2_B	**RS485B** RS485 second differential signaling -	RS485 signal interface for communication with Home Energy Management System (such as HEMSlogic Gateway) or external controllers. **Note**: For single-phase systems, reserved for future use.
7	CAN_L	**CAN_L** CAN communication low-bit data line	CAN bus for communication with battery BMS **Note**: Reserved for future use (Spain).
8	CAN_H	**CAN_H** CAN communication high-bit data line	CAN bus for communication with battery BMS **Note**: Reserved for future use (Spain).

Note: Support for Pins 5 to 8 (Spain) and Pins 7 to 8 (Germany) is planned for a future release

Connecting the Communication Cable

The communication connector accessories are shown below:

Figure 28 Communication connector accessories



1	Wire end housing	3	Waterproof nut
2	Threaded housing	4	Removal wrench

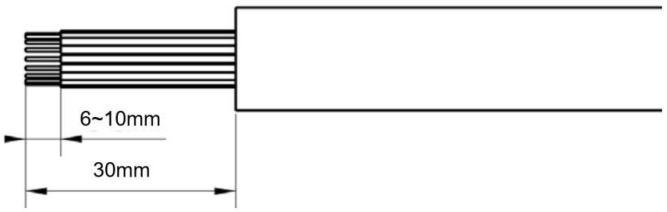
To connect communication cables:

1. Select an appropriate, multi-core shield cable that matches the specifications below:

Description	Specification
Wire core	multi-core
Cross-sectional area	0.2~0.5 mm²

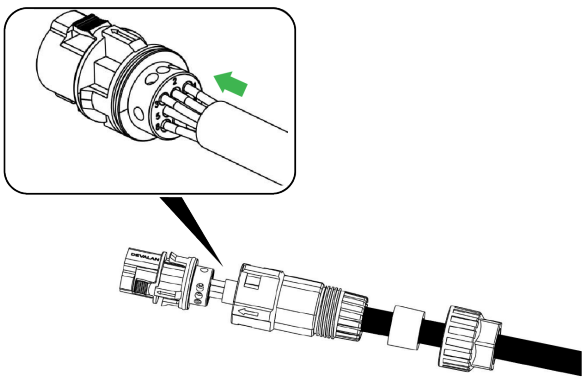
2. Strip the wires 6~10 mm.

Figure 29 Communication wire strip length



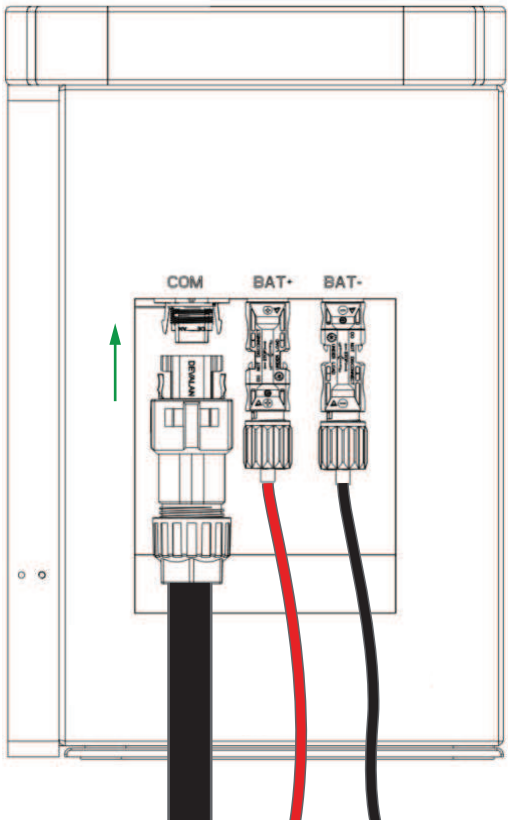
3. Unscrew the nut and pass the communication cable through each connector part, as shown in the figure below.

