

Galaxy VS

Classic Battery Cabinet

Installation

GVSCBC7A, GVSCBC7B, GVSCBC7C, GVSCBC10A2, GVSCBC10B2

10/2019



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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.
- 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. The likelihood of such shock can be reduced if such grounds are removed during installation and maintenance (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**

- Wait until the system is ready to be powered up before installing batteries in the system. The time duration from battery installation 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

NOTICE

HAZARD OF EQUIPMENT DAMAGE

Refer to the UPS installation manual for detailed specifications for the UPS system.

Failure to follow these instructions can result in equipment damage.

Classic Battery Cabinet Specifications

DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

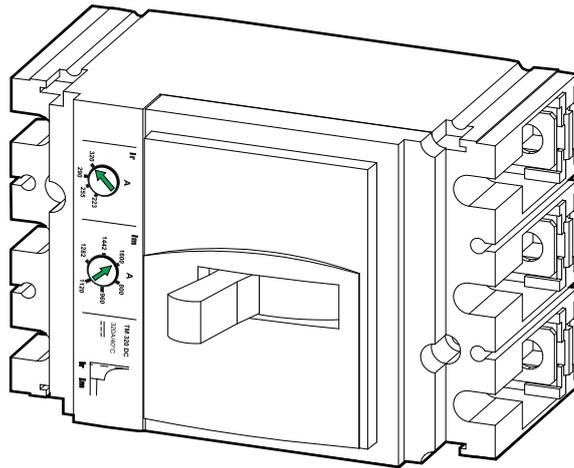
The classic battery cabinet must only be used with the Galaxy VS UPS.

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

NOTE: Up to two classic battery cabinets can be connected to the Galaxy VS UPS.

Commercial reference	Battery type	Number of battery blocks
GVSCBC7A	SWL750	48
GVSCBC7B	SWL1100	44
GVSCBC7C	XP12V1800	36
GVSCBC10A2	XP12V1800	48
GVSCBC10B2	XP12V3000	40

Trip Settings



Trip settings must be controlled during installation. Set the trip settings according to the relevant table below.

GVSCBC7A

UPS rating	20 kW			30 kW			40-50 kW			60 kW				
Power factor	0.8	0.9	1	0.8	0.9	1	0.8	0.9	1	0.8	0.9	1		
Breaker type	NSX100SDC (LV438018) + TM80G (LV430080)										NA			
Ir setting	56			72			80			80				
Im setting	250 (fixed)													

GVSCBC7B

UPS rating	20-50 kW			60 kW			80 kW				
Power factor	0.8	0.9	1	0.8	0.9	1	0.8	0.9	1		
Breaker type	NSX250SDC (LV438218) + TM200G (LV430088)									NA	
Ir setting	140			160			160				
Im setting	530 (fixed)										

GVSCBC7C

UPS rating	20-50 kW			60 kW			80 kW			100 kW				
Power factor	0.8	0.9	1	0.8	0.9	1	0.8	0.9	1	0.8	0.9	1		
Breaker type	NSX250SDC (LV438218) + TM250G (LV430089)										NA			
Ir setting	175			200			250			250				
Im setting	625 (fixed)													

GVSCBC10A2

UPS rating	20-60 kW			80 kW			100 kW			120 kW			150 kW			
Power factor	0.8	0.9	1	0.8	0.9	1	0.8	0.9	1	0.8	0.9	1	0.8	0.9	1	
Breaker type	NSX250SDC (LV438218) + TM250G (LV430089)														NA	
Ir setting	175			175	175	200	200	225	225	225	250	250	250	250		

UPS rating	20-60 kW			80 kW			100 kW			120 kW			150 kW		
Power factor	0.8	0.9	1	0.8	0.9	1	0.8	0.9	1	0.8	0.9	1	0.8	0.9	1
Im setting	625 (fixed)														

GVSCBC10B2

UPS rating	20-80 kW			100 kW			120 kW			150 kW			
Power factor	0.8	0.9	1	0.8	0.9	1	0.8	0.9	1	0.8	0.9	1	
Breaker type	NSX320S TM-DC (LV438276)												
Ir setting	224			224	256	288	288	320			320		
Im setting	800 (fixed)												

Recommended Cable Sizes

⚡⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

All wiring must comply with all applicable national and/or electrical codes. The maximum allowable cable size is 95 mm².

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

Cable sizes in this manual are based on table B.52.3 (52–C2) of IEC 60364–5–52 with the following assertions:

- 90 °C conductors
- An ambient temperature of 30 °C
- Use of copper conductors
- Installation method C

Protective Earth (PE) cables are sized in accordance with table 54.3 of IEC 60364-4-54, Article 543.

If the ambient temperature is greater than 30 °C, larger conductors are to be selected in accordance with the correction factors of the IEC.

