

# Easy UPS 3S

## Modular Battery Cabinet

### Installation

208 V

E3SXR7

Latest updates are available on the Schneider Electric website  
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# Table of Contents

Important Safety Instructions — SAVE THESE	
INSTRUCTIONS .....	5
Safety Precautions .....	6
Electrical Safety .....	8
Battery Safety .....	9
Specifications .....	11
Torque Specifications .....	11
Modular Battery Cabinet Weights and Dimensions .....	12
Modular Battery Cabinet Shipping Weights and Dimensions .....	12
Installation Procedure .....	13
Receiving .....	14
Remove the Modular Battery Cabinet from the Pallet .....	14
Connect Power Cables .....	16
Connect the Signal Cables .....	19
Install Batteries in the Modular Battery Cabinet .....	22



# Important Safety Instructions — SAVE THESE INSTRUCTIONS

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



The addition of this symbol to a “Danger” or “Warning” safety message 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 with this symbol to avoid possible injury or death.

## DANGER

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

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

## WARNING

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

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

## CAUTION

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

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

## NOTICE

**NOTICE** is used to address practices not related to physical injury. The safety alert symbol shall not be used with this type of safety message.

**Failure to follow these instructions can result in equipment damage.**

## Please Note

Electrical equipment should only be installed, operated, serviced, and maintained by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

A qualified person is one who has skills and knowledge related to the construction, installation, and operation of electrical equipment and has received safety training to recognize and avoid the hazards involved.

## Safety Precautions

### **DANGER**

#### **HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH**

Read all instructions in the installation manual before installing or working on this product.

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

### **DANGER**

#### **HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH**

Do not install the product until all construction work has been completed and the installation room has been cleaned.

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

### **DANGER**

#### **HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH**

The product must be installed according to the specifications and requirements as defined by Schneider Electric. It concerns in particular the external and internal protections (upstream breakers, battery breakers, cabling, etc.) and environmental requirements. No responsibility is assumed by Schneider Electric if these requirements are not respected.

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

### **DANGER**

#### **HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH**

The UPS system must be installed according to local and national regulations. Install the UPS according to:

- IEC 60364 (including 60364-4-41- protection against electric shock, 60364-4-42 - protection against thermal effect, and 60364-4-43 - protection against overcurrent), **or**
- NEC NFPA 70, **or**
- Canadian Electrical Code (C22.1, Part 1)

depending on which one of the standards apply in your local area.

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

### **DANGER**

#### **HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH**

- Install the product in a temperature controlled indoor environment free of conductive contaminants and humidity.
- Install the product on a non-flammable, level and solid surface (e.g. concrete) that can support the weight of the system.

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

**⚠️⚠️ DANGER**

**HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH**

The product is not designed for and must therefore not be installed in the following unusual operating environments:

- Damaging fumes
- Explosive mixtures of dust or gases, corrosive gases, or conductive or radiant heat from other sources
- Moisture, abrasive dust, steam or in an excessively damp environment
- Fungus, insects, vermin
- Salt-laden air or contaminated cooling refrigerant
- Pollution degree higher than 2 according to IEC 60664-1
- Exposure to abnormal vibrations, shocks, and tilting
- Exposure to direct sunlight, heat sources, or strong electromagnetic fields

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

**⚠️⚠️ DANGER**

**HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH**

Do not drill or cut holes for cables or conduits with the gland plates installed and do not drill or cut holes in close proximity to the UPS.

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

**⚠️⚠️ WARNING**

**HAZARD OF ARC FLASH**

Do not make mechanical changes to the product (including removal of cabinet parts or drilling/cutting of holes) that are not described in the installation manual.

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

**NOTICE**

**RISK OF OVERHEATING**

Respect the space requirements around the product and do not cover the ventilation openings when the product is in operation.