Figure 30 Communication cable



4. Connect the wires, following the pin definitions in "Installing the Communication Wiring" on page 57. Torque to 0.2~0.4 Nm.
5. Connect the threaded housing to the wire end housing. When you hear a "click" it means that the connection is complete.
6. Tighten the waterproof nut.
7. Remove the battery's COM connector's socket dust cap, and then plug the connector into the connector socket, and complete the snap lock.

Figure 31 Communication port



Commissioning Checklist

⚠⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, ARC FLASH, AND FIRE

Thoroughly inspect the battery prior to energizing. Verify that no tools or materials have inadvertently been left inside or on top of the battery, and that all covers are properly secured.

Failure to follow these instructions will result in death or serious injury.

⚠⚠ WARNING

HAZARD OF ELECTRIC SHOCK AND FIRE

- Before powering on equipment, verify that all wiring is in good condition and that wires are not undersized. Do not operate the battery with damaged or substandard wiring.
- Do not operate the battery if it has been damaged in any way.
- Do not disassemble the battery except where noted for connecting wiring and cabling.
- Use only the accessories that are recommended by the manufacturer.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

Before powering on the Schneider Boost, perform the following inspections:

Physical Inspections

- ❑ All clearances are correct (see "Choosing a Location" on page 35).
- ❑ The Schneider Boost is stable and fixed to an appropriate surface.
- ❑ The Schneider Boost is free of debris, and there are no objects such as tools or extra screws inside or on top of the Schneider Boost.
- ❑ The battery controller and modules are correctly stacked and secured with connecting fasteners. The decorative covers are installed.
- ❑ The cables are protected against potential mechanical damage. Terminals are sealed properly to avoid water or other ingress.
- ❑ The wires are properly and firmly connected.
- ❑ The cable polarity at both the battery and the inverter is correct.
- ❑ The product's safety labels and rating label are visible and affixed permanently to the unit.

Commissioning the System

To commission the system, download the required commissioning app. See "Required Installer App" on page 27.

For more details, see the *Schneider Inverter Installation and Operation Guide.*

Start-Up

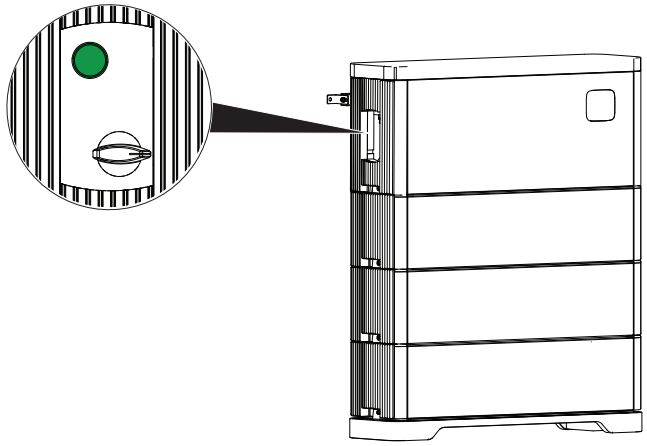
NOTICE
RISK OF EQUIPMENT DAMAGE Always turn the DC Switch at the bottom of the Schneider Inverter to the **ON** position before starting the Schneider Boost. For more information, see the *Schneider Inverter Installation and Operation Guide*. **Failure to follow these instructions can result in equipment damage.**

IMPORTANT: For the complete start-up and troubleshooting procedure for the Schneider Inverter and Schneider Boost, see *Schneider Inverter Installation and Operation Guide*.

To turn the Schneider Boost on:

1. Rotate the manual DC Disconnect switch of the Schneider Boost to the **ON** position.
2. Press and hold the green "Black Start" button until all the panel indicator lights start flashing green, then release the button.

   Figure 32 Black Start button



3. Wait for the green lights to stop flashing. After the Battery Management System (BMS) completes its self-check, the indicator lights will display State of Charge, indicating a successful startup.

