STACKRACK
BATTERY SYSTEMS

Installation Manual

SRB6 Battery Cabinet

1. Introduction

StackRack Battery Systems (StackRack Inc.) is an industry leader in modular battery systems for residential, commercial and utility scale projects.

About SRB6 Battery Cabinet

The SRB6 Battery Cabinet is an outdoor-rated, pre-assembled enclosure designed to hold up to six SR5K-UL battery modules for a total of 30 kWh. The cabinet is manufactured with galvanized steel with an UV resistant, power-coated finish. The cabinet is IP55 (NEMA 3R) rated for outdoor-installation and included as part of UL9540 certification and UL9540A installation level fire testing.

The cabinet features three lockable doors for battery installation and commissioning. Cooling fans in the base of the cabinet are powered by 110VAC power strip and temperature-controlled. The top of the cabinet can be removed - providing access to a cabinet grounding bar, along with positive and negative battery combiner busbars. Side mounting holes on the cabinet allow for Luxpower 12K and Sol-Ark 15K to be mounted onto the cabinet. An outdoor-rated conduit box is provided with the cabinet with knockouts for both inverters. A large knockout in the cabinet allows access between the mounted inverter and battery cabinet via the conduit box. There are multiple concentric knockouts along the top of the cabinet, as well as in the conduit box for flexible expansion and conduit wiring.

Disclaimer

StackRack retains the authority to modify the contents of this document at any moment without prior notification. For access to the most recent version of our manual, please visit the StackRack website at stackrackbattery.com/documents.

Contact Information

Address: 1709 Rimpau Ave #107, Corona, CA 92881
Website: www.stackrackbattery.com
Email: support@stackrackbattery.com
Phone: 951-230-8775

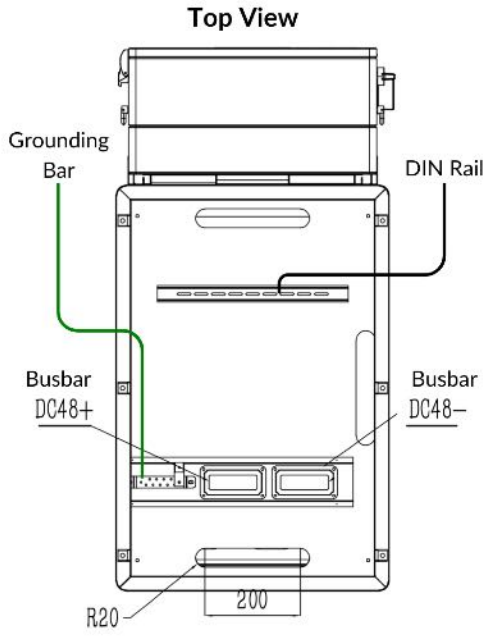
2. Packaging List:

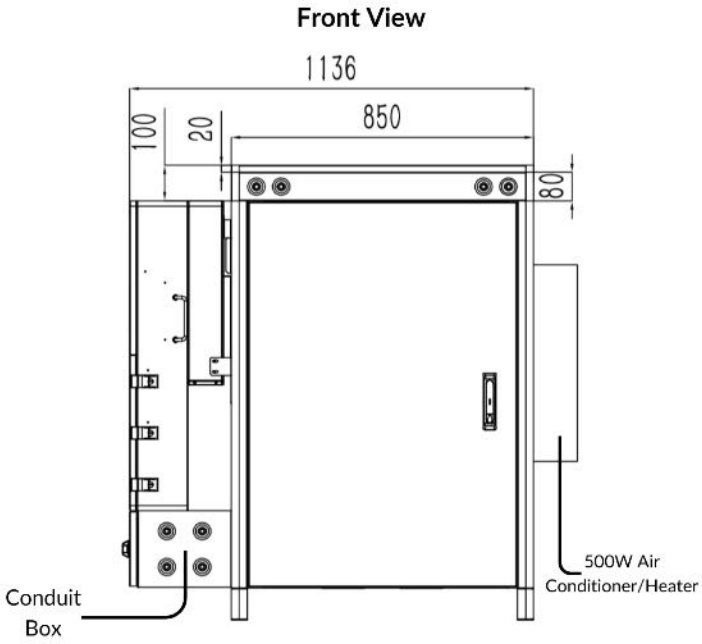
SRB6 Cabinet Packaged	SRB6 Cabinet with cardboard removed	Conduit Box (brown box on top shelf)
		
Hardware Bag	Hardware Bag Contents	Base Feet (white wrapped)
		

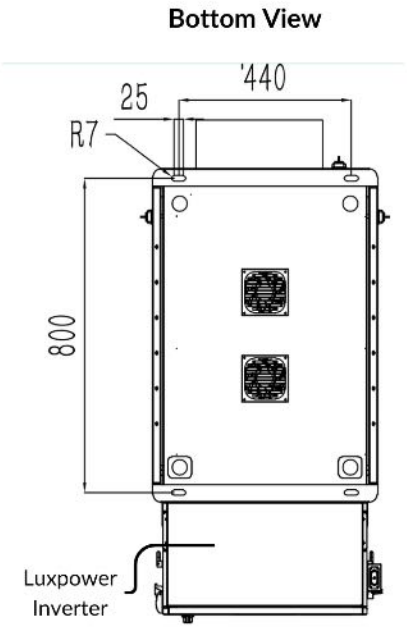
SRB6 Battery Cabinet

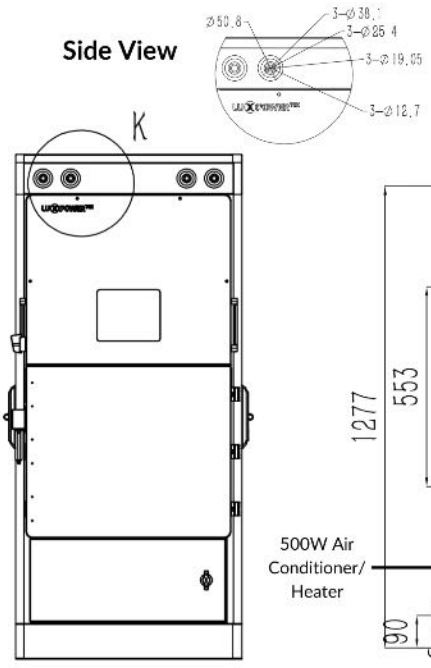
- Inside the Cabinet
  - ☐ 1x Outdoor-Rated Conduit Box with conduit bushings for Luxpower 12K inverter
  - ☐ 2x Cabinet Base Legs
  - ☐ 2x Mounting Hangers for Luxpower 12K Inverter
  - ☐ Hardware Bag
    - ☐ 4x Concrete Mounting Bolts,
    - ☐ 4x Rubber Sealers
    - ☐ 24x M6 screws for securing up to six batteries
    - ☐ 4x M8 screws with lugs to secure cabinet base legs.
  - ☐ 2x Temperature-Controlled Cooling Fans (120VAC)
  - ☐ 120VAC Power Strip
- Inside the Cable Tray
  - ☐ 2x 300A busbars
  - ☐ Grounding bar with attached grounding lug

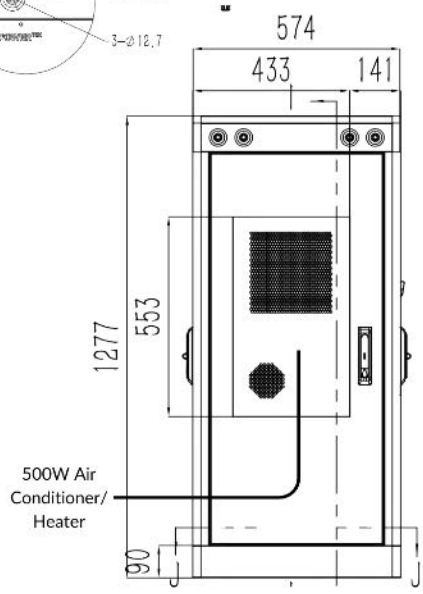
3. Cabinet Overview











4. General Safety Considerations

The SRB6 battery cabinet and included components are heavy and weigh more than 125 lbs fully-packaged. Please handle with care to avoid injury. Please notify your distributor immediately for any signs of product damage upon delivery as this could lead to unsafe operation and potential harmful damage to battery modules and other components. High voltage or current is present in the device and there is a risk of electrocution. Installation should only be handled by certified and licensed personnel. Observe the following precautions:

Risks of explosion

- Do not subject the cabinet to strong impacts.
- Do not crush or puncture the cabinet.

Risks of fire

- **Do not expose the cabinet to temperatures in excess of 122°F (50°C).**
- Do not place the cabinet near a heat source such as a fireplace.
- Do not expose the cabinet to direct sunlight.

Risks of electric shock

- Do not disassemble the battery modules
- Do not touch the battery modules or conductors with wet hands
- Do not expose the battery modules or busbars to moisture or liquids
- Keep the battery modules away from children and animals.

Risks of damage to the battery modules

- Do not allow the battery modules, busbars or conductors to come in contact with liquids.
- Only install battery modules according to specific instructions

IMPORTANT NOTE: Circuit Breakers, Disconnects and Fuses should be employed throughout the energy storage and generation installation to isolate effectively and protect all components of the system against faults, short circuits, polarity reversals or a failure of any component in the overall system.

CAUTION! Verify polarity at all connections with a digital voltmeter before energizing the system. Reverse polarity at the battery terminals will void the warranty and destroy the batteries. Do not short circuit the batteries. Do not disassemble or modify the battery.

4.1 Transportation and Handling

- Do not knock, drop, puncture, or crush the battery;
- Do not expose battery to flames, incinerate or direct sunlight;
- Do not open battery case or disassemble the battery;
- Do not lift battery by the terminal cables;
- Do not vibrate battery;
- Do not expose battery to water or other fluids;
- Do not expose battery to open flame;
- Do not place the product nearby highly flammable materials, it may lead to fire or explosion in case of accident; Store at cool and dry place;
- Do not store in greenhouses and storage areas for hay, straw, chaff, animal feed, fertilizers, vegetables or fruit products;
- Store the product on a flat surface; A ventilated area is strongly recommended for handling the product;
- Store the product out of reach of children and animals;
- Do not transport battery upside down.

4.2 Emergency Situations

All equipment is certified to UL standards. Battery modules use sophisticated battery management systems and electrical busbars, connectors and cables are insulated. However, StackRack Battery Systems cannot guarantee their absolute safety.

- If the battery module leaks electrolyte, avoid contact with the leaking liquid or gas. If a person is exposed to the leaked substance, immediately perform the actions described below.
    - Inhalation: Evacuate the contaminated area and seek medical attention.
    - Contact with eyes: Rinse eyes with flowing water for 15 minutes and seek medical attention.
    - Contact with skin: Wash the affected area thoroughly with soap and water, and seek medical attention
    - Ingestion: Induce vomiting, and seek medical attention
- In case of fire, make sure that an extinguisher is available near the battery pack. If possible, move the battery pack to a safe area before it catches fire.
- Water, carbon dioxide, dry chemical powder and foam are the most effective means to extinguish a Lithium Ferrous Phosphate (LFP) battery fire.
- Use a Fire extinguisher, if the fire is not caused by a battery and has not spread to it yet.

4.3 Routine Inspection & Maintenance

To ensure proper operation of the battery system, the following inspection and maintenance procedures are recommended.