**Failure to follow these instructions can result in equipment damage.**

## Electrical Safety

### DANGER

#### HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Electrical equipment must be installed, operated, serviced, and maintained only by qualified personnel.
- Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices.
- Turn off all power supplying the UPS system before working on or inside the equipment.
- Before working on the UPS system, check for hazardous voltage between all terminals including the protective earth.
- The UPS contains an internal energy source. Hazardous voltage can be present even when disconnected from the mains supply. Before installing or servicing the UPS system, ensure that the units are OFF and that mains and batteries are disconnected. Wait five minutes before opening the UPS to allow the capacitors to discharge.
- The UPS must be properly earthed/grounded and due to a high leakage current, the earthing/grounding conductor must be connected first.

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

### DANGER

#### HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

In systems where backfeed protection is not part of the standard design, an automatic isolation device (backfeed protection option or other device meeting the requirements of IEC/EN 62040-1 or UL1778 5th Edition – depending on which of the two standards apply to your local area) must be installed to prevent hazardous voltage or energy at the input terminals of the isolation device. The device must open within 15 seconds after the upstream power supply fails and must be rated according to the specifications.

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

When the UPS input is connected through external isolators that, when opened, isolate the neutral or when the automatic backfeed isolation is provided external to the equipment or is connected to an IT power distribution system, a label must be fitted at the UPS input terminals, and on all primary power isolators installed remote from the UPS area and on external access points between such isolators and the UPS, by the user, displaying the following text (or equivalent in a language which is acceptable in the country in which the UPS system is installed):

### DANGER

#### HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

Risk of Voltage Backfeed. Before working on this circuit: Isolate the UPS and check for hazardous voltage between all terminals including the protective earth.

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



## Battery Safety

### **DANGER**

#### **HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH**

- Battery circuit breakers must be installed according to the specifications and requirements as defined by Schneider Electric.
- Servicing of batteries must only be performed or supervised by qualified personnel knowledgeable of batteries and the required precautions. Keep unqualified personnel away from batteries.
- Disconnect charging source prior to connecting or disconnecting battery terminals.
- Do not dispose of batteries in a fire as they can explode.
- Failed batteries can reach temperatures that exceed the burn thresholds for touchable surfaces.
- Do not open, alter, or mutilate batteries. Released electrolyte is harmful to the skin and eyes. It may be toxic.

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

### **DANGER**

#### **HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH**

Batteries can present a risk of electric shock and high short-circuit current. The following precautions must be observed when working on batteries:

- Remove watches, rings, or other metal objects.
- Use tools with insulated handles.
- Wear protective glasses, gloves, and boots.
- Do not lay tools or metal parts on top of batteries.
- Disconnect the charging source prior to connecting or disconnecting battery terminals.
- Determine if the battery is inadvertently grounded. If inadvertently grounded, remove source from ground. Contact with any part of a grounded battery can result in electric shock and burns by high short-circuit current. The likelihood of such shock can be reduced if such grounds are removed during installation and maintenance by a skilled person (applicable to equipment and remote battery supplies not having a grounded supply circuit).

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

### **DANGER**

#### **HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH**

When replacing batteries, always replace with the same type and number of batteries or battery packs. Refer to the label in the classic battery cabinet for information on batteries in your system.

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

**▲ CAUTION****RISK OF EQUIPMENT DAMAGE**

- Mount the batteries in the UPS system, but do not connect the batteries until the UPS system is ready to be powered up. The time duration from battery connection until the UPS system is powered up must not exceed 72 hours or 3 days.
- Batteries must not be stored more than six months due to the requirement of recharging. If the UPS system remains de-energized for a long period, we recommend that you energize the UPS system for a period of 24 hours at least once every month. This charges the batteries, thus avoiding irreversible damage.