Once the battery has started it will perform an automatic State of Charge calibration. During this process the four LEDs will light up in sequence from bottom to top in green.

Note: During the calibration process, the battery is charged to 100% state of charge (SOC) using the PV power supply, or the grid power supply if PV is not sufficient.

4 Operation

What's in This Chapter?

Operation Overview

The main function of the Schneider Boost series is to convert high-voltage Direct Current (DC) generated by the photovoltaic (PV) strings into low-voltage DC current, and store it in the battery (through the battery's controller). It can also convert the low-voltage DC of the battery into high-voltage DC through the controller, and then convert it into Alternating Current (AC) through the Schneider Inverter.

Modes of Operation

⚠ CAUTION

HOT SURFACE

Never touch the enclosure of an operating battery.

Failure to follow these instructions can result in injury.

The Schneider Boost energy storage system has three operating modes: sleep, standby, and operation mode.

Table 7 Modes of Operation

Modes	Descriptions
Sleep mode	The internal auxiliary source of the energy storage system and the battery's controller are not operating.
Standby mode	The internal auxiliary source of the energy storage system is operating, and the battery's controller is not operating.
Operating mode	The internal auxiliary source of the energy storage system is operating as expected, and the battery module is charged or discharged through the battery's controller.

Monitoring the Schneider Boost

During commissioning, the Schneider Boost is automatically detected and can be configured along with the Schneider Inverter.

After commissioning, qualified personnel can monitor the Schneider Boost and Schneider Inverter using the Installer Portal. For more information, see *Schneider Inverter Installation and Operation Guide.*

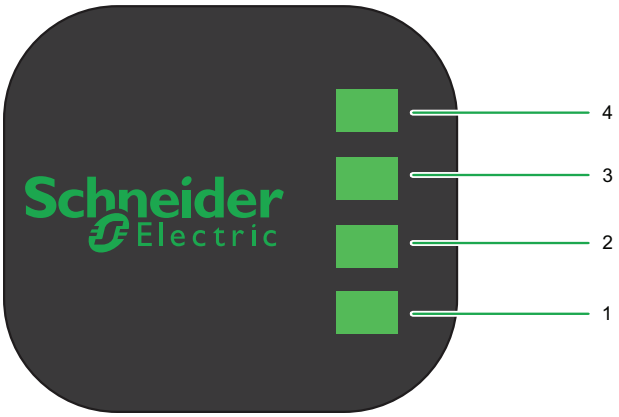
LED Indicators

After the system is powered on, the LED Indicators display according to the battery's state of charge, and charge or discharge mode. Upon startup, the system completes a self-check where all LEDs repeatedly light up in green from bottom to top.

If an event is detected, the LEDs show the following patterns:

- Start-up event: All four LEDs flash red
- Event after start-up: All four LEDs flash yellow

Figure 33 LED display



1	LED 1	3	LED 3
2	LED 2	4	LED 4

Table 8 LED display based on status

State of Charge	Operation mode	LED display
0% ≤ SOC < 10%	Charging	All four LEDs repeatedly light up from bottom to top in green.
	Standby	LED 1 flashes yellow, indicating low battery power.
	Discharging	LED 1 flashes yellow, indicating low battery power.
10% ≤ SOC < 25%	Charging	All four LEDs repeatedly light up from bottom to top in green.
	Standby	LED 1 is steady green.
	Discharging	LED 1 is steady yellow.
25% ≤ SOC < 50%	Charging	LED 1 is steady green, LED 2, 3, and 4 repeatedly light up from top to bottom in green.
	Standby	LED 1 and 2 are steady green.
	Discharging	LED 1 is steady green, LED 2 is steady yellow.
50% ≤ SOC < 75%	Charging	LED 1 and 2 are steady green, LED 3 and 4 repeatedly light up from bottom to top in green.
	Standby	LED 1, 2, and 3 are steady green.
	Discharging	LED 1 and 2 are steady green, LED 3 is steady yellow.
75% ≤ SOC < 100%	Charging	LED 1, 2, and 3 are steady green, LED 4 flashes green.
	Standby	All four LEDs are steady green.
	Discharging	LED 1, 2, and 3 are steady green, LED 4 is steady yellow.
SOC = 100%	Charging	All four LEDs are steady green.
	Standby	All four LEDs are steady green.
	Discharging	LED 1, 2, and 3 are steady green, LED 4 is steady yellow.