Inspection

Performed by System Owner

- Inspect the inverter, battery cabinet, conduit box and additional components for damage on a monthly basis. Ensure no debris is obstructing inverter cooling fans.
- Touch LCD screen of inverter on monthly basis to check for any notices, warnings or faults. This information can also be obtained from inverter app/webport.
- Inspect battery operation on a monthly basis by opening the front cabinet door and evaluating LED lights. Refer to SR5K-UL User Manual for additional information.
- Inspect cooling fans and power strip every 6 months.

Maintenance

No routine maintenance is required on the system for normal operation. Any required maintenance related to inverter, battery cabinet and components and batteries should be performed by a licensed electrician or solar professional.

5. Operating Temperature

StackRack SR5K-UL batteries will charge at 32°F or above and discharge at -4°F or above when powered on. Cold operation reduces battery life, and so StackRack batteries will de-rate charging and discharging when internal battery temperature drops below 50°F. Relative humidity should be kept to less than 95%.

5.1 Heating and Cooling

The SRB6 cabinet includes a 120VAC power strip to supply power to cabinet cooling fans, optional 150W automatic heater and optional 500W heater/air conditioner.

5.1.1 Heating

Heating should be added to the cabinet if installed in environments which fall below sustained temperatures of 40F during the year to avoid throttling back or disconnection of battery power.

150W automatic heater

This is a suitable heating option for temperatures that occasionally fall below 40F, but not 32F.

500W heater/air conditioner

This is required for temperatures that routinely fall below 40F for sustained periods and for temperatures that occasionally reach or fall below 32F.

5.1.2 Cooling

Cooling fans must be powered and set to 30C (85F) to ensure optional battery operation during hot conditions. Failure to power cooling fans will result in voided warranty.

500W heater/air conditioner

This unit is required for sustained temperatures above 90F and/or if the cabinet is exposed to direct sunlight.

5.2. Cooling Fan Maintenance

The SRB6 cabinet has two vents for air circulation in the floor of the unit. Every year, please visually inspect the filters for dust and clean or replace if necessary. Confirm that the pair of ventilation fans are in working order.

5.2.1 500W Heater/Air Conditioner Maintenance

See this document for maintenance on this unit.

6. Wire Sizing

The SRB6 cabinet includes two 300A busbars. The SRB6 Cable Kit will include the following wires for installation for up to 6x SR5K-UL battery modules. Follow electrical code standards if using different wires than what is provided in SRB6 Cable Kit.

6.1 Battery Cables

- Battery Busbar to Inverter
  - ☐ 2x 1/0 AWG UL10269 105°C 1000V 215A minimum ampacity 10 ft (Red), 3/8" ring & open terminal
  - ☐ 2x 1/0 AWG UL10269 105°C 1000V 215A minimum ampacity 10 ft (Black), 3/8" ring & open terminal
- Battery to Busbar
  - ☐ 3x 4 AWG UL10269 105°C 1000V 115A minimum ampacity, 5 ft, (Red), plug-in & 5/16" ring terminal
  - ☐ 3x 4 AWG UL10269 105°C 1000V 115A minimum ampacity, 5 ft, (Black), plug-in & 5/16" ring terminal
- Battery to Battery
  - ☐ 1x 4 AWG UL10269 105°C 1000V 115A minimum ampacity, 2 ft, (Red), plug-in & plug-in terminal
  - ☐ 1x 4 AWG UL10269 105°C 1000V 115A minimum ampacity, 2 ft, (Black), plug-in & plug-in terminal
  - ☐ 2x 4 AWG UL10269 105°C 1000V 115A minimum ampacity, 6", (Red), plug-in & plug-in terminal
  - ☐ 2x 4 AWG UL10269 105°C 1000V 115A minimum ampacity, 6", (Black), plug-in & plug-in terminal

6.2 Grounding Cables

- ☐ 4x 8 AWG 12" UL1015, (green/yellow), M6 terminal endings
- ☐ 1x 8 AWG 24" UL1015, (green/yellow), M6 terminal endings
- ☐ 1x 8 AWG 4" UL1015, (green/yellow), M6 terminal endings
- ☐ 1x 8 AWG 8 ft, UL1015, (green/yellow), M6 terminal & open ending

6.3 Communication Cables

- ☐ 4x Cat6 Ethernet Cable, 6", non-shielded, no-crossover (SRB6 Cable Kit)
- ☐ 1x Cat6 Ethernet Cable, 24", non-shielded, no-crossover (SRB6 Cable Kit)
- ☐ 1x Cat6 Ethernet Cable, 10 ft, non-shielded, no-crossover (SRB6 Cable Kit)

Refer to the Inverter Guide and SR5K-UL User Manual for the battery operation and maintenance information.

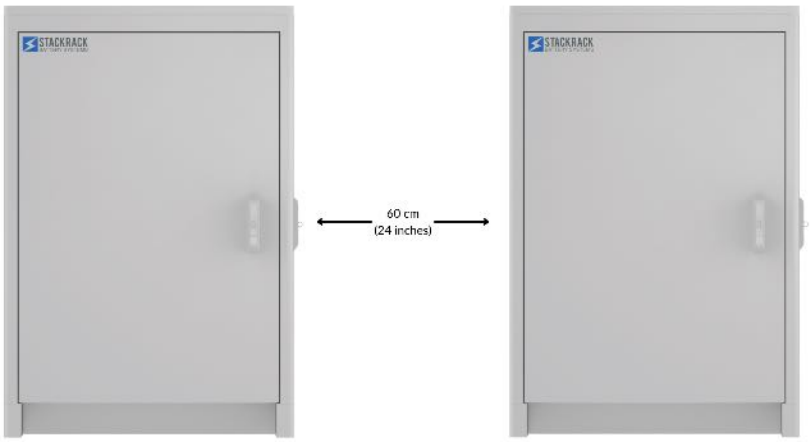
7. Installation Preparation

7.1 Required Tools and Materials

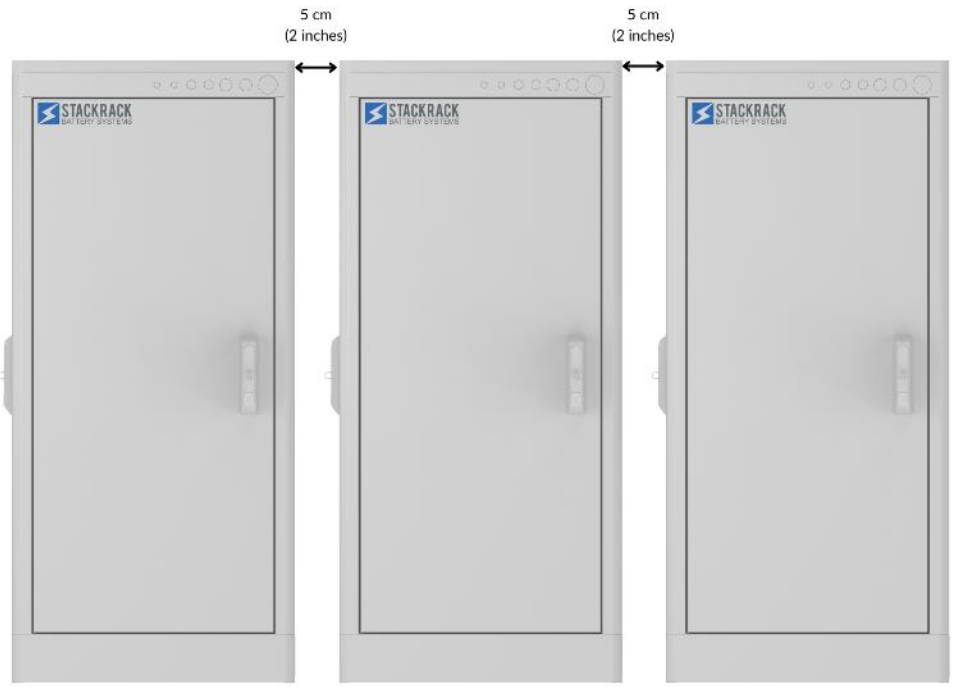
- Phillips Screwdriver (not included)
- M4 Hex Key for cabinet removable top (not included
- Up to eight ¾” washers with ¼” holes
- Utility knife
- OHSA approved personal protective equipment (PPE)
- Silicone Sealant

8 Spacing Requirements

8.1 SRB6 Battery Cabinet

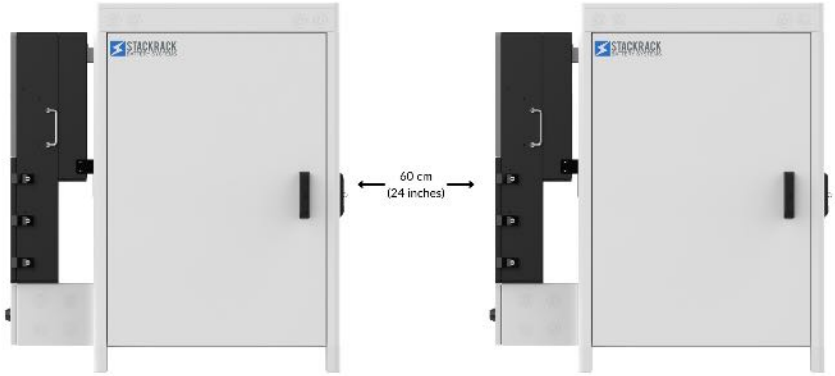


For SRB6 Battery Cabinet Horizontal Installation:
Maintain at least 2’ (60 cm) clearance on the sides of the cabinet to maintain access to the batteries. Maintain at least 1” clearance otherwise (additional clearance is recommended for installation ease).

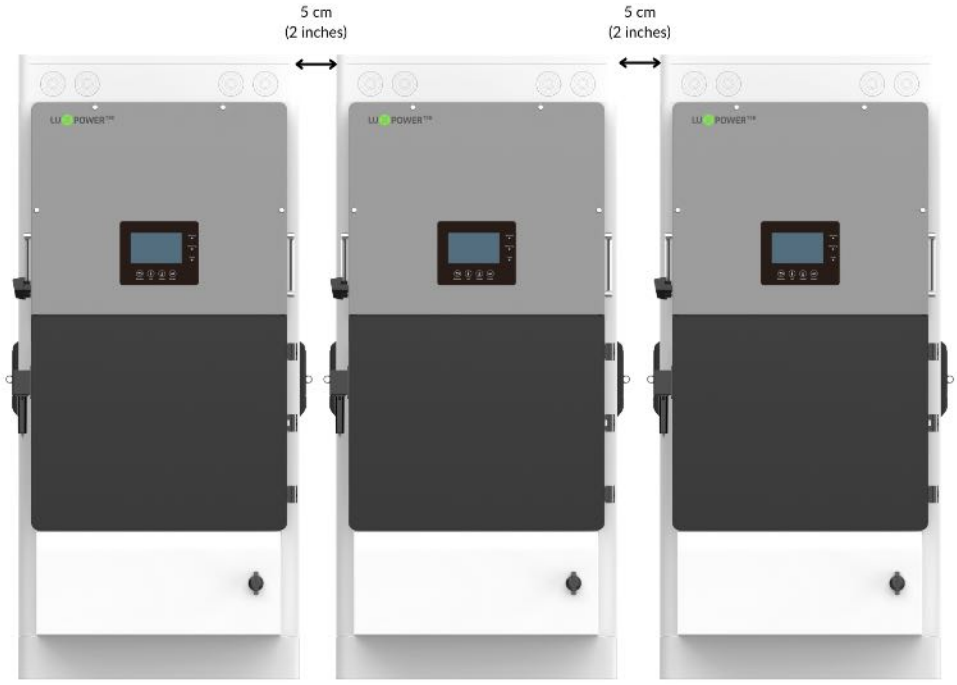


For SRB6 Battery Cabinet Stand-Alone Installation:
Maintain at least 2” (5 cm) clearance on the sides of the cabinet. Maintain at least 1” clearance otherwise (additional clearance is recommended for installation ease). There is no clearance required behind the cabinet, adjacent to walls.