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

# Specifications

<b>⚠ DANGER</b>
<b>HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH</b>
The modular battery cabinet must only be used with the Easy UPS 3S with internal batteries.
<b>Failure to follow these instructions will result in death or serious injury.</b>

<b>NOTICE</b>
<b>HAZARD OF EQUIPMENT DAMAGE</b>
Refer to the UPS installation manual for detailed specifications for the UPS system.
<b>Failure to follow these instructions can result in equipment damage.</b>

Nominal battery voltage (V)	240 VDC
Battery type	Lead-acid
Maximum number of battery strings	12 strings (24 battery modules)
Number of battery blocks per string	20

## Trip Settings

Breaker	I <sub>r</sub>	I <sub>m</sub>
JGF37250D82	250 A fixed	1250 A

## Recommended Cable Sizes

Connection	Recommended Cable Size (AWG/kcmil)	Recommended Lug
Battery +/-N (AWG/ kcmil)	4/0	LCA4/0-38-X
Equipment grounding conductor	4	LCA4-56-L

## Torque Specifications

Bolt Size	Torque
M6	5 Nm (3.69 lb-ft / 44.3 lb-in)
M8	17.5 Nm (12.91 lb-ft / 154.9 lb-in)
M10	30 Nm (22 lb-ft / 194.7 lb-in)

## Modular Battery Cabinet Weights and Dimensions

Commercial reference	Weight kg (lbs)	Height mm (in)	Width mm (in)	Depth mm (in)
E3SXR7	160 (353) <sup>1</sup>	1400 (55.12)	500 (19.69)	940 (37.01)

## Modular Battery Cabinet Shipping Weights and Dimensions

Commercial reference	Weight kg (lbs)	Height mm (in)	Width mm (in)	Depth mm (in)
E3SXR7	172 (379) <sup>1</sup>	1595 (62.80)	800 (31.50)	1200 (47.24)

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1. Weight without batteries. Each battery module weighs 27 kg (60 lbs).

# Installation Procedure

1. Remove the Modular Battery Cabinet from the Pallet, page 14.
2. Connect Power Cables, page 16.
3. Connect the Signal Cables, page 19.
4. Install Batteries in the Modular Battery Cabinet, page 22.

# Receiving

## External Inspection

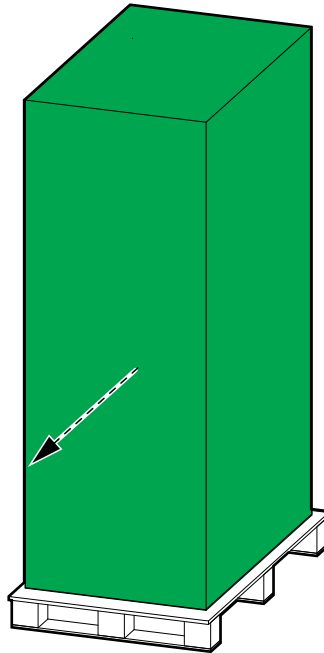
When the shipment arrives, inspect the shipping material for any signs of damage or mishandling. Check tilt and impact indicators. Do not attempt to install the system if a damage is apparent. If any damage is noted, contact Schneider Electric and file a damage claim with the shipping agency within 24 hours.

Compare the components of the shipment with the bill of lading. Report any missing items to the carrier and to Schneider Electric immediately.

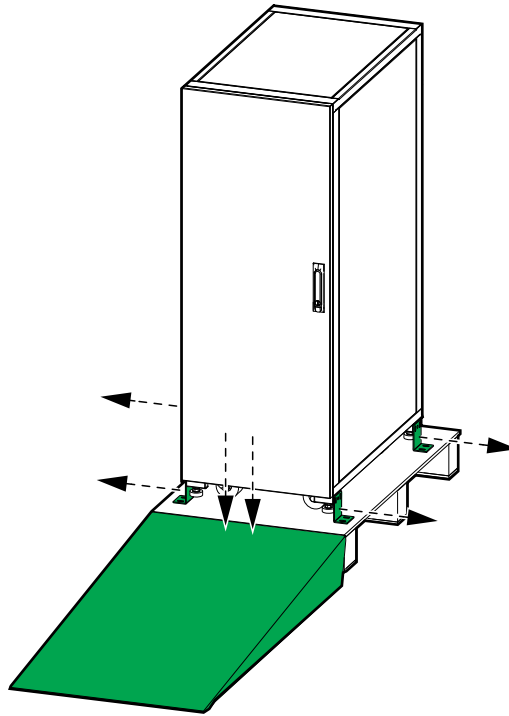
Verify that labelled units match the order confirmation.