Table 9 LED display based on calibration status

Calibration status	LED display
Not calibrated	All four LEDs are steady yellow.
SOC automatic calibration	All four LEDs repeatedly light up from bottom to top in yellow
Calibration in progress	All four LEDs flash yellow from bottom to top in a cycle of four seconds, alternating with normal condition LEDs.

Table 10 LED display based on protection or alarm condition

Protection or alarm condition	LED display
Battery controller does not detect relays on startup	LED 1 and 2 flash yellow simultaneously.
Battery overvoltage or undervoltage protection	LED 1 and 2 flash yellow simultaneously.
Overtemperature protection	LED 2 and 3 flash yellow simultaneously.
Communication abnormality	LED 2 and 3 flash yellow simultaneously.
Inverter overvoltage or undervoltage protection	LED 3 and 4 flash yellow simultaneously.
Battery-side overcurrent protection	All four LEDs flash yellow.
Bus hardware overcurrent protection	All four LEDs flash yellow.
Software overcurrent protection for the second inductor	All four LEDs flash yellow.
Secondary protection for battery cell overvoltage or undervoltage	All four LEDs flash yellow.
BMS secondary and tertiary events	All four LEDs flash yellow.
Auxiliary power supply voltage is too low	All four LEDs flash red.

For more details, see General Troubleshooting on page 71.

System Protections

⚠ ⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, ARC FLASH, AND FIRE

Do not open the battery system casing.

Failure to follow these instructions will result in death or serious injury.

The Schneider Boost system is designed with the following protection functions:

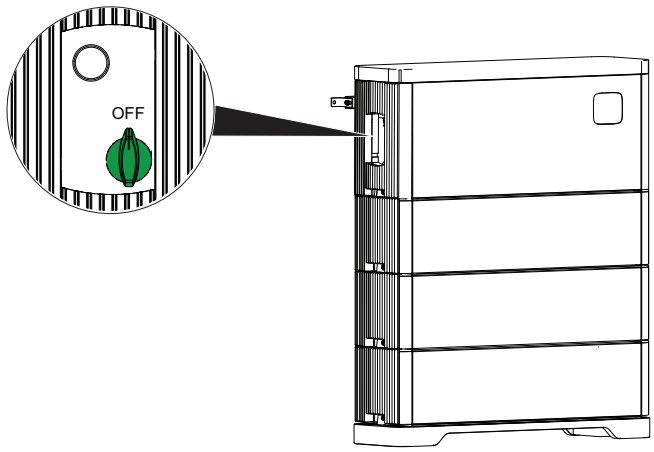
- The protection range includes the system battery voltage, bus voltage, battery-side current, system temperature, and auxiliary power supply.
- The type of protection is divided into recoverable protection and non-recoverable protection.

Protection	Protection range	Protection type
Battery-side overcurrent protection	1. Overcurrent on the battery side of the Schneider Boost system. 2. Overcurrent in the battery-side branch of the Schneider Boost system.	Non-recoverable protection
Single-cell battery voltage protection	Undervoltage of single-cell battery in the Schneider Boost system	Recoverable protection
Overvoltage protection for the battery side	Overvoltage of the battery-side voltage in the Schneider Boost system	Non-recoverable protection
Over/under voltage protection for the bus side	1. Overvoltage of the bus voltage on the inverter side of the Schneider Boost system 2. Under-voltage of the bus voltage on the inverter side of the Schneider Boost system	Non-recoverable protection
Auxiliary power supply protection	Under-voltage of the auxiliary power supply within the Schneider Boost system	Recoverable protection
Overtemperature protection fault	1. Overheating of the operating environment inside the Schneider Boost system 2. Overheating of the power dissipation component inside the Schneider Boost system.	Recoverable protection

Turning Off the Schneider Boost

1. Set the external AC breakers for the Schneider Inverter to **OFF**.
2. Turn off the Schneider Inverter by rotating the DC switch at the bottom of the inverter to the **OFF** position.
3. On the Schneider Boost, turn the manual disconnect switch to **OFF**.