8.2 Power Station Pro



For Power Station Pro Horizontal Installation:
Maintain at least 2’ (60 cm) clearance on the sides of the cabinet to maintain access to the batteries. Maintain at least 1” clearance otherwise (additional clearance is recommended for installation ease).



For Power Station Pro Stand-Alone Installation:
Maintain at least 2” (5 cm) clearance on the sides of the cabinet. Maintain at least 1” clearance otherwise (additional clearance is recommended for installation ease). There is no clearance required behind the cabinet, adjacent to walls.

8.3 Connecting Multiple Cabinets

When connecting two or more cabinets to the one or multiple inverters, it is recommended to first calculate the max input/output DC amperage of the total connected inverters to best determine which method of paralleling is best. For example:

- 1x Luxpower 12K inverter has max input/output amperage of 250A.
- 3x Luxpower 12K inverters is (250A x 3 inverters = 750A)

When the calculated max input/output DC amperage of the inverter(s) are greater than or equal to 300A, then a battery combiner box with in-line fuses are recommended for paralleling cabinets and to ensure protection of the internal battery busbars within each cabinet.

When the calculated max input/output DC amperage of the inverter(s) are less than 300A, which is common if you are using a single Luxpower 12K or Sol-Ark 15K inverter, than you can parallel two cabinets within the inverter - one cabinet per battery terminal. If you are connecting more than two cabinets to a single inverter, than a battery combiner box is recommended.

When connecting multiple cabinets to a combiner box or single inverter, it is important to use wire of the same gauge and length to ensure equal charging/discharging of all batteries, equally.

9. Installation & Commissioning

The following sections will provide detailed information regarding assembly, installation and system commissioning. The following installation steps should be completed by a licensed electrician or solar solar professional.

9.1 Check Cabinet and Included Components

Open boxes and confirm all components are included and in working order. Refer to Packaging for a detailed list of all included components. Contact StackRack if the box is damaged prior to opening. Notify StackRack if any included components are missing. Handle with care. The cabinet with included components weight ~125 lbs.

9.2 How to Open the Cabinet Doors

With the key inserted, turn key clockwise to release handle. Turn handle, counterclockwise to open the door. To secure door, remove key and use allen key lock to secure plate over key keyhole.

9.3 Attach the Cabinet Base Legs

Remove and unwrap the base legs from inside the cabinet. Both base legs are the same and you can use either base for the right or left side. Slide the cabinet off the pallet so the base leg can fit underneath and line up with holes in both corners of the floor base.



Insert one M8 screw with nut to secure each base leg to the cabinet. These screws will be found in the hardware bag and shown below. Tighten screws and nuts to secure base legs to the cabinet.

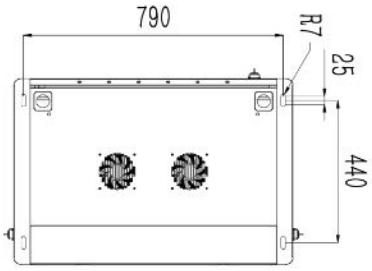


9.4 Install SRB6 Cabinet at Desired Location

The SRB6 cabinet can be installed indoors or outdoors. If installed outdoors, the cabinet should not be installed in direct sunlight and should be covered by roof and eaves when possible.

The cabinet is designed to be floor mounted on a concrete surface or mounted on a 2’ by 3’ concrete or generator pad. There are 4 mounting holes (two holes in each base leg), along with M10 masonry sleave anchor bolts and nuts.

Note the location and measurement distances of the mounting holes:
790mm (31.1”) x 440mm (17.3”).



A 3” thickness concrete pad or greater is recommended but strength of pad is dependent on sub-base / location. Consult a structural engineer to ensure the supporting foundation is appropriate for cabinet weight.

The M10 expansion bolts have a 12mm sheathing so a ½” masonry drill is necessary. Drill approximately ½” deeper than the intended depth of the sleave anchor bolt, at least 1.5” deep, and use a hammer drill to drive the anchors into place, positioning the nut on the bolt as to protect the threads when driving into place.

9.5 Cabinet Ventilation & Temperature Control

9.5.1 Cabinet Power Strip (120

The 120V AC power strip provides power to the temperature-controlled cooling fans, optional 150W automatic heater and optional 500W heater/air conditioning unit.

There are several options to connect power to the AC power strip.

1. Run a 120V AC power circuit to the battery cabinet. Make sure this circuit is powered by loads panel that is powered and backed up by the inverter.
2. Connect power strip to Load L1 or L2 of inverter (if mounting inverter on side of cabinet). Look for 120V female pigtail included with battery cable pack. Use UL-listed Polaris multi-tap connector to connect L1 of pigtail to L1 or L2 of loads output of inverter. Connect neutral and ground wires of the pigtail to neutral and ground bars inside the inverter.

9.5.2 Cabinet Ventilation Fans

There are two automatic temperature controlled ventilation fans in the base of the cabinet. Connect the power cord for the fans into the power strip.

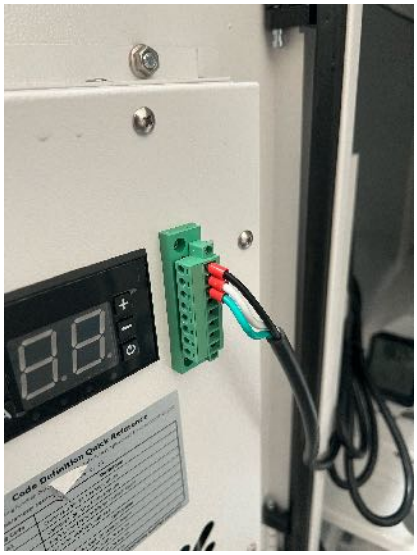
Verify that the temperature-control switch it set to 30°C (as shown in the image on the right).

9.5.3 Cabinet 500W Air Conditioner

A 500W 120VAC temperature controlled air conditioner/heater can be installed in the cabinet. The AC/heater unit is pre-installed in a replacement door for the cabinet. To install the AC unit, remove the ground cable from the door by unscrewing the securing nut. Using a phillips screwdriver, release the bolt securing the hinge to the door and set aside.

Using pliers, release the three sets of pins (top and bottom on each hinge) securing the door to the cabinet.


Remove the door and replace with the AC/door unit. Reattach the hinge and ground cable. Connect the AC power cable to the AC unit and plug in the power cable to the power strip.



9.6 Accessing the Cable Tray

Using an M4 Hex Key, remove the six screws on the top of the cabinet to remove the top of the cabinet and access the busbars, ground bar and cabinet knockouts.


Using a Phillips screwdriver, loosen the screws on the busbar covers to remove the busbar cover. Slide down to remove the “gates” on each busbar cover to allow access for battery cables.


There are multiple concentric knockouts located throughout the cable tray. Knockouts range from 0.5” to 2” and provide multiple options for connecting conduit lines based on installation requirements. Use standard conduit and water tight bushings to connect to the knockouts.


9.7 Installing the Conduit Box

The SRB6 cabinet ships with an outdoor-rated conduit box that can be mounted on the side of the cabinet, along with either a Luxpower 12K or Sol-Ark 15K inverter. The conduit box has included knockouts for the Luxpower 12K inverter on top side (opening knob on right) and Sol-Ark 15K on the bottom (open knob on left side). The conduit box can be installed on the cabinet in either orientation. Bushing connectors are included for the Luxpower 12K, but not for the Sol-Ark 15K. **Install the Conduit Box first before mounting the inverter on the side.**

First, remove conduit box from packaging and open the conduit box using included key. Set aside bushing connectors for Luxpower 12K and attachment screws (6 total).


Identify the 6 attachment holes for the conduit box on the side of the cabinet. At the center of these screw holes, identify and remove the rectangular knockout on the battery cabinet. Use a sharp blade to cut through the thermal lining along the border of the knockout when removing. Attach the conduit box to the cabinet using the six screws and a phillips screwdriver until tight. Apply flexible silicone sealant (not included) along edges of conduit box and cabinet.




9.8 Mounting Inverters to Cabinet

The SRB6 cabinet has the option to mount the Luxpower 12K (EG4 18KPV) and Sol-Ark 15K inverter on the side of the cabinet. **Before mounting inverter, it is required to securely attach the cabinet to the floor using concrete anchor screws.** If the cabinet is not mounted, there is risk of the cabinet tilting over and damaging the cabinet and inverter. Also, install conduit box first before mounting inverter.

9.8.1 Mounting Luxpower 12K (EG4 18KPV) Inverter

Take the mounting bracket from the Luxpower inverter box and attach to the corresponding mounting holes using the following screws and washers. Ensure screws are torqued tight.

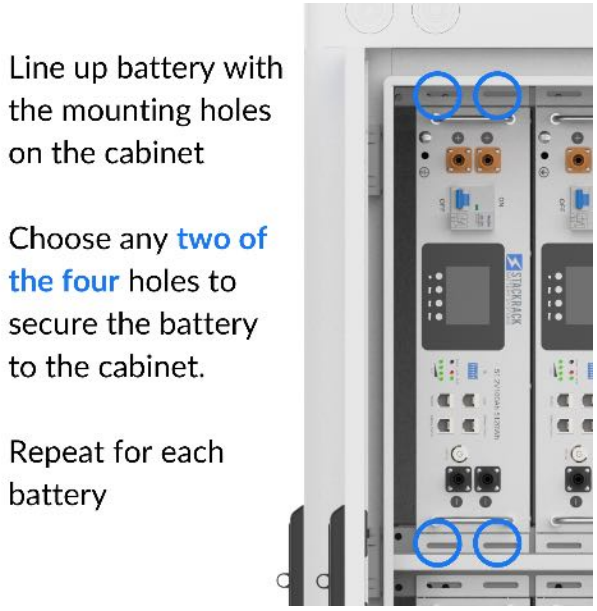
- M8-1.25 x 10mm screws
- M8/316 washers (optional based on screw head size relative to mounting bracket)

Hang the inverter on the mounting bracket and secure inverter to the cabinet using the conduit box and bushings. There are included brackets (shown below), but these are optional and not necessary when securing the inverter with conduit box and bushings.