GVSCBC7A

UPS rating	20-30 kW			40-50 kW			60 kW		
Power factor	0.8	0.9	1	0.8	0.9	1	0.8	0.9	1
DC+/DC- (mm ²)	10			16			16	NA	
DC PE (mm ²)	10			10			10		

GVSCBC7B

UPS rating	20-60 kW			80 kW			
Power factor	0.8	0.9	1	0.8	0.9	1	
DC+/DC- (mm ²)	35			35			NA
DC PE (mm ²)	16			16			

GVSCBC7C

UPS rating	20-60 kW			80 kW			100 kW		
Power factor	0.8	0.9	1	0.8	0.9	1	0.8	0.9	1
DC+/DC- (mm ²)	50			70			70	NA	
DC PE (mm ²)	25			35			35		

GVSCBC10A2

UPS rating	20-80 kW			100-120 kW			150 kW		
Power factor	0.8	0.9	1	0.8	0.9	1	0.8	0.9	1
DC+/DC- (mm ²)	50			70			70	NA	
DC PE (mm ²)	25			35			35		

GVSCBC10B2

UPS rating	20-60 kW			80-100 kW			120-150 kW		
Power factor	0.8	0.9	1	0.8	0.9	1	0.8	0.9	1
DC+/DC- (mm ²)	50			70			95		
DC PE (mm ²)	25			35			50		

Torque Specifications

Bolt size	Torque
M4	1.7 Nm
M5	2.2 Nm
M6	5 Nm
M8	17.5 Nm
M10	30 Nm

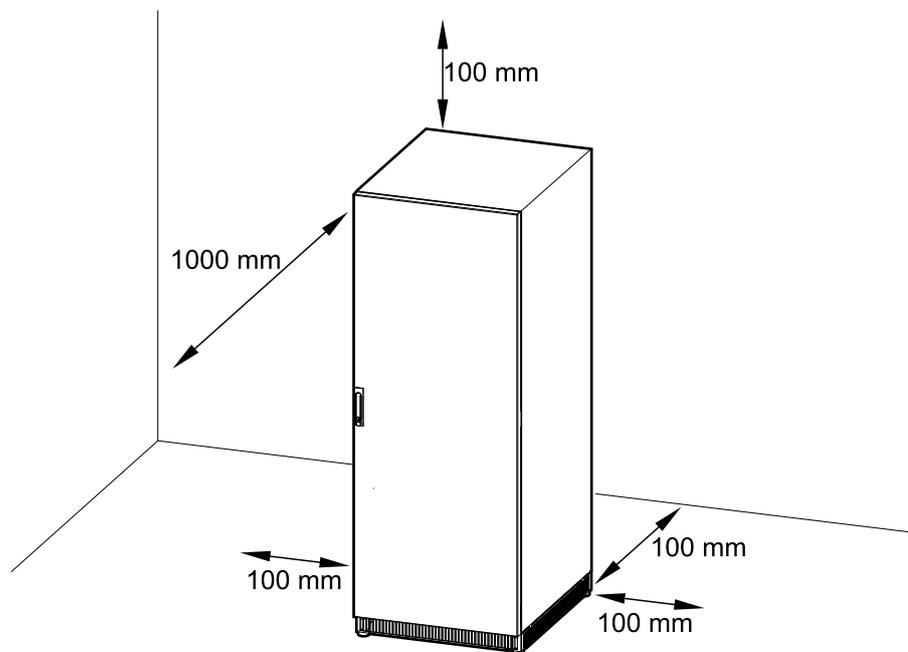
Environment

	Operating	Storage
Temperature	0 °C to 40 °C	-15 °C to 40 °C
Relative humidity	0-95% non-condensing	10-80% non-condensing
Elevation	0-1000 m	
Protection class	IP20	
Color	RAL 9003, gloss level 85%	

Clearance

NOTE: Clearance dimensions are published for airflow and service access only. Consult with the local safety codes and standards for additional requirements in your local area.

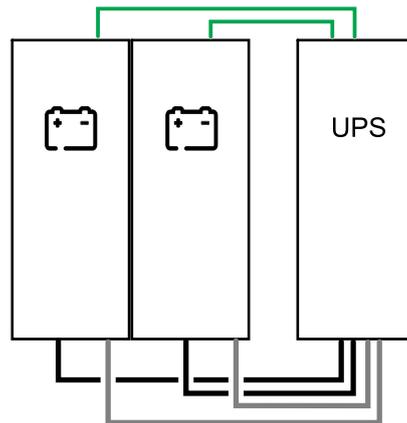
NOTE: The room should be ventilated to prevent the concentration of the dihydrogen generated by the battery cabinet. Recommended minimum airflow: 2.41 m³/h.



Classic Battery Cabinet Weights and Dimensions

Commercial reference	Weight kg	Height mm	Width mm	Depth mm
GVSCBC7A	580	1900	710	845
GVSCBC7B	748	1900	710	845
GVSCBC7C	920	1900	710	845
GVSCBC10A2	1280	1900	1010	845
GVSCBC10B2	1512	1900	1010	845

Installation Procedure



- Signal cable
- Power cable
- PE cable

NOTE: The distance between the battery bank and the UPS must not exceed 200 m. Contact Schneider Electric for installations with a longer distance.