Figure 34 Manual disconnect switch location



4. Wait for all the LEDs on the battery controller LED panel to turn off.
5. Wait five minutes for the circuits to discharge.

Note: To help protect the battery from over-discharge, do not leave batteries off for more than 24 hours after maintenance.

5 Troubleshooting

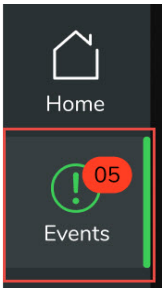
What's in This Chapter?

General Troubleshooting

IMPORTANT: Troubleshooting should be performed by qualified personnel.

Before contacting Technical Support, qualified personnel can perform the following troubleshooting steps. Find the event IDs for the Schneider Boost in the Installer Portal by clicking **Events** from the left vertical menu. To access the Installer Portal, see "Related Installer Web Portal" on page 27

Figure 35 Events menu



For system-wide troubleshooting, see *Schneider Inverter Installation and Operation Guide.*

Contacting Technical Support (Spain)

To contact Technical Support in Spain, phone 930 28 99 00 or go to https://www.se.com/es/es/work/support/customer-care/contact-schneider-electric.jsp.

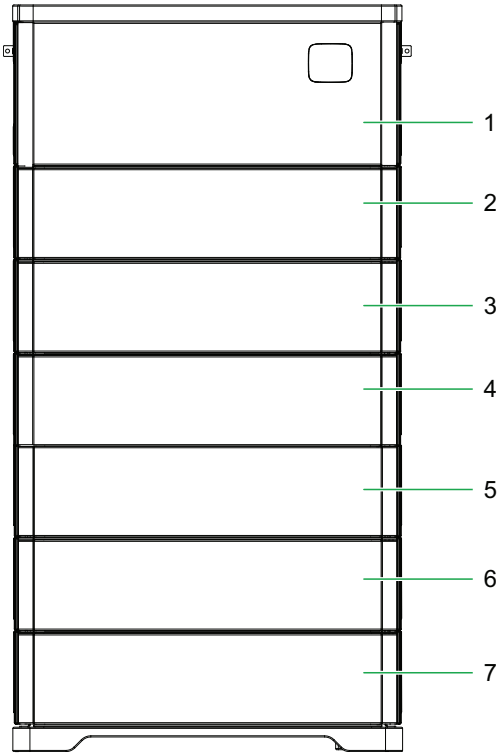
Contacting Technical Support (Germany)

To contact Technical Support in Germany, phone +49 211 7374 8008 or go to https://www.se.com/de/de/work/support/customer-care/contact-schneider-electric.jsp.

Troubleshooting and Event List

If the Schneider Boost reports an event code in the Installer Portal, the qualified personnel can follow the Service Protocols defined on page 71.

Figure 36 Diagram for module troubleshooting



1	Schneider Boost battery controller	5	Battery module 4
2	Battery module 1	6	Battery module 5
3	Battery module 2	7	Battery module 6
4	Battery module 3		

Note: The battery modules are numbered from the top down. For example, the battery module below the battery controller is always module 1.

Event List

Note: If multiple event codes are reported at the same time, follow the instructions for the highest level of service protocol. For example, if there are a Level 1 and Level 3 events, follow the protocol for Level 3.