## Remove the Modular Battery Cabinet from the Pallet

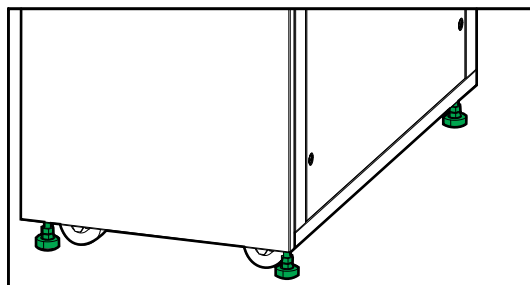
1. Move the modular battery cabinet to the final installation area using a forklift.
2. Remove the ramp from the top of the cabinet.
3. Remove the shipping material.



4. Remove the shipping brackets.



5. Place the ramp and fasten it to the pallet with the provided bolts.
6. Roll the modular battery cabinet down from the pallet.
7. Move the modular battery cabinet to its installation location and use a wrench to lower the levelling feet. Ensure that the cabinet is level.



# Connect Power Cables

## **⚡⚠ DANGER**

### **HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH**

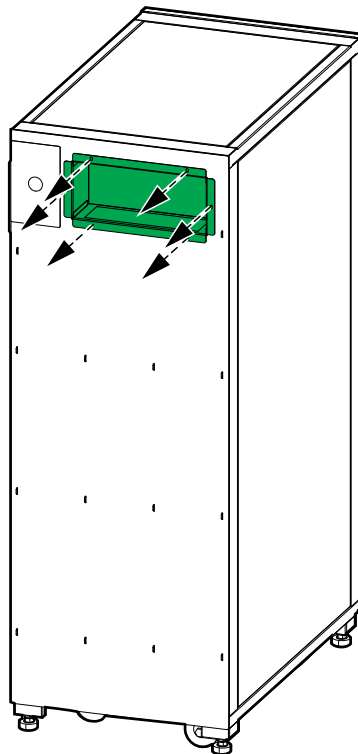
Do not drill or cut holes for cables or conduits with the gland plate installed and do not drill or cut holes in close proximity to the modular battery cabinet.

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

**NOTE:** Route the signal cables separately from the power cables.

1. Remove the conduit box from the rear side of the modular battery cabinet.

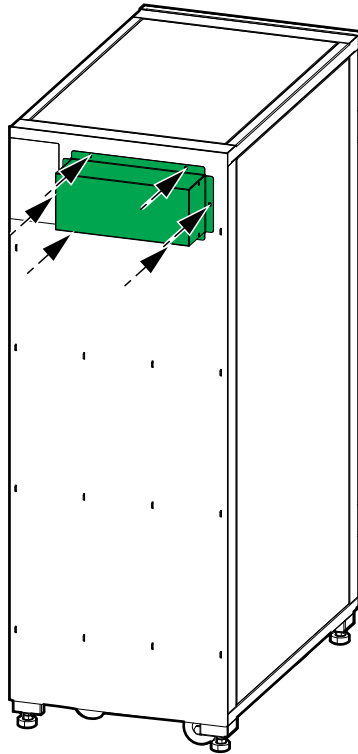
### **Rear View of the Modular Battery Cabinet**





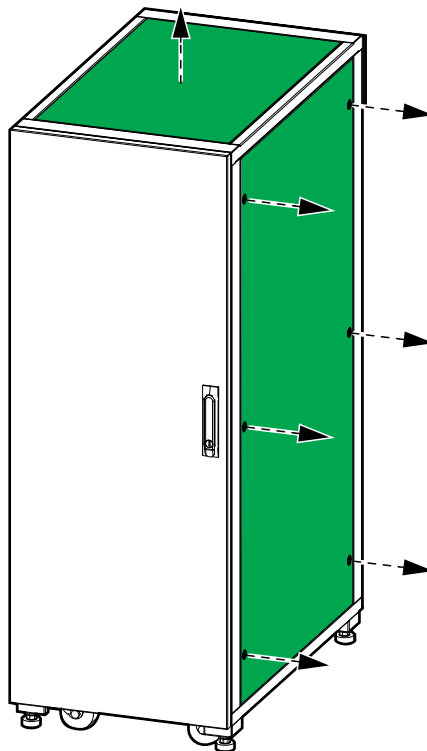
2. Rotate the conduit box and install.