1. *Unpack the Cabinet, page 19.*
2. *Prepare for Cables, page 21.*
3. *Connect the Signal Cables, page 22.*
4. *Connect the Power Cables, page 25.*
5. *Add Translated Safety Labels to Your Product, page 28.*
6. *Final Installation, page 29.*

Receiving

External Inspection

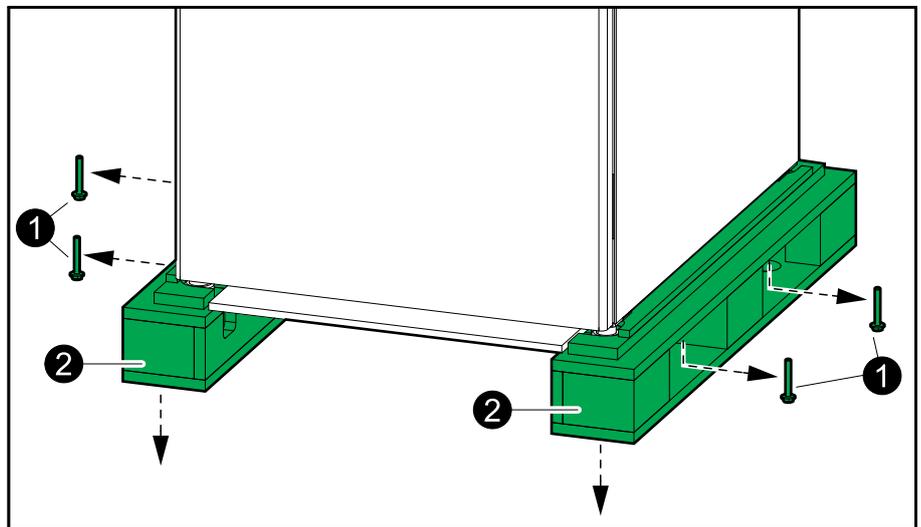
When the shipment arrives, inspect the shipping material for any signs of damage or mishandling. Check tilt and impact indicators. Do not attempt to install the system if a damage is apparent. If any damage is noted, contact Schneider Electric and file a damage claim with the shipping agency within 24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