Event Code	Event Description	Service Protocol	Action Taken By
400, 401, 404, 405, 406, 407, 412, 413, 420	Battery controller internal abnormal	Level 1	Homeowner, after contacting Technical Support
402	Total battery voltage too low	Level 1	Homeowner, after contacting Technical Support
403	Total battery voltage too high	Level 1	Homeowner, after contacting Technical Support
408, 419, 423, 427, 428, 432, 436, 437, 439, 443, 444, 445, 456, 457, 458, 461	Battery internal abnormal	Level 1	Homeowner, after contacting Technical Support
409, 410	Battery controller over-temperature	Level 1	Homeowner, after contacting Technical Support
414	Battery system abnormal	Level 1	Homeowner, after contacting Technical Support
415	Battery system abnormal	Level 2	Qualified Installer
422	Battery system abnormal	Level 3	Qualified Installer
433	Battery insulation too low	Level 3	Qualified Installer
438	Battery cells high differential voltage	Level 2	Qualified Installer
440	Battery power supply under-voltage	Level 2	Qualified Installer
441	Battery power supply over-voltage	Level 2	Qualified Installer
459	Battery cells high difference temperature	Level 2	Qualified Installer
488	Replace all battery modules	Level 3	Qualified Installer
489	Replace battery controller	Level 3	Qualified Installer
490	Replace battery module 1	Level 3	Qualified Installer
491	Replace battery module 2	Level 3	Qualified Installer
492	Replace battery module 3	Level 3	Qualified Installer
493	Replace battery module 4	Level 3	Qualified Installer
494	Replace battery module 5	Level 3	Qualified Installer
495	Replace battery module 6	Level 3	Qualified Installer

Service Protocol Levels

Table 11 Service Protocol definitions

Service Protocol Level	Completed By	Action
Service Protocol Level 1	Homeowner, after contacting Technical Support	1. Restart the Schneider Boost as follows: 1. Rotate the manual DC switch on the Schneider Boost 90 degrees counterclockwise to the **Off** position. 2. Rotate the manual DC switch of the battery 90 degrees clockwise to the **On** position. 3. On the battery, press and hold the green Black Start button until the panel indicator lights start flashing green one by one, then release the button. 2. If the same event code persists after the Schneider Boost restarts, contact Technical Support to follow Service Protocol Level 2.
Service Protocol Level 2	Qualified Installer	1. Check the firmware version. 2. Check that all cable connections on the Schneider Boost are properly connected and show no signs of damage. 3. Power off the Schneider Boost by rotating the manual DC switch 90 degrees counterclockwise to the **Off** position. 4. Wait 30 minutes. 5. Power on the Schneider Boost by rotating the manual DC switch of the battery 90 degrees clockwise to the **On** position. 6. On the battery, press and hold the green Black Start button until the panel indicator lights start flashing green one by one, then release the button. 7. If the same event code persists after the Schneider Boost restarts, contact Technical Support to follow Service Protocol Level 2.
Service Protocol Level 3	Qualified Installer	1. Follow the warranty procedure for Schneider Boost and battery system replacement. 2. Contact the service center: 0060-1546000603 (Global Hotline).

6 Maintenance and Decommissioning

What's in This Chapter?

Maintenance

This section includes information about safety inspections and routine maintenance of the battery.

⚠ ⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, ARC FLASH, AND FIRE

- This equipment must only be installed, configured, and serviced by qualified electrical personnel.
- Qualified electrical personnel must apply appropriate personal protective equipment (PPE), follow safe electrical work practices, and adhere to all applicable local and national electrical codes.
- Do not disassemble, alter the product, or modify the software code without authorization.
- Never operate energized with covers removed.
- Energized from multiple sources. Before working with cables identify all sources, de-energize, lock-out, and tag-out and wait five minutes for circuits to discharge.
- Always use a properly rated voltage sensing device to confirm that all circuits are de-energized.

Failure to follow these instructions will result in death or serious injury.

Turning off the Battery

Before performing maintenance, turn off the battery. For more information, see "Turning Off the Schneider Boost" on page 68.