### Rear View of the Modular Battery Cabinet

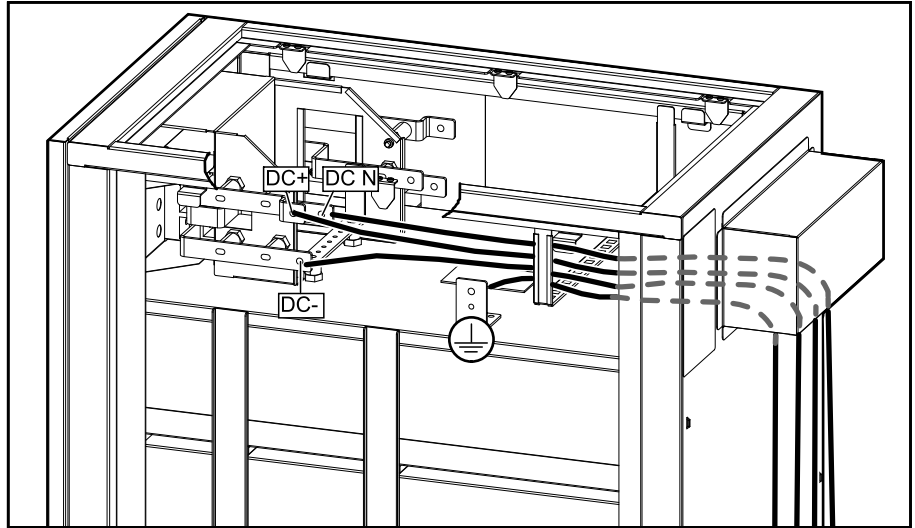


3. Remove the gland plate from the top or bottom of the conduit box and drill holes for cables/conduits. Reinstall conduits (if applicable) and reinstall the gland plate.
4. Remove the right side panel and the top cover.

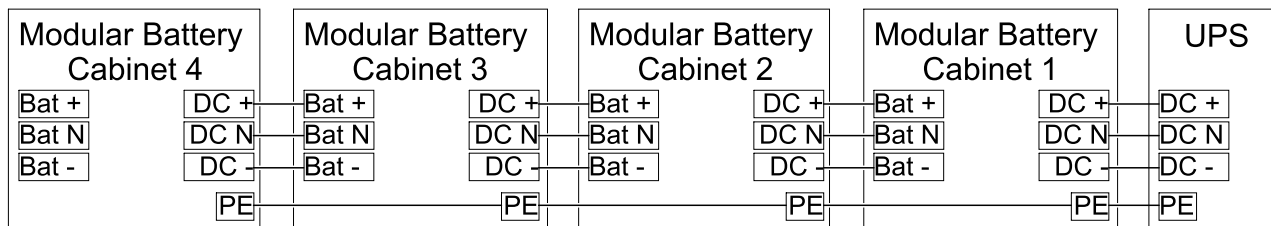
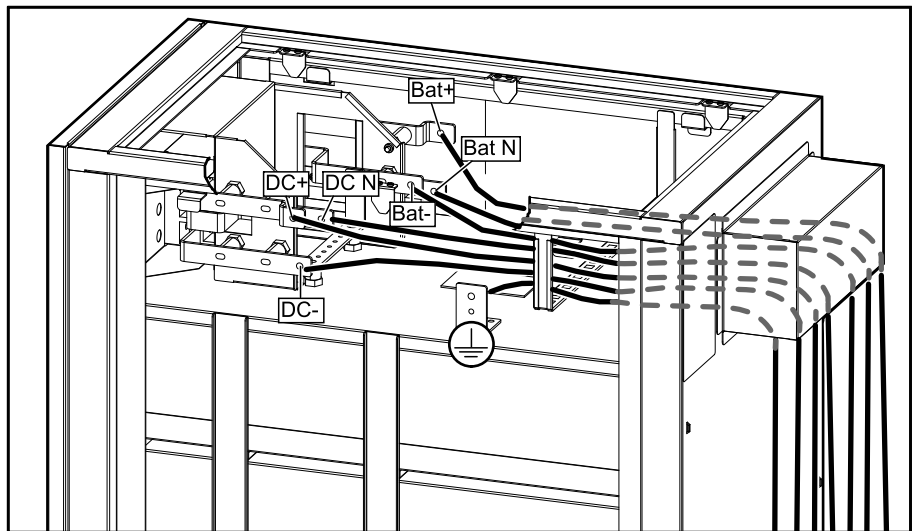
### Front View of the Modular Battery Cabinet