9.9. Installing the SR5K-UL Battery Modules

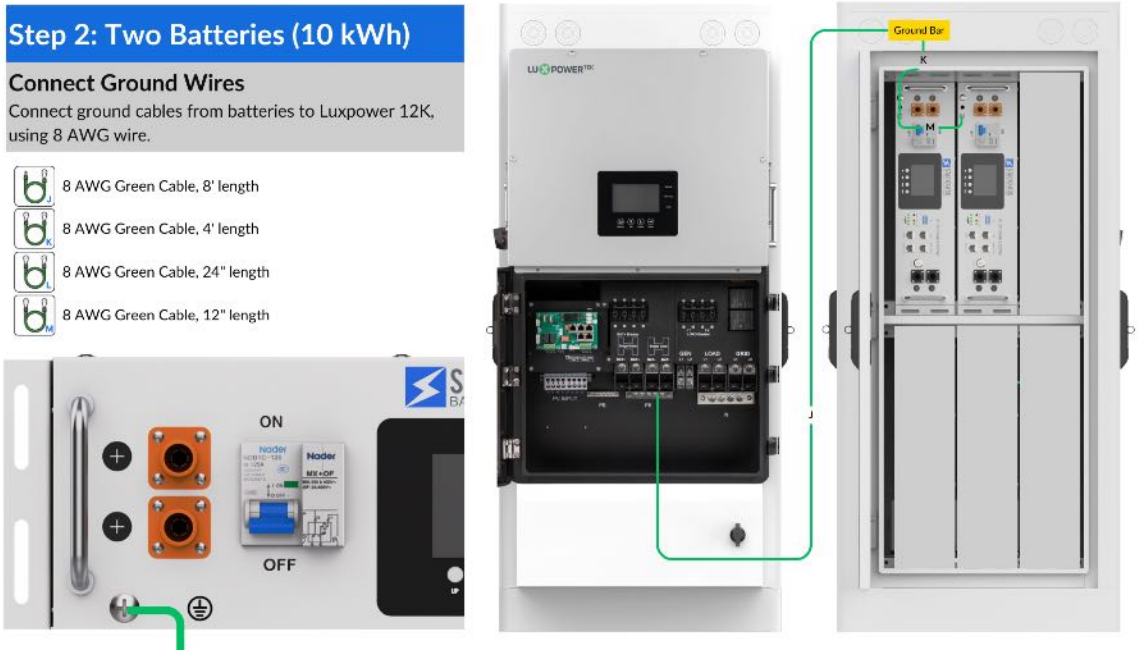
To install the batteries, you can use either side door for installation. Open the side door (larger door) and insert the first battery with negative terminals up and positive terminals down. Place the battery on the mounting brackets and then swing the battery so that the flanges pass in front of the first mounting bracket. Then, slide the battery to the correct location. See the images below to install batteries in correct location.

To secure the battery to the cabinet, line up the holes on the flange with the holes on the mounting bracket. Use the included 16x M6 screws in the hardware bag. **There are four potential mounting points for each battery. Choose a minimum of two out of four mounting points for each battery to secure the battery to the cabinet.** Repeat until all batteries are installed.

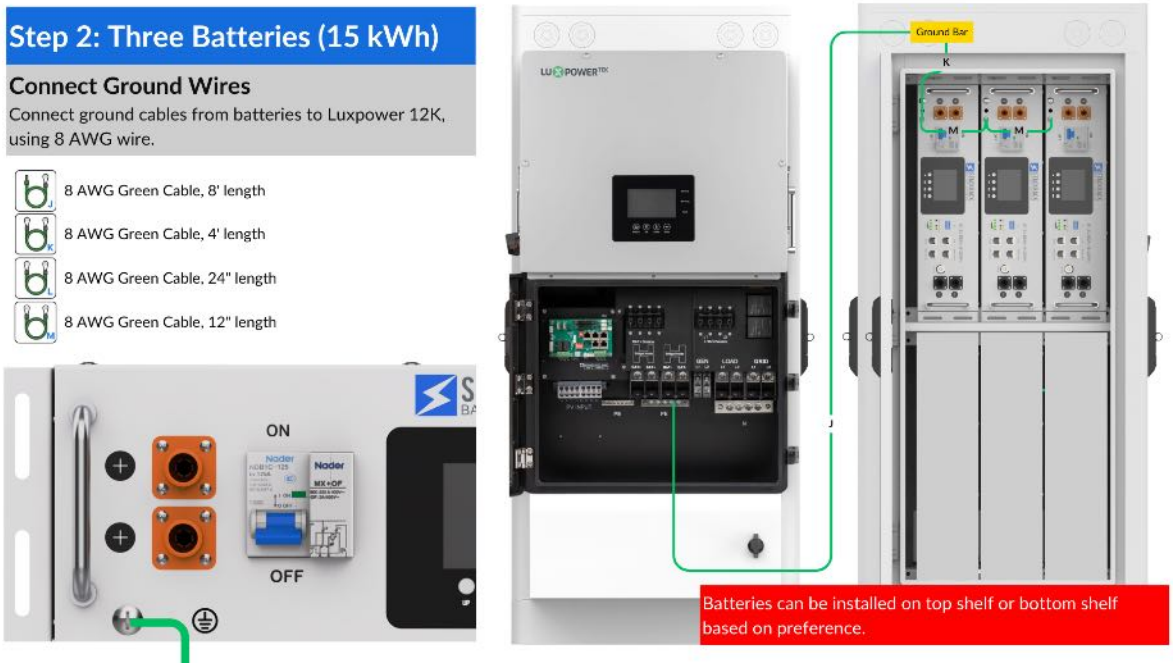


9.10 Ground Wiring

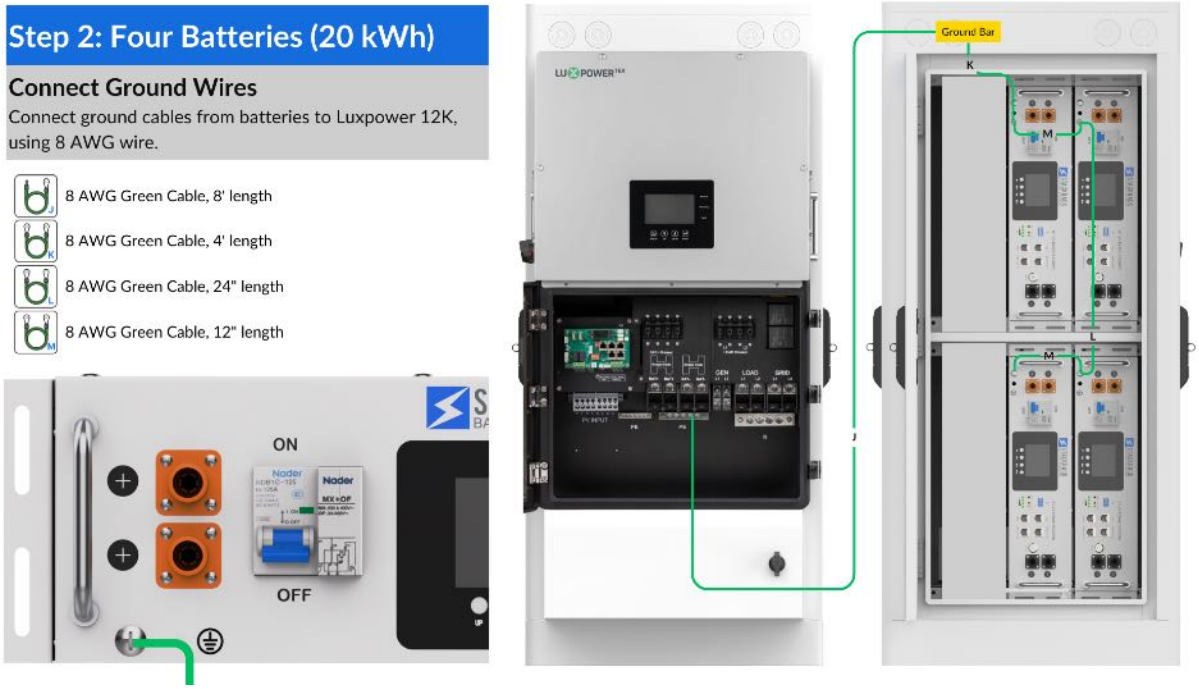
9.10.1 Ground Wiring for Two Batteries



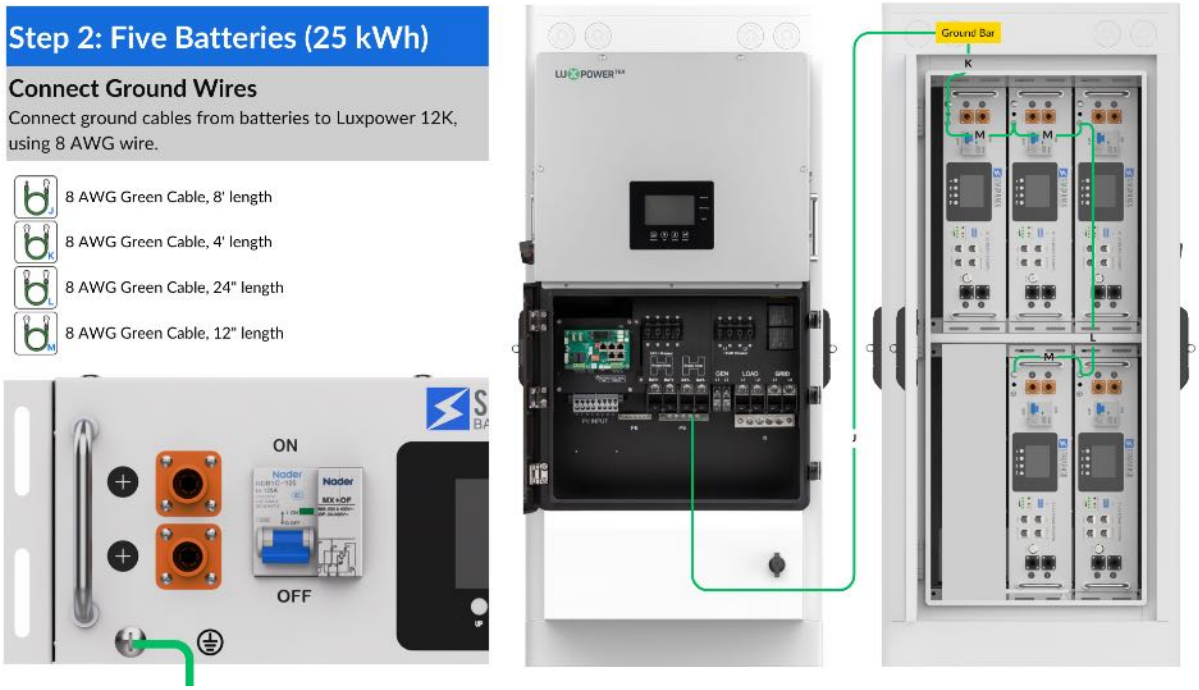
9.10.2 Ground Wiring for Three Batteries