Routine Maintenance

⚠ ⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, ARC FLASH, AND FIRE

- Disconnect negative and positive DC conductors before servicing. Treat DC conductors as Hazardous Live and must be disconnected.
- Normally earthed (grounded) conductors may be unearthed (ungrounded) and energized when an earth (ground) fault is indicated. Must be serviced by qualified personnel.

Failure to follow these instructions will result in death or serious injury.

NOTICE

RISK OF EQUIPMENT DAMAGE

- Use only a soft cloth dampened with water and mild soap to clean the battery.
- Do not use solvents or chemicals that are corrosive or flammable.

Failure to follow these instructions can result in equipment damage.

The surface of the battery can be cleaned by using a lint-free soft cloth.

During the use of the battery, qualified personnel should regularly inspect and maintain the machine. The required actions are as follows:

Table 12 Routine maintenance

Description	Frequency
Check the heat sink for dust and dirt accumulation, and clean the battery if necessary.	Every one to two months
Check that the indicator lights on the battery are operating as expected.	Every six months
Check the DC cables for damage or aging. Confirm that they are properly and firmly connected.	Every six months
Clean the battery's front panel.	Every six months
Check that the earthing (PE) cable is properly and firmly connected to earth, and properly torqued.	Every six months
Check that the Schneider Boost input and communication connectors are firmly connected.	Every six months
Check the cables for obvious creases, cuts, scratches, or exposed copper wiring.	Every six months
Confirm that the operating modes are set correctly.	Every six months
Listen for any abnormal noise during operation.	Every six months
Check the cases of the battery modules for damage or deformity.	Every six months
Regularly check the external radiator for obstructions and dust.	Every 12 months

Disassembling and Decommissioning

At the end of the battery's life, follow the instructions in this section to dispose of and recycle the battery.

⚠ ⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, ARC FLASH, AND FIRE

Do not dispose of the battery in a fire. Always follow local guidelines for recycling and disposal.

Failure to follow these instructions will result in death or serious injury.

Disassemble the Battery

1. Disconnect the battery from the DC input.
2. Remove the earth (PE) wire.
3. Wait five minutes for the battery to discharge power.
4. Disconnect communication cables and monitoring devices.
5. Remove the battery from the floor mount, and then remove the mounting bracket and fasteners.

Packing the Battery

If possible, pack the battery in its original packaging. If the original packaging is not available, an equivalent box that meets the following requirements can also be used:

- Holds up to 30 kg of weight
- Handles included
- Can be completely closed

Storage

⚠ ⚠ WARNING

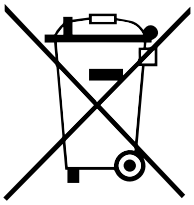
HAZARD OF ELECTRIC SHOCK, EXPLOSION, ARC FLASH, AND FIRE

- Store the batteries indoors in a dry, well ventilated, and clean area protected from dust and moisture.
- The temperature and humidity in the storage environment must meet the requirements noted in the specifications section of this document. For more information, see "Specifications" on page 83.
- Do not store batteries where they are exposed to direct sunlight or significant radiation such as infrared rays. Do not expose to organic solvents, corrosive gases, flammable gases, or conductive dust.
- Place batteries according to the markings on their packaging. When stacking, follow the stacking requirements indicated on the outer packaging.
- Do not stack on top of or under other equipment.
- Do not store batteries upside down, on their sides, or in an inclined position.
- Sites storing a large number of batteries are recommended to have fire-fighting equipment such as fire sand and fire extinguishers on site.
- If storing batteries for an extended period of time, logs of conditions such as temperature, humidity, photo records of storage environment, and inspection reports should be kept.
- Batteries that have been stored for an extended period should be inspected and tested before being used. For more information, see "Specifications" on page 83.
- In the event of battery damage or malfunctions such as carbonization, leakage, swelling, or water ingress, batteries should be promptly transferred to a separate storage area for hazardous materials. Keep damaged batteries at least three meters away from flammable materials. Scrap and properly dispose of damaged batteries as soon as possible.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

Recycling and Disposal

Always follow local guidelines for recycling and disposal.