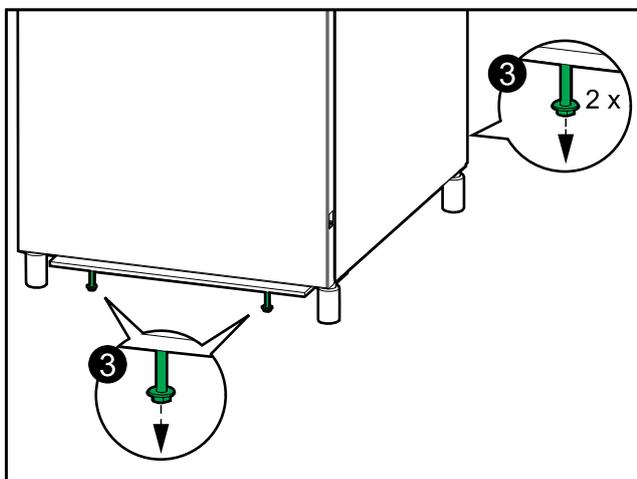
Unpack the Cabinet

1. Remove the indicated bolts.
2. Lift up the cabinet with a forklift and remove the pallet parts.

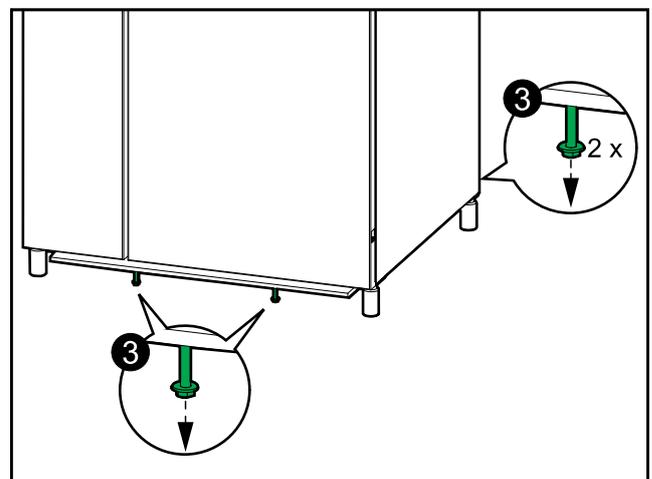


3. Lower the cabinet to the floor and remove the indicated bolts.

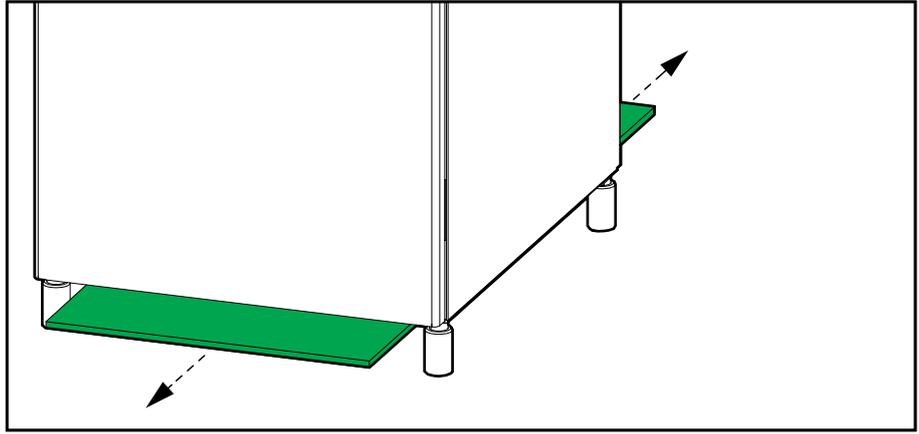
GVSCBC7A, GVSCBC7B, GVSCBC7C



GVSCBC10A2, GVSCBC10B2



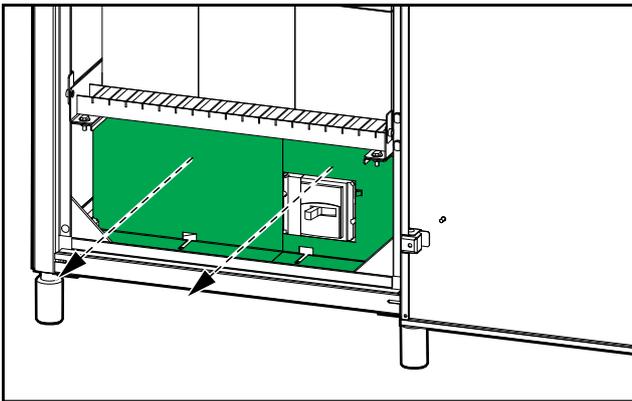
4. Remove the wooden plates.



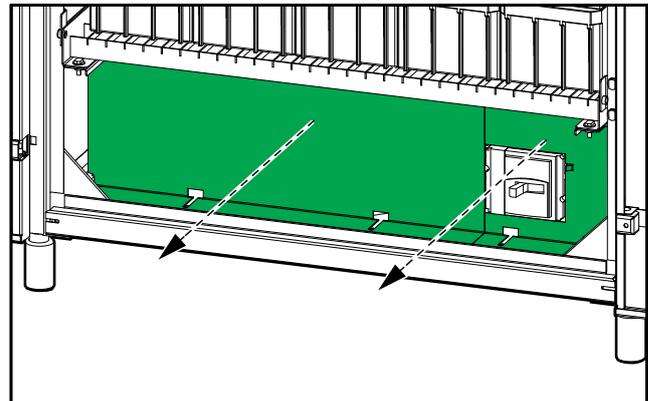
Prepare for Cables

1. Open the door(s). On GVSCBC10A2 and GVSCBC10B2, remove two screws to open the left door.
2. Lockout/Tagout the battery breaker.
3. Remove the breaker protection plates.

GVSCBC7A, GVSCBC7B, GVSCBC7C



GVSCBC10A2, GVSCBC10B2



4. Remove the kit with copper bars/cables from the classic battery cabinet. Save for interconnection of the batteries – see *Connect the Power Cables*, page 25.

Connect the Signal Cables

NOTE: Route the signal cables separately from the power cables to ensure sufficient isolation.

NOTE: Use double isolated signal cables. The signal cables must have a minimum rating of 600 V.