- Route the power cables through the conduit box and connect to the busbars.



- If more than one modular battery cabinet is part of the installation, connect the battery cables between the modular battery cabinets.



- Reinstall the right side panel and the top cover.

## Connect the Signal Cables

### **⚡⚠ DANGER**

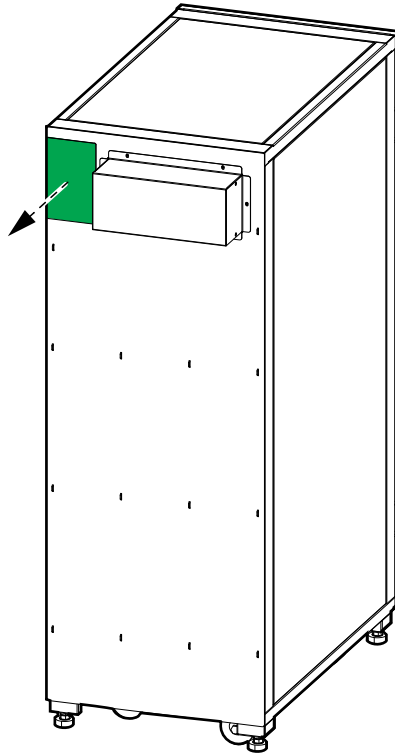
#### **HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH**

Do not drill or cut holes for cables or conduits with the gland plate installed and do not drill or cut holes in close proximity to the modular battery cabinet.

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

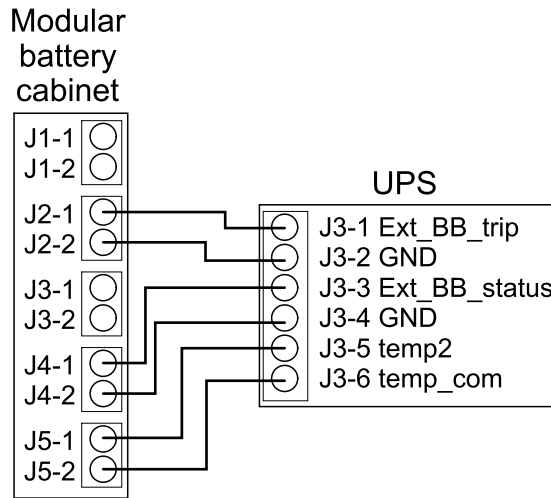
**NOTE:** Route the signal cables separately from the power cables.