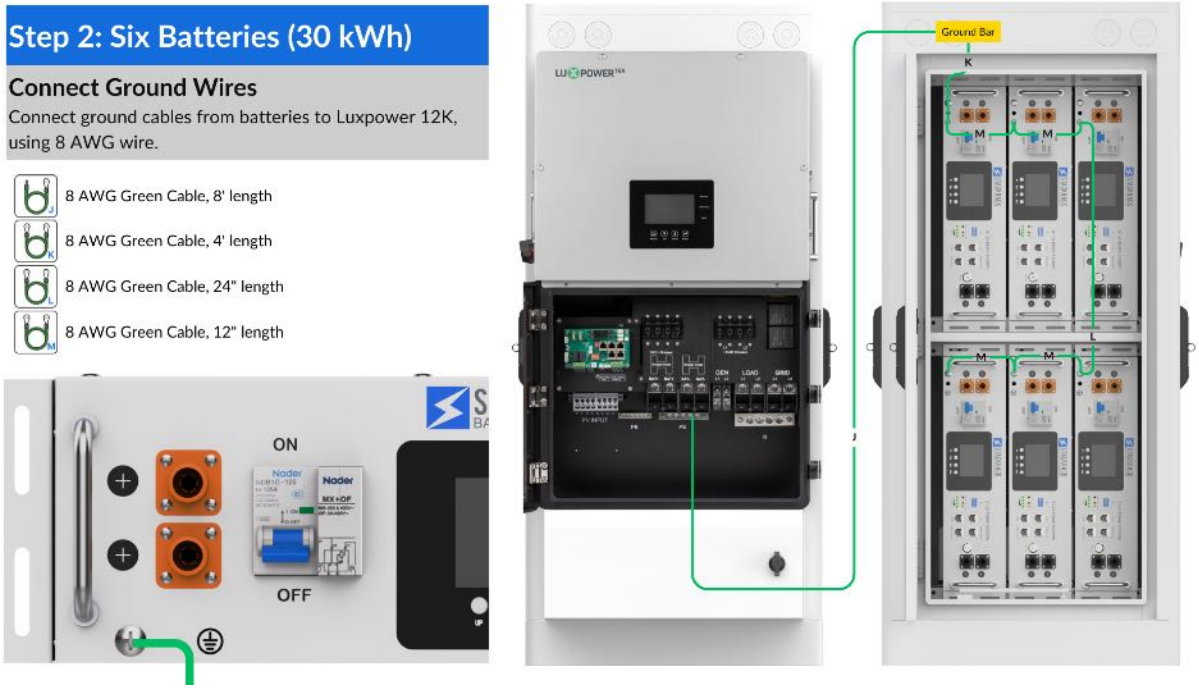
9.10.2 Ground Wiring for Four Batteries



9.10.3 Ground Wiring for Five Batteries



9.10.4 Ground Wiring for Six Batteries



9.11 Wiring the Batteries

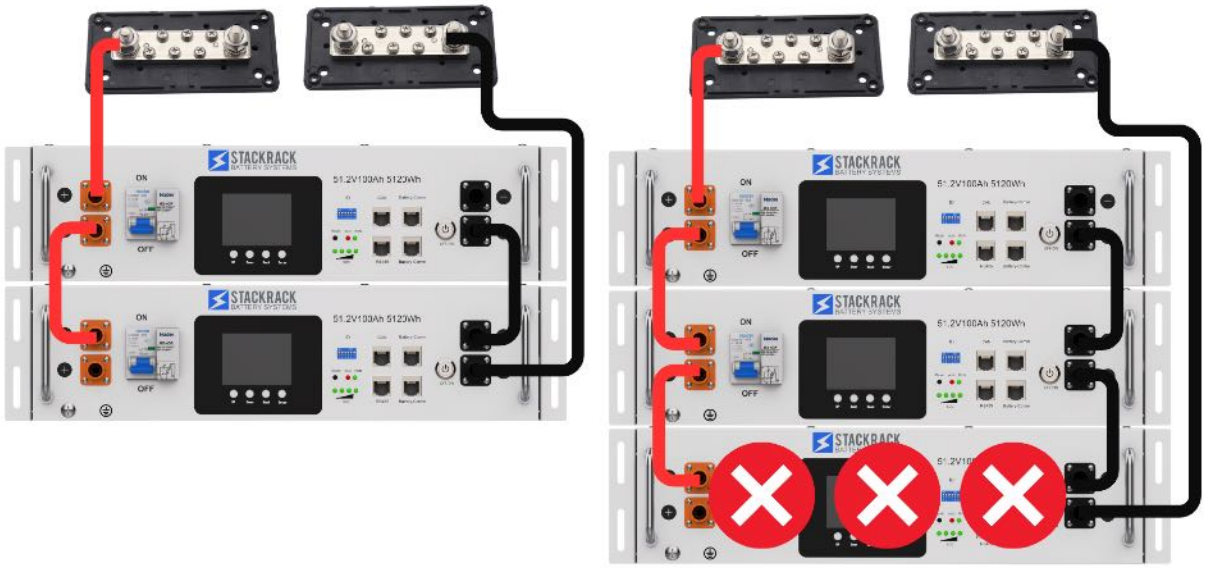
9.11.1 Connecting Battery Terminal Cables

Before connecting battery cables to batteries and busbars, ensure that all batteries are “off” with battery breakers open. Use a multimeter to verify zero voltage across the battery busbars. For additional safety, we recommend connecting the 5/16” ring terminal endings of the battery cables to the M6 screws (smaller screws) on the busbars before connecting the battery cables to battery terminals.

9.11.2 Paralleling Batteries Through Terminals

Each SR5K-UL battery module has two positive and negative terminals that allow for parallel connection between batteries. The maximum continuous discharge current of each SR5K-UL battery is 100A with the recommended continuous charge being 50A.

The max throughput of batteries connected together through terminals is 100A, with the 115A battery breaker providing over current protection. **Therefore, no more than two modules should be connected together.**



9.11.3 Wiring for Two Batteries

Step 2: Two Batteries (10 kWh)

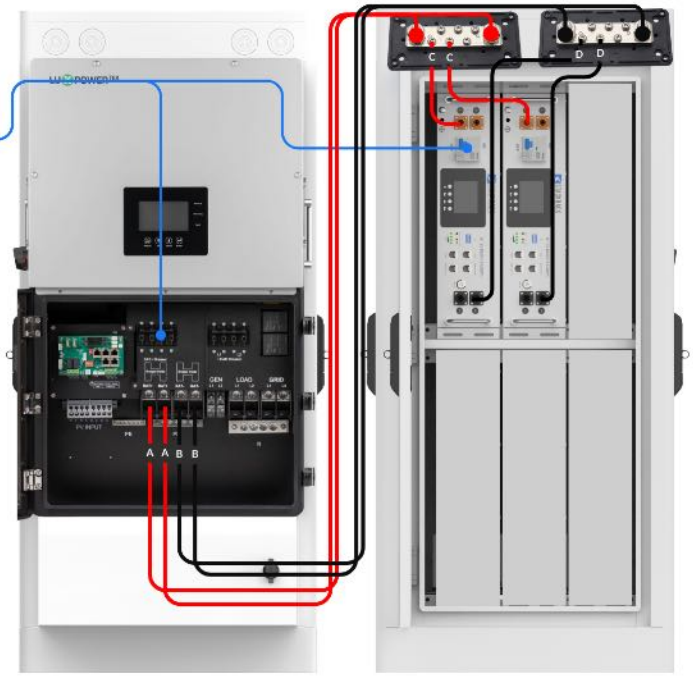
Check Battery Cables & Connections:

Check to make sure all battery breakers are off until you have verifiied all battery cables and connections.

- 1/0 AWG Red Cable, 8' length
  or size wire based on 215A (full load) @ 2.5% voltage drop based on wire length.
- 1/0 AWG Black Cable, 8' length
  or size wire based on 215A (full load) @ 2.5% voltage drop based on wire length.
- 4 AWG Red Cable, 5' length
- 4 AWG Black Cable, 5' length

Batteries can be installed on top shelf or bottom shelf based on preference.

Two positive 1/0 and two negative 1/0 battery cables (minimum 215 amps) from busbars to inverter terminals are required otherwise battery breakers will trip at higher loads.



9.11.4 Wiring for Three Batteries

Step 2: Three Batteries (15 kWh)

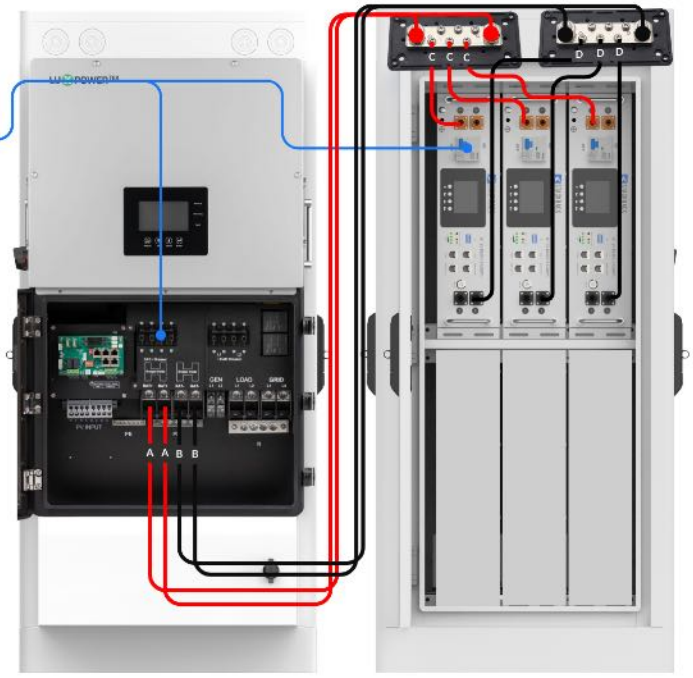
Check Battery Cables & Connections:

Check to make sure all battery breakers are off until you have verifiied all battery cables and connections.

- 1/0 AWG Red Cable, 8' length
  or size wire based on 215A (full load) @ 2.5% voltage drop based on wire length.
- 1/0 AWG Black Cable, 8' length
  or size wire based on 215A (full load) @ 2.5% voltage drop based on wire length.
- 4 AWG Red Cable, 5' length
- 4 AWG Black Cable, 5' length

Batteries can be installed on top shelf or bottom shelf based on preference.

Two positive 1/0 and two negative 1/0 battery cables (minimum 215 amps) from busbars to inverter terminals are required otherwise battery breakers will trip at higher loads.



9.11.5 Wiring for Four Batteries

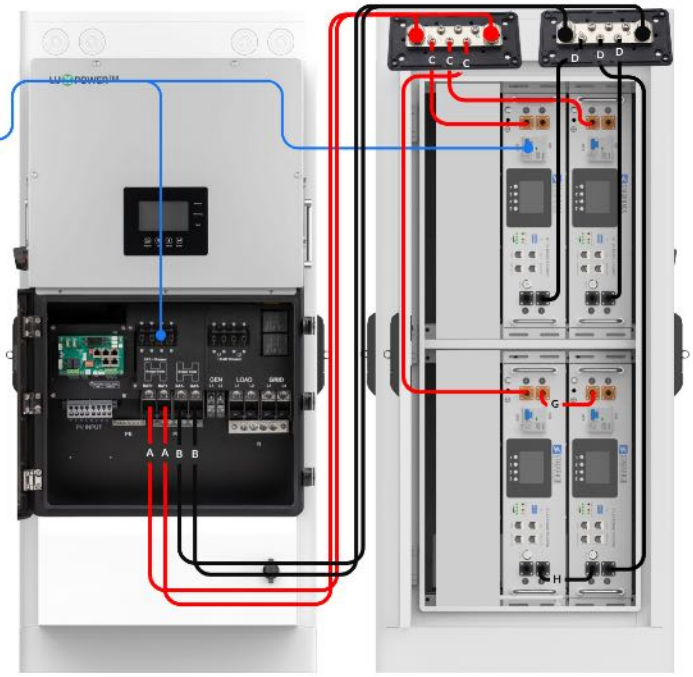
Step 2: Four Batteries (20 kWh)

Check Battery Cables & Connections:

Check to make sure all battery breakers are off until you have verifiied all battery cables and connections.