Electric appliances marked with the symbol shown must be professionally treated to recover, reuse, and recycle materials in order to reduce negative environmental impact. When the product is no longer usable, the consumer is legally obligated to ensure that it is collected separately under the local electronics recycling and treatment scheme.

7 Specifications

What's in This Chapter?

Specifications

Note: Specifications are subject to change without notice.

Specification	BAT7KEU1	BAT10KEU1	BAT14KEU1	BAT17KEU1	BAT20KEU1
General					
Usable Energy	6200 Wh	9300 Wh	12400 Wh	15600 Wh	18600 Wh
Rated Power	2700 W	4050 W	5400 W	6750 W	8100 W
Maximum Charging/ Discharging Power (kW)	3	4.5	6	7.5	9
Number of Modules	2	3	4	5	6
DOD	90%				
Nominal Energy[1]	6.912 kWh	10.368 kWh	13.824 kWh	17.28 kWh	20.736 kWh
Nominal total voltage of Battery modules	108.0 ~ 129.6 Vdc	162.0 ~ 194.4 Vdc	216.0 ~ 259.2 Vdc	270.0 ~ 324.0 Vdc	324.0 ~ 388.8 Vdc
Warranty (years/MWh), whichever comes first	10 /19.6	10 /29.5	10 /39.3	10 /49.4	10 /59.0
Communication Interfaces [2]	RS485				
Required Inverter	Schneider Inverter				
Battery Charging Sources	Solar, Grid				
Compliance					
Safety	IEC 63056, IEC 62619, IEC 62477-1				
Transportation	UN 38.3, UN3480				
Emissions	EN61000-1/3				
Mechanical Specifications					
Dimensions (W x H x D)	799 x 767 x 218 mm	799 x 959 x 218 mm	799 x 1150 x 218 mm	799 x 1342 x 218 mm	799 x 1533 x 218 mm
Weight	80±1 kg	109±1.5 kg	138±2 kg	167±2.5 kg	196±3 kg
Mounting	Ground load-bearing				
Operating Temperature	-20 ~ 55 °C				
Storage Temperature (less than 1 month)	-20 ~ -10 °C & 45 ~ -50 °C				
Storage Temperature (less than 3 months)	35 ~ -45 °C				
Storage Temperature (less than 4.5 months)	25 ~ -35 °C				
Storage Temperature (less than 6 months)	-10 ~ 25 °C				
Altitude	6562 ft / 2000 m				

Specification	BAT7KEU1	BAT10KEU1	BAT14KEU1	BAT17KEU1	BAT20KEU1
Enclosure Protection	IP55				
Humidity	5% ~95%				
Cooling	Natural convection				
Noise[3]	<45 dBA				

[1] Test condition: at Beginning of Life (BoL), 100% DoD, 0.2C power, 25°C.

[2] Communicate with Schneider Inverter by Modbus/RTU (RS485).

[3] Test condition: normal operation, 1m test distance at Schneider Electric's lab.

Module Composition

Battery Controller

Specification	BATPMEU2
Output Voltage	360 - 950 Vdc
Dimensions (W x H x D)	798 x 335 x 218 mm
Weight	18.5 kg
Input Current	25 A

Battery Module

Specification	BATB3KEU3
Nominal Energy	3.456 kWh
Capacity	60 Ah
Nominal Voltage	57.6 Vdc
Rated Current	25 Adc
Cells Quantity (series / parallel)	54 (18 / 3) PCE
Peak Current	60 Adc (for 10 seconds)
Weight	29 ± 0.5 kg
Dimensions (W x H x D)	795 x 191 x 218 mm (H = 218 mm with fastening lug)

Schneider Electric

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As standards, specifications, and designs change from time to time, please ask for confirmation of the information given in this publication.

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