1. Install the temperature sensor provided with the UPS in the top of the classic battery cabinet.

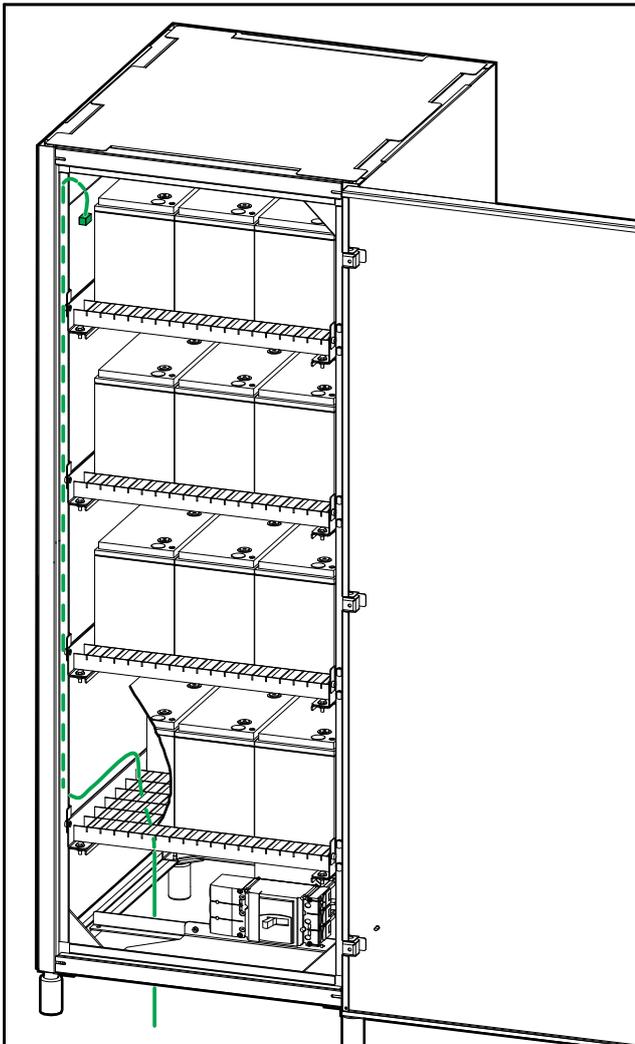
WARNING

HAZARD OF FIRE

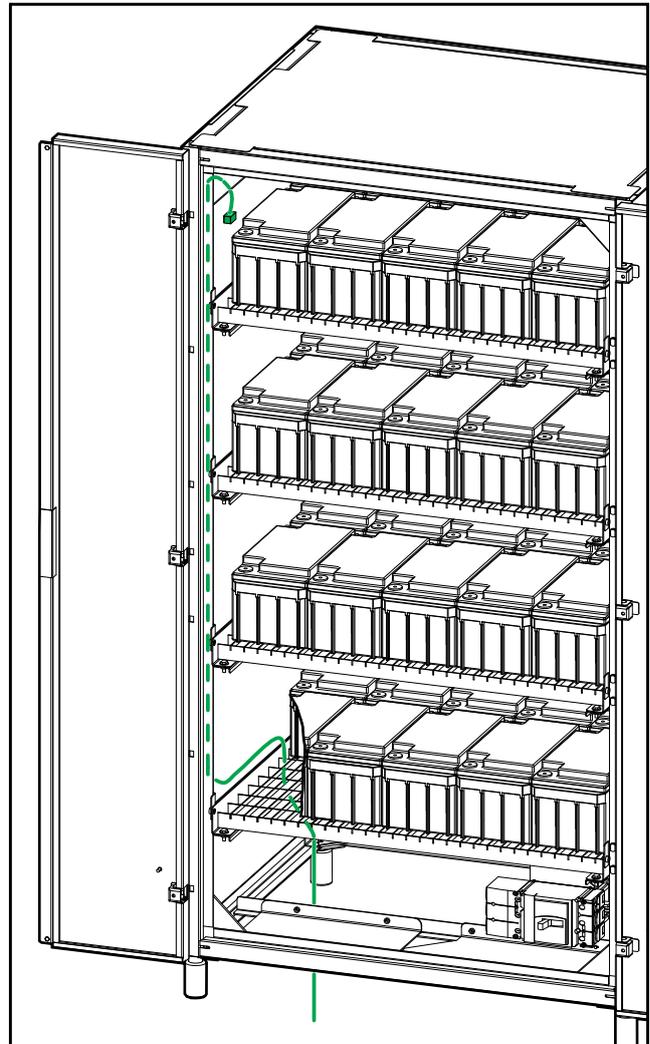
Position the temperature sensor as described to ensure correct temperature measurements.