- 1/0 AWG Red Cable, 8' length
  or size wire based on 215A (full load) @ 2.5% voltage drop based on wire length.
- 1/0 AWG Black Cable, 8' length
  or size wire based on 215A (full load) @ 2.5% voltage drop based on wire length.
- 4 AWG Red Cable, 5' length
- 4 AWG Black Cable, 5' length
- 4 AWG Red Cable, 6" length
- 4 AWG Black Cable, 6" length

Two positive 1/0 and two negative 1/0 battery cables (minimum 215 amps) from busbars to inverter terminals are required otherwise battery breakers will trip at higher loads.



9.11.6 Wiring for Five Batteries

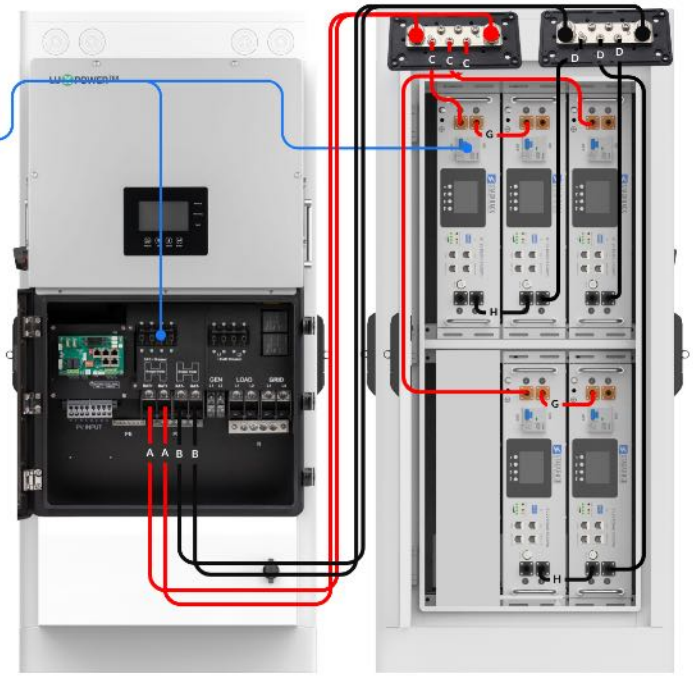
Step 2: Five Batteries (25 kWh)

Check Battery Cables & Connections:

Check to make sure all battery breakers are off until you have verifiied all battery cables and connections.

- 1/0 AWG Red Cable, 8' length
  or size wire based on 215A (full load) @ 2.5% voltage drop based on wire length.
- 1/0 AWG Black Cable, 8' length
  or size wire based on 215A (full load) @ 2.5% voltage drop based on wire length.
- 4 AWG Red Cable, 5' length
- 4 AWG Black Cable, 5' length
- 4 AWG Red Cable, 6" length
- 4 AWG Black Cable, 6" length

Two positive 1/0 and two negative 1/0 battery cables (minimum 215 amps) from busbars to inverter terminals are required otherwise battery breakers will trip at higher loads.



9.11.7 Wiring for Six Batteries

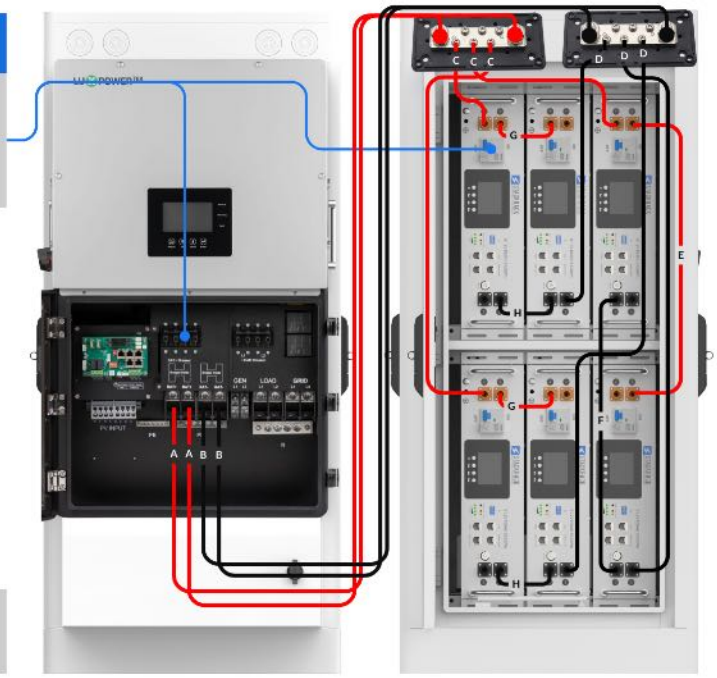
Step 2: Six Batteries (30 kWh)

Check Battery Cables & Connections:

Check to make sure all battery breakers are off until you have verifified all battery cables and connections.

- A: 1/0 AWG Red Cable, 8' length
  or size wire based on 215A (full load) @ 2.5% voltage drop based on wire length.
- B: 1/0 AWG Black Cable, 8' length
  or size wire based on 215A (full load) @ 2.5% voltage drop based on wire length.
- C: 4 AWG Red Cable, 5' length
- D: 4 AWG Black Cable, 5' length
- E: 4 AWG Red Cable, 2' length
- F: 4 AWG Black Cable, 2' length
- G: 4 AWG Red Cable, 6" length
- H: 4 AWG Black Cable, 6" length

Two positive 1/0 and two negative 1/0 battery cables (minimum 215 amps) from busbars to inverter terminals are required otherwise battery breakers will trip at higher loads.



9.12 Addressing the Batteries

9.12.1 Addressing for Two Batteries

9.12.2 Addressing for Three Batteries

9.12.3 Addressing for Four Batteries

Step 3: Four Batteries (20 kWh)

Address the Batteries:

To address the batteries, set the dip switches according the battery IDs listed. The master battery is ID1.

9.12.4 Addressing for Five Batteries

Step 3: Five Batteries (25 kWh)

Address the Batteries:

To address the batteries, set the dip switches according the battery IDs listed. The master battery is ID1.

9.12.5 Addressing for Six Batteries

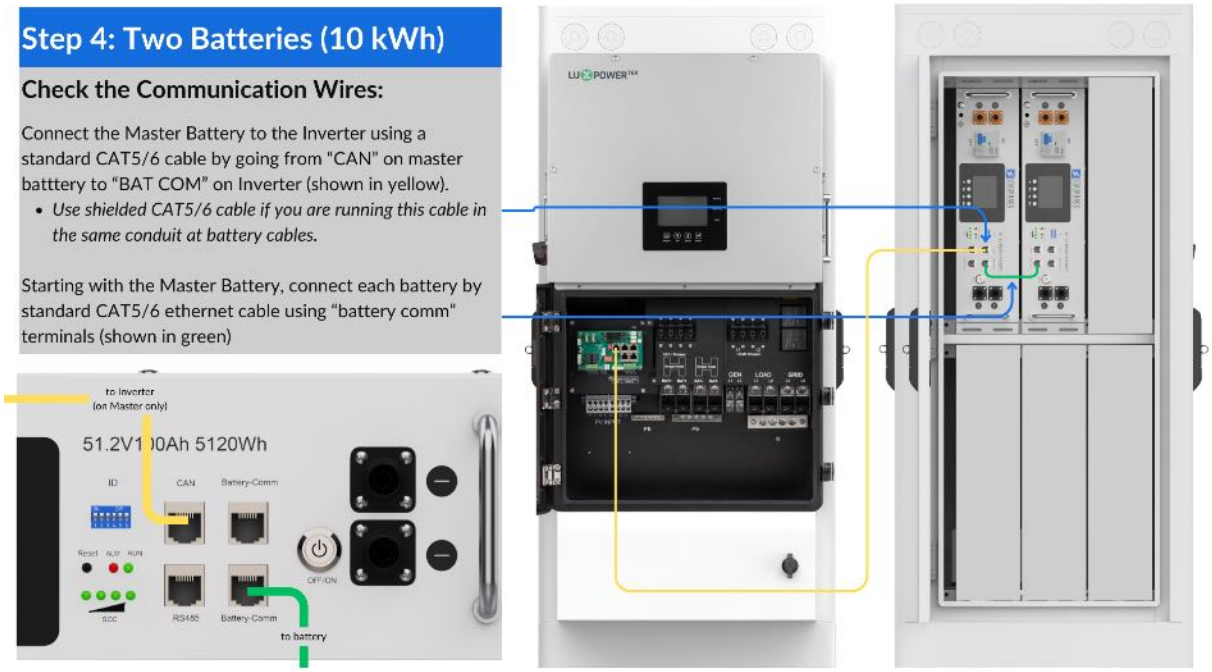
Step 3: Six Batteries (30 kWh)

Address the Batteries:

To address the batteries, set the dip switches according the battery IDs listed. The master battery is ID1.