1. Remove the indicated rubber cover. Cut holes for signal cables.

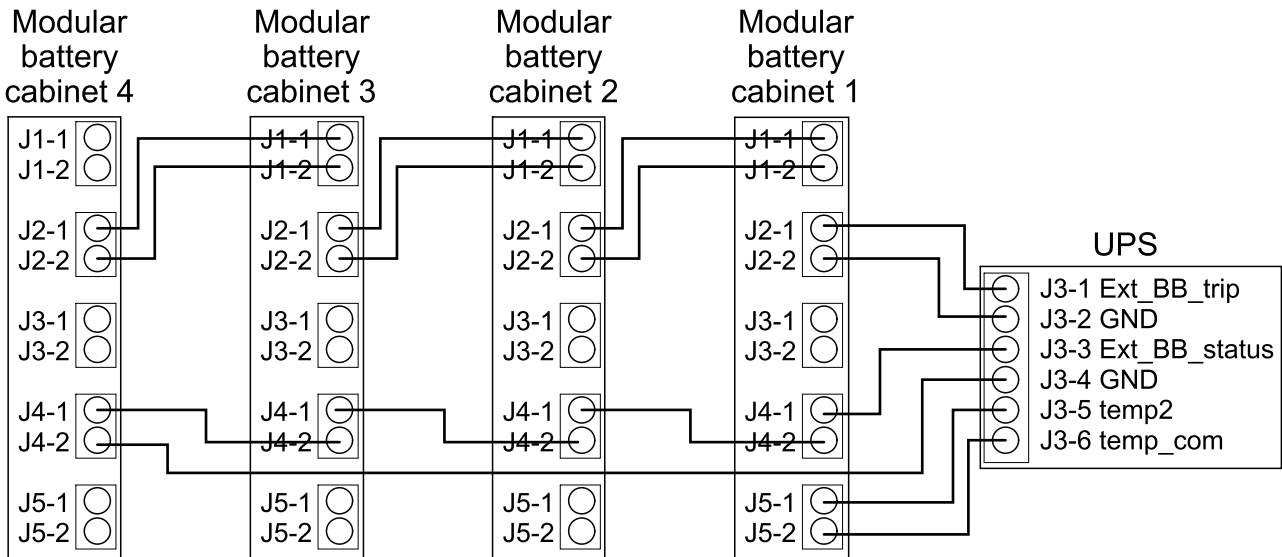


2. Connect 22 AWG signal cables (not supplied) according to one of the diagrams below.

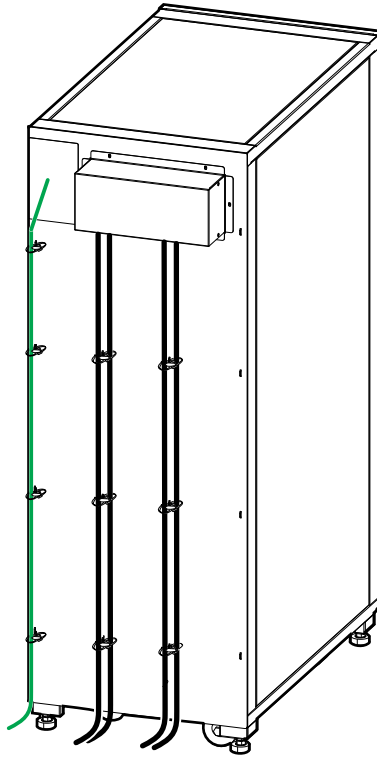
**Signal Cables in Systems with One Modular Battery Cabinet**