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

GVSCBC7A, GVSCBC7B, GVSCBC7C



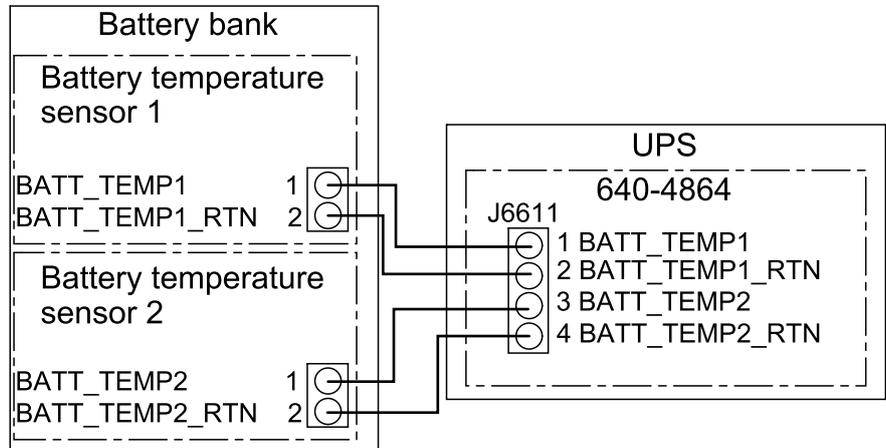
GVSCBC10A2, GVSCBC10B2



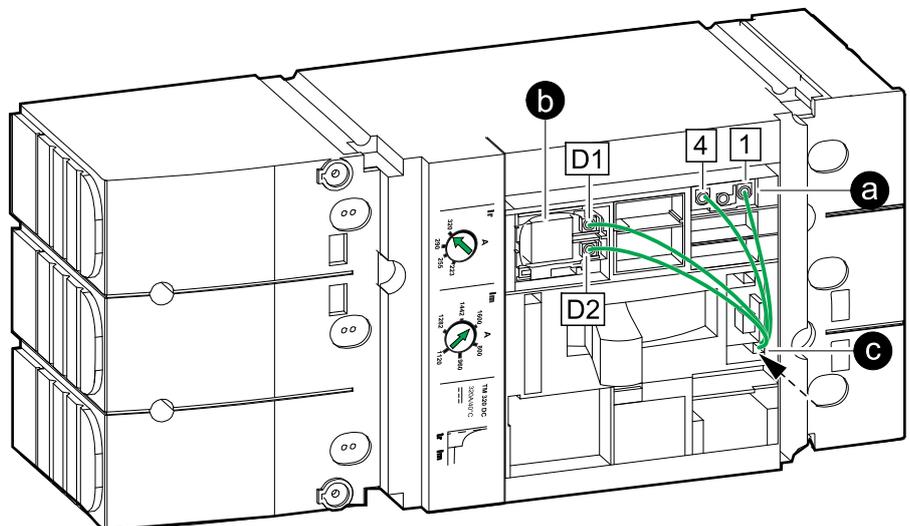
2. Route the battery temperature sensor cables through the bottom of the classic battery cabinet to the UPS and connect as shown.

NOTE: One temperature sensor is provided with the UPS. Contact Schneider Electric if you want to buy an additional temperature sensor (0J-0M-1160).

NOTE: The battery temperature sensor cables are considered Class 2 and SELV. Class 2 and SELV circuits must be double isolated from the primary circuitry.

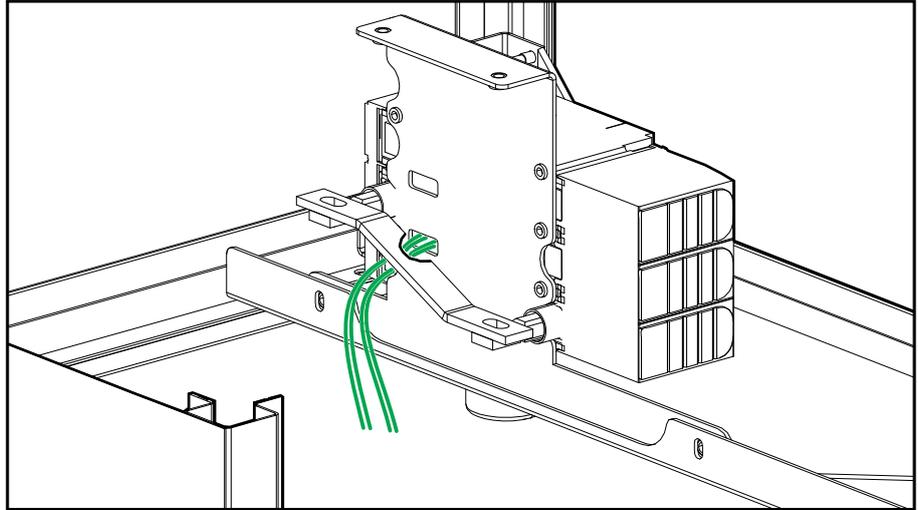


3. Remove the cover on the battery breaker.
4. Connect the signal cables to the battery breaker:
 - a. Connect the signal cables to the AUX switch.
 - b. Connect the signal cables to the undervoltage trip coil.
 - c. Route the signal cables out through the lower opening of the battery breaker.

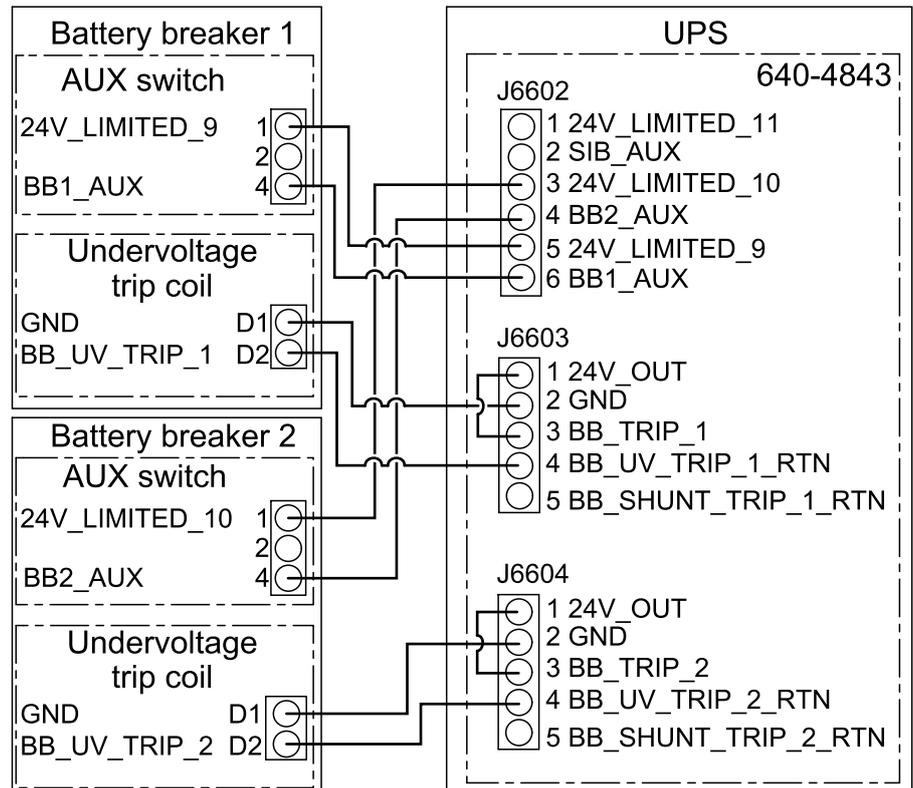


- Route the signal cables from behind the battery breaker and out through the bottom of the classic battery cabinet.