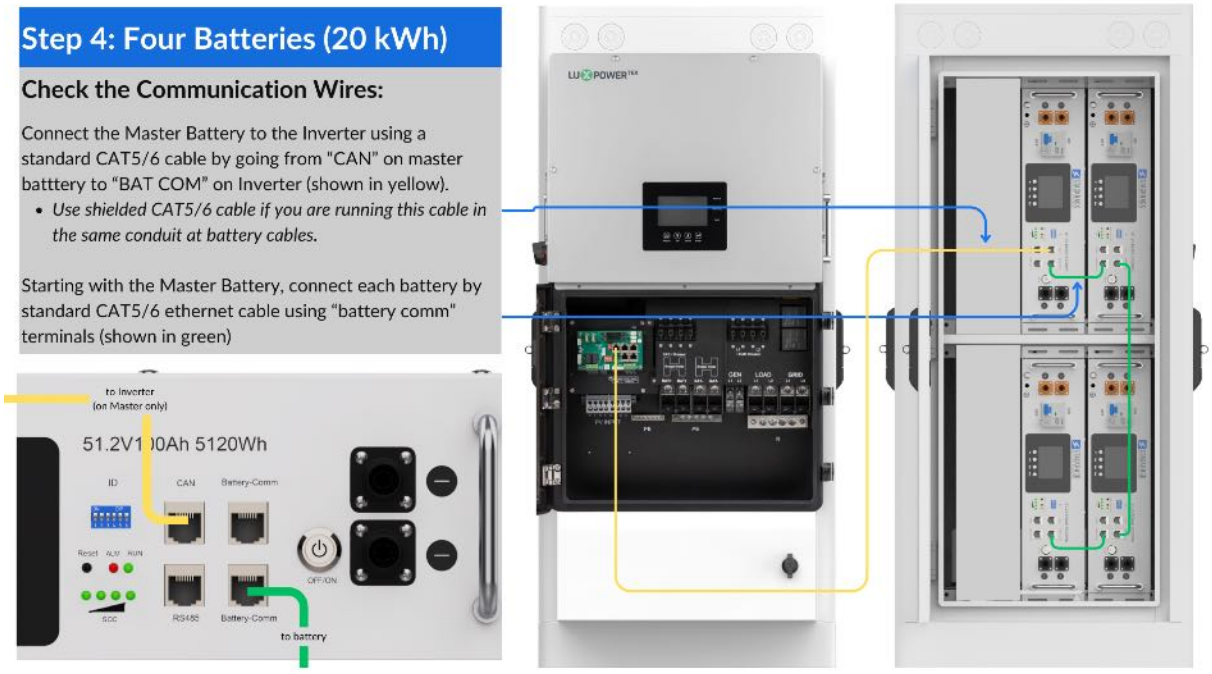
9.13 Battery Communication Wiring

9.13.1 Battery Communication for Two Batteries

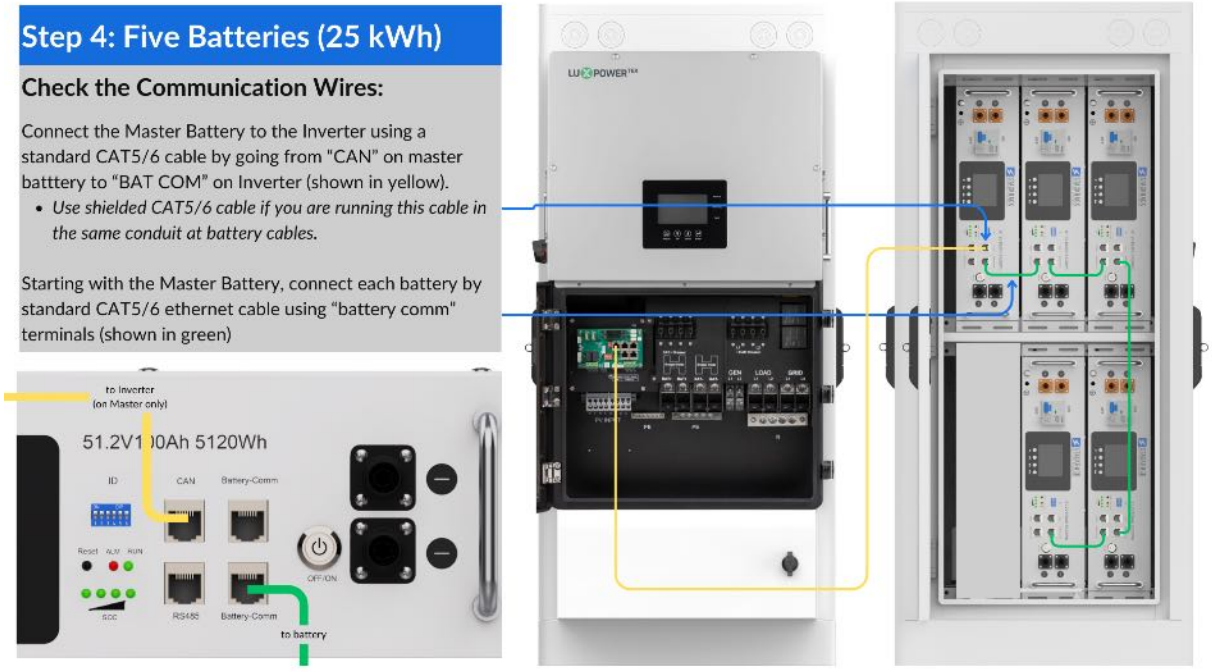


9.13.2 Battery Communication for Three Batteries

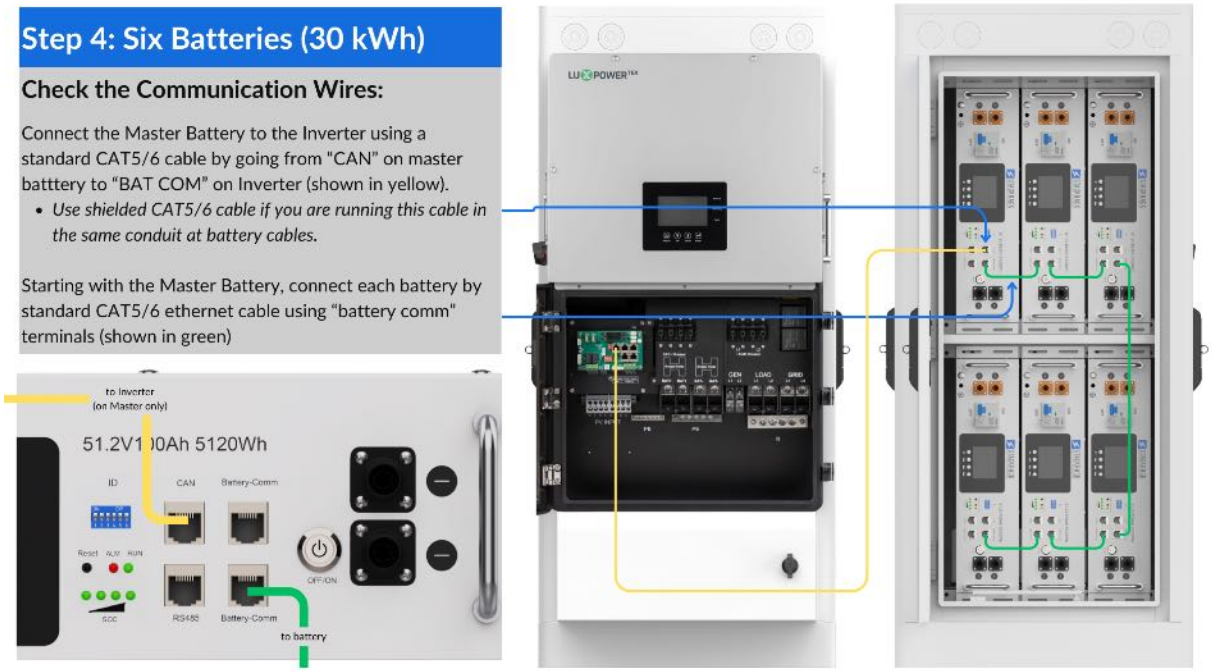
9.13.3 Battery Communication for Four Batteries



9.13.4 Battery Communication for Five Batteries

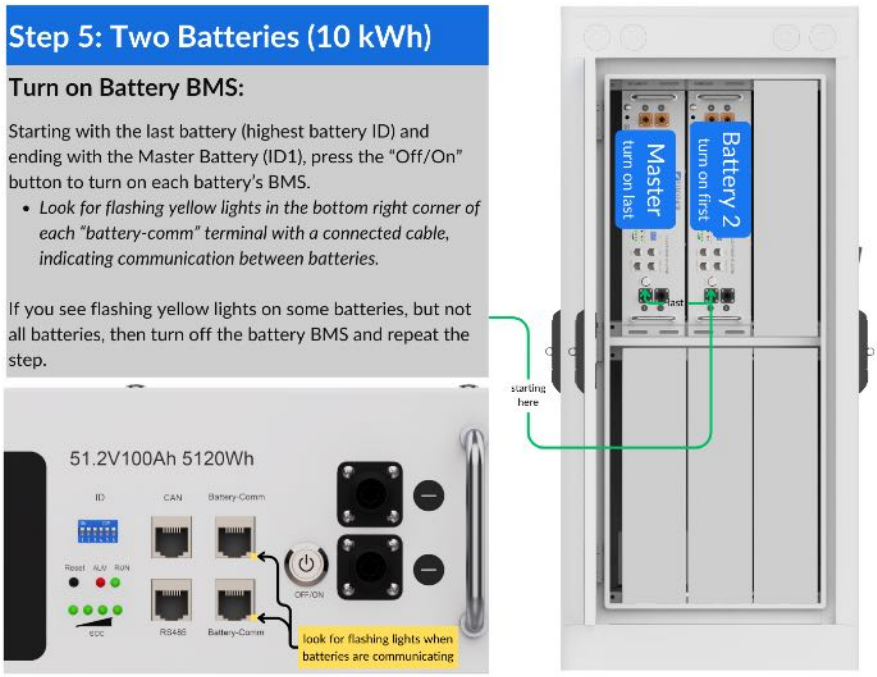


9.13.5 Battery Communication for Six Batteries

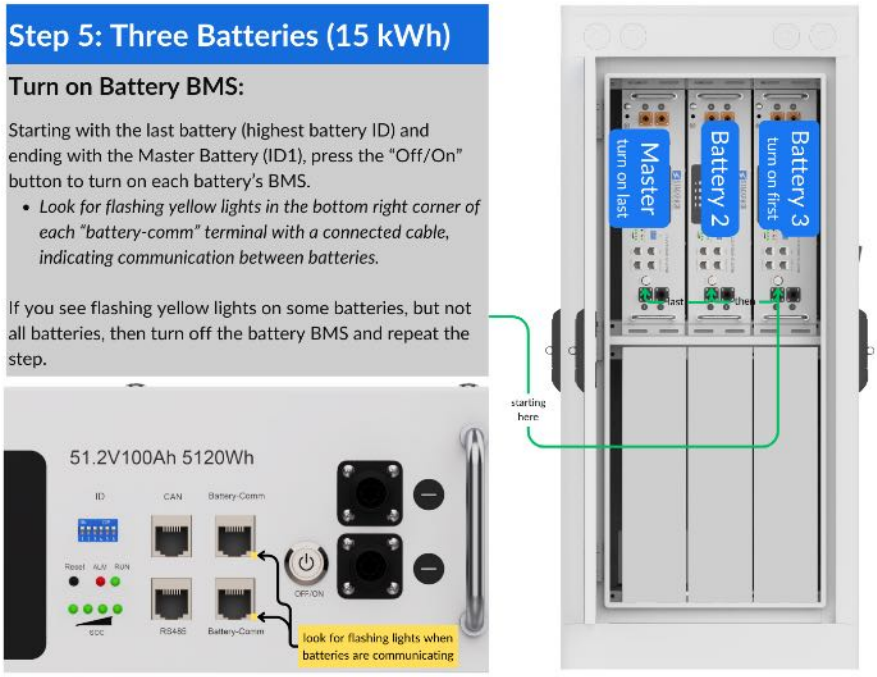


9.14 Battery System Commissioning

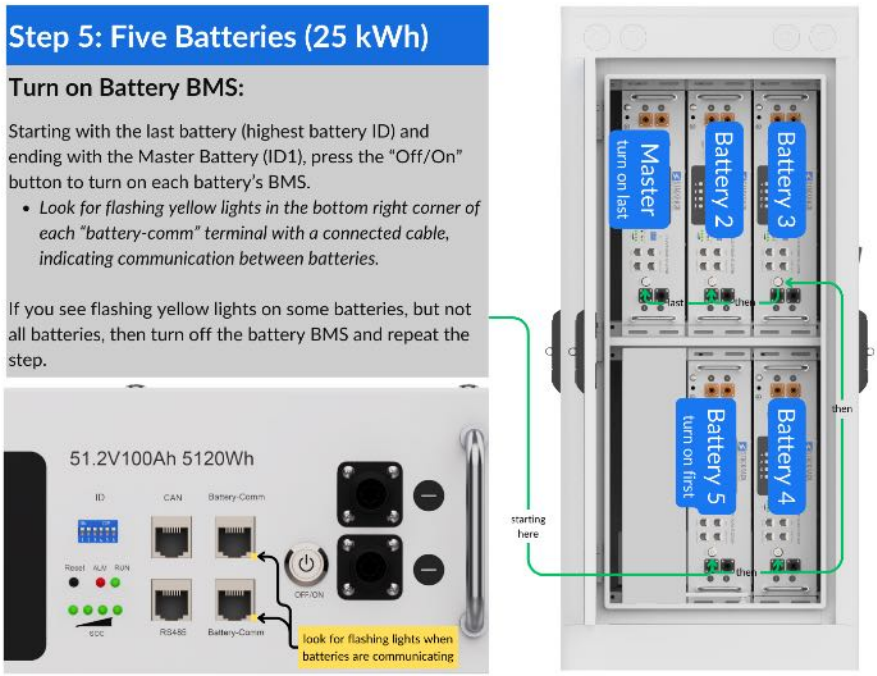
9.14.1 Battery System Commissioning for Two Batteries