**Signal Cables in Systems with up to Four Modular Battery Cabinets**

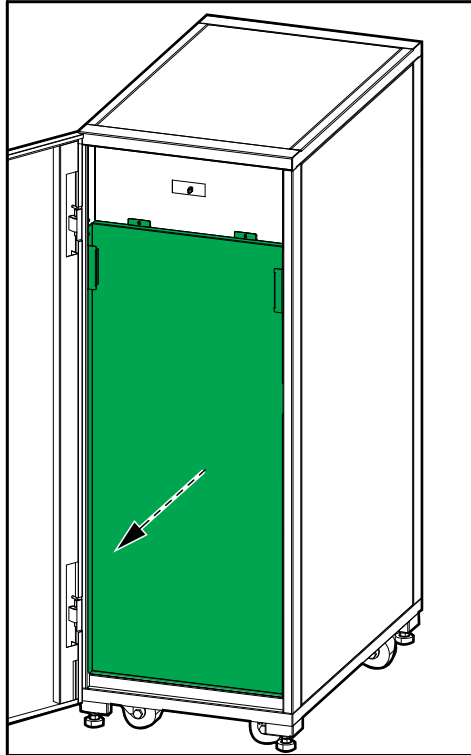


3. Route the power and signal cables through conduits or fasten to the cable reliefs.

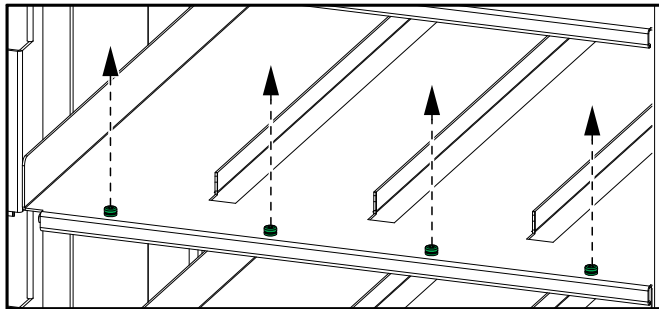


# Install Batteries in the Modular Battery Cabinet

1. Lockout/Tagout the BB battery breaker in the OFF (open) position.
2. Remove the plate in front of the battery shelves.



3. Cut the three cable ties that hold the battery cables to the frame.
4. Remove the M6 screws from the battery shelves. Save the screws for future use.



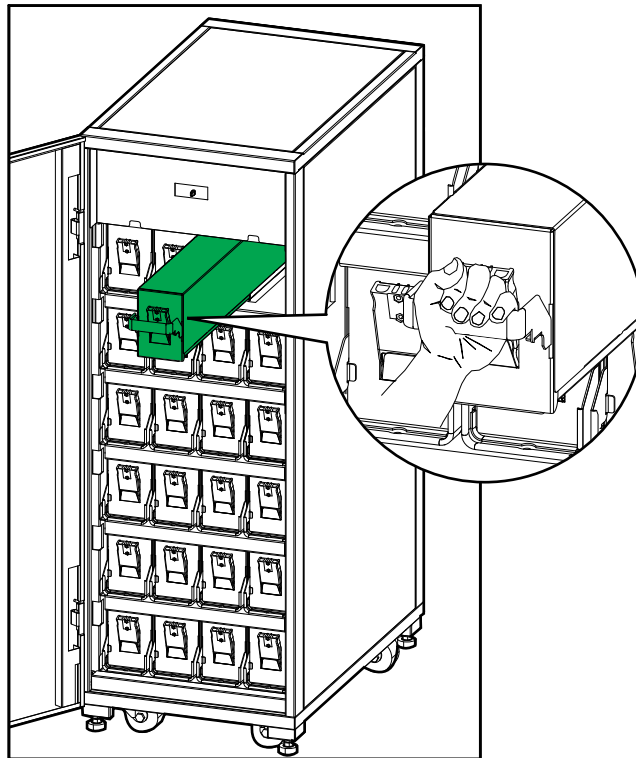
5. Holding the handle, install the battery modules one string at a time from the bottom and up.

**⚠ ⚠ WARNING**

**HAZARD OF ARC FLASH**

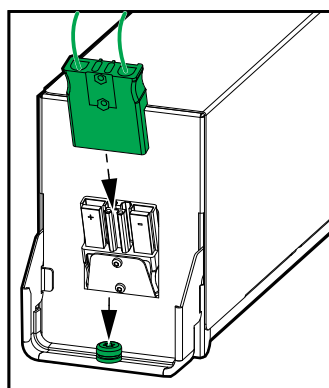
Be careful not to damage the battery cables when installing the battery modules. Lift the battery cables away from the battery shelves before pushing the battery modules into the cabinet.

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



6. Push down the handle of each battery module and fasten with the provided screw in front of the battery module.

#### Front View of Battery Module



7. Remove the shrink tubes from the power terminals and connect the power terminals to the batteries.
8. Reinstall the plate in front of the battery shelves.

Schneider Electric  
35 rue Joseph Monier  
92500 Rueil Malmaison  
France

+ 33 (0) 1 41 29 70 00



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