Rear View of the Battery Breaker



- Reinstall the cover on the battery breaker.
- Connect the signal cables in the UPS as shown.



Connect the Power Cables

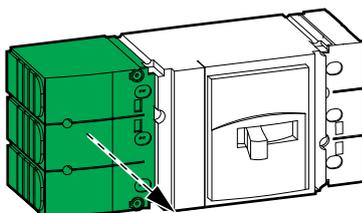
⚡ ⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

Perform a total power off of the UPS before connecting the DC cables and battery cables to the classic battery cabinet.

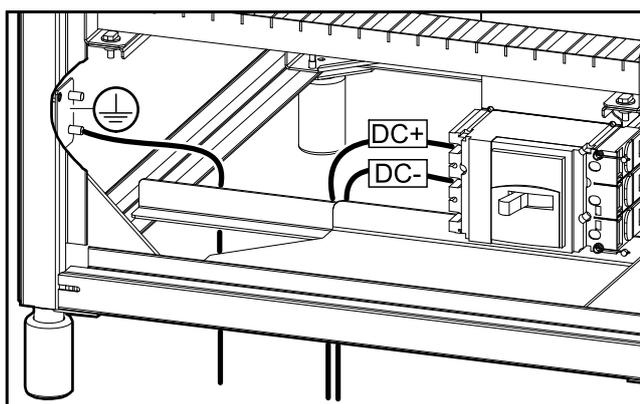
Failure to follow these instructions will result in death or serious injury.

1. Remove the terminal cover from the left side of the battery breaker.

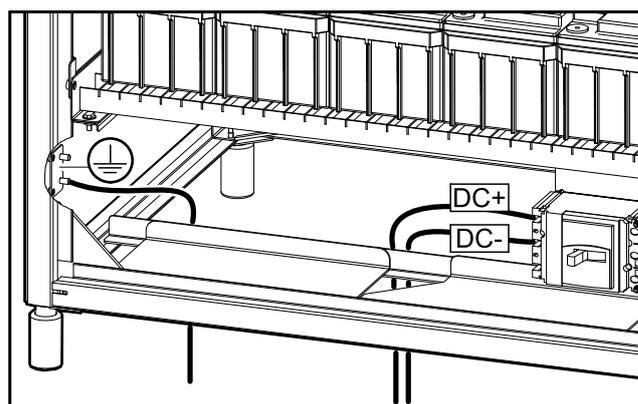


2. Route the PE cable through the bottom of the classic battery cabinet and connect the PE cable.

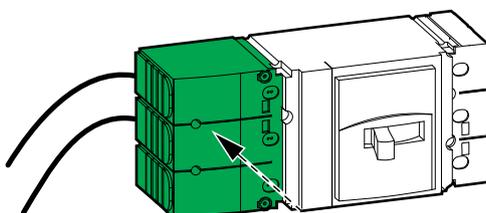
GVSCBC7A, GVSCBC7B, GVSCBC7C



GVSCBC10A2, GVSCBC10B2



3. Route the DC cables through the bottom of the classic battery cabinet and connect the DC cables (DC+, DC-). Use lock washers (not provided) when connecting the DC cables.
4. Reinstall the terminal cover on the left side of the battery breaker.



5. Reinstall the breaker protection plates.

6. Interconnect the batteries on each shelf with the provided copper bars or cables as shown. Each shelf is connected the same way. Follow the diagram that matches your classic battery cabinet configuration.

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

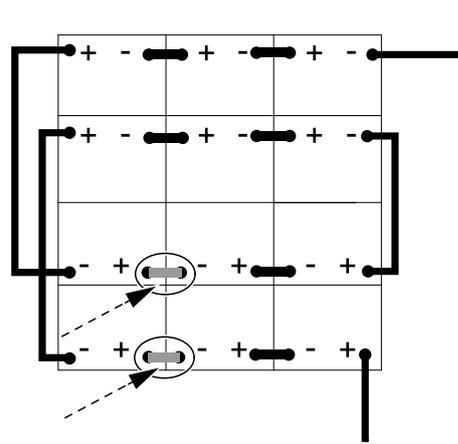
Batteries can present a risk of electric shock and high short-circuit current. The following precautions must be observed when working on batteries

- 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. The likelihood of such shock can be reduced if such grounds are removed during installation and maintenance (applicable to equipment and remote battery supplies not having a grounded supply circuit).