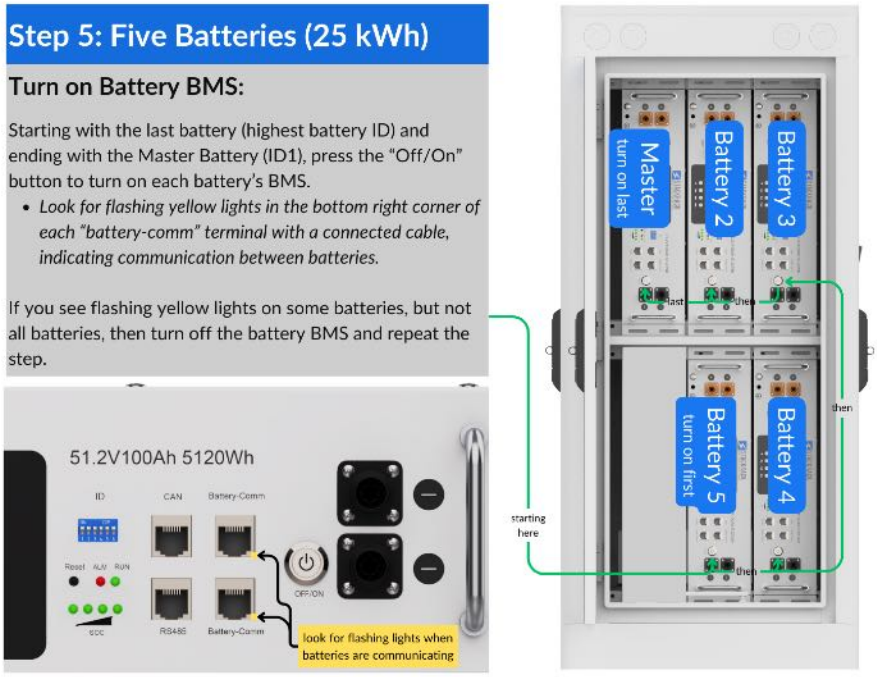
9.14.2 Battery System Commissioning for Three Batteries



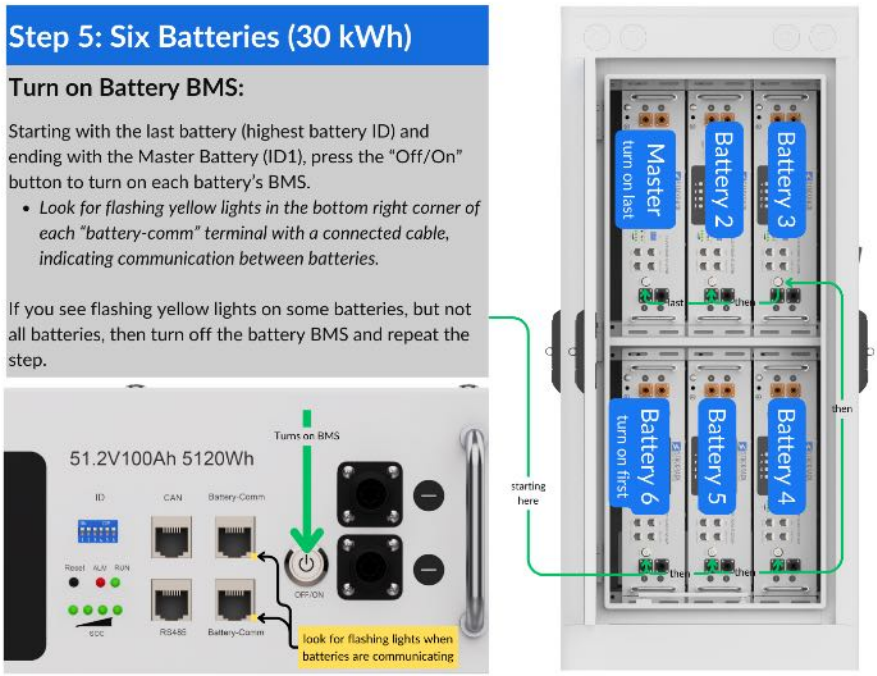
9.14.3 Battery System Commissioning for Four Batteries



9.14.4 Battery System Commissioning for Five Batteries



9.14.5 Battery System Commissioning for Six Batteries



10 System Decommissioning

System decommissioning should be performed by a licensed electrician or solar professional. Follow these steps to safely decommission the battery system and remove the equipment.

In the event that the battery system has been damaged, do not attempt to decommission the system. Notify StackRack immediately for appropriate next steps.

10.1 Battery Cabinet

- Isolate (turn off circuit breaker) or power source that provides power to cabinet power strip.
- Open the cabinet door and remove any electrical plugs from the power strip
- **Ensure inverter and batteries are turned off (see next steps). Ensure all power sources from solar, generator and grid are turned off.** Remove the busbar covers and check for no voltage with a multimeter. Remove the battery terminals from the busbars and unplug battery cables from each battery.
- Remove the batteries from the cabinet by unscrewing the mounting screws, each battery at a time.
- Check for no voltage at the inverter terminals and remove the connected wires and cables.
- Remove bushings securing inverter to conduit box.
- Lift and remove the inverter from the cabinet (if mounted on side of cabinet)
- Remove conduit box by unscrewing mounting screws.
- Remove securing anchors in cabinet base legs.
- Using two or more persons, remove the cabinet from the installation site.

10.2 SR5K-UL Battery Modules

Refer to SR5K-UL User Manual for complete decommissioning instructions.

10.3 Inverter

Refer to Inverter User Manual for complete decommissioning instructions.

11 Inverter Programming

11.1 Luxpower 12K Programming

Refer to the Luxpower 12K User Manual for further details related to inverter setup and commissioning.

Step 6: Verifying Communication

Once the inverter receives power, the inverter LCD screen will also turn on and then return to the Home screen.

(1) On the inverter, push "settings"

(2) Click "Advanced"

(3) Scroll down two pages

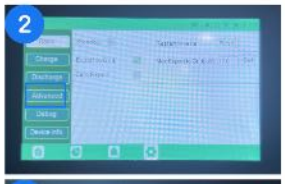
(4) Make sure "Battery Type" is set to Lithium.
Make sure "Lithium Brand" is set to "0".

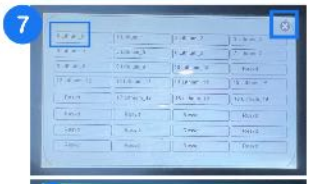
(5) Make sure "Lithium Brand" is set to "0".
To change, click on "Lithium Brand"

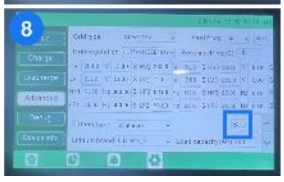
(6) Enter "00000" if asked for password.

(7) Select Lithium Brand "0", then push "X"

(8) Then, push "set"







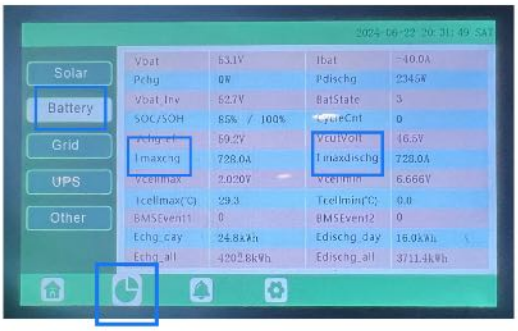
Step 7: Verifying Communication

Verify that all batteries are in communication by selecting the Data icon on the inverter (Pie Graph) and selecting "Battery".

Look for "Imaxchg" and verify that the value is equal to number of batteries x 50A.
For 2 batteries: 100A
For 3 batteries: 150A
For 4 batteries: 200A
For 5 batteries: 250A
For 6 batteries: 300A

Look for "Imaxdischarg" and verify that the value is equal to number of batteries x 100A.
For 2 batteries: 200A
For 3 batteries: 300A
For 4 batteries: 400A
For 5 batteries: 500A
For 6 batteries: 600A

If batteries are <20% SOC then "Imaxdischarg" may be a lower value. If batteries are >80% SOC then "Imaxchg" may be a lower value.



Step 8: Verifying Communication

Return to the home screen.

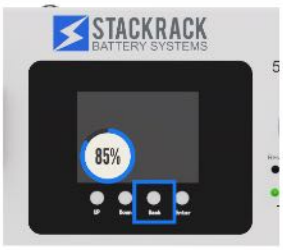
- Look for the battery icon to be green, indicating battery communication.

Press the "Back" button on the Master Battery to turn on the LCD screen.

- Verify that the battery percentage on the Master Battery matches the battery percentage shown on the inverter at the battery icon.

Verify that the inverter is "Normal" and energy is flowing correctly with expected values.

- *If energy is flowing incorrectly or home loads are much higher than actual, then check CTs for proper location and arrow direction.*



You can also verify that all batteries are in communication by checking for flashing yellow lights on the "Battery-Comm" ports for every battery.

11.1.1 Luxpower 12K Wifi Dongle Commissioning

Complete Wifi/4G Dongle Setup

Follow this guide to complete dongle setup so we can assist you with advanced settings and firmware updates

SCAN ME

11.2 Sol-Ark Programming

Refer to the Sol-Ark 15K User Manual for further details related to inverter setup and commissioning.

Step 6: Verifying Communication

Once the inverter receives power, the inverter LCD screen will also turn on and then return to the Home screen.

(1) On the inverter, push "settings"

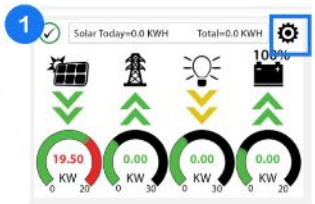
(2) Click "Battery Setup"

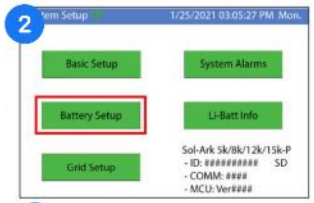
(3) Make sure the following info is selected:
- Use Batt % Charged
- BMS Lithium Batt is set to 00
- Activate Battery

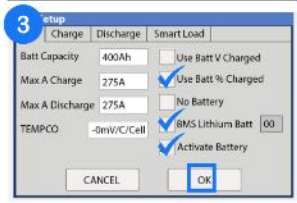
(4) Return to Home Screen and then select the "settings"

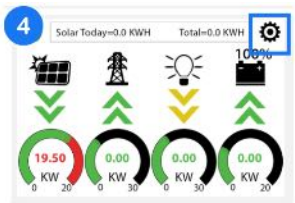
(5) Select "Lithium Batt Info"

(6) Look for data to be shown here.









6

Look for data to be shown here, including battery temperature, max charge and discharge.

Look for "Nominal Cap" to be:
For 2 batteries: 200Ah
For 3 batteries: 300Ah
For 4 batteries: 400Ah
For 5 batteries: 500Ah
For 6 batteries: 600Ah