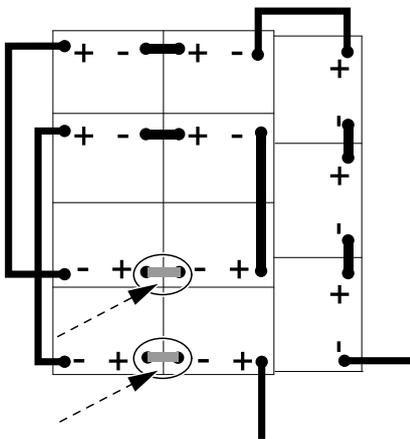
Failure to follow these instructions will result in death or serious injury.

GVSCBC7A

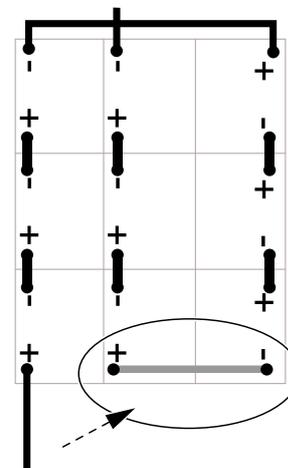
— Preinstalled
 — Install on site



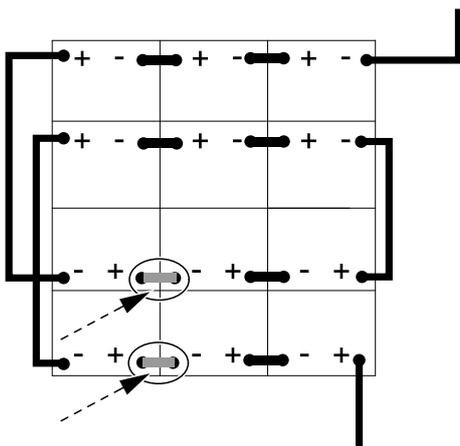
GVSCBC7B



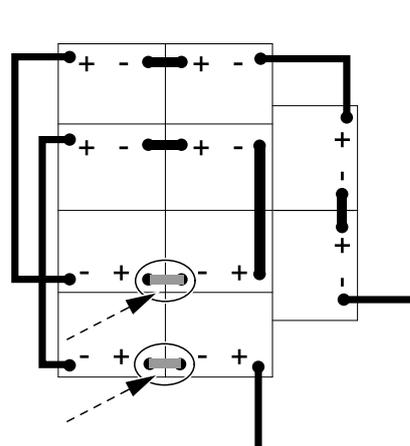
GVSCBC7C



GVSCBC10A2



GVSCBC10B2



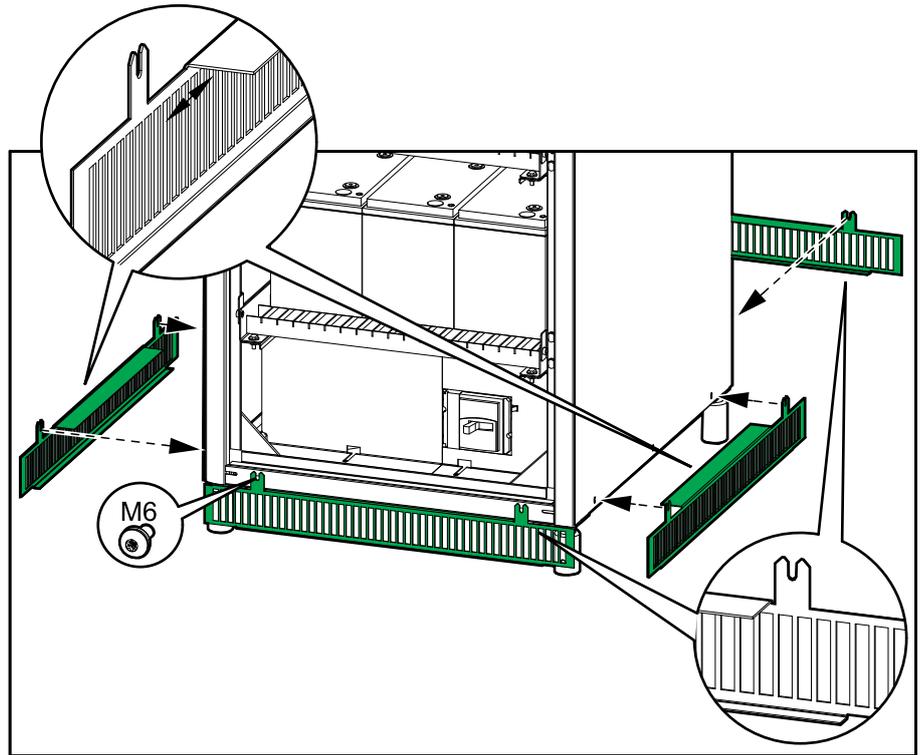
Add Translated Safety Labels to Your Product

The safety labels on your product are in English and French. Sheets with translated safety labels are provided with your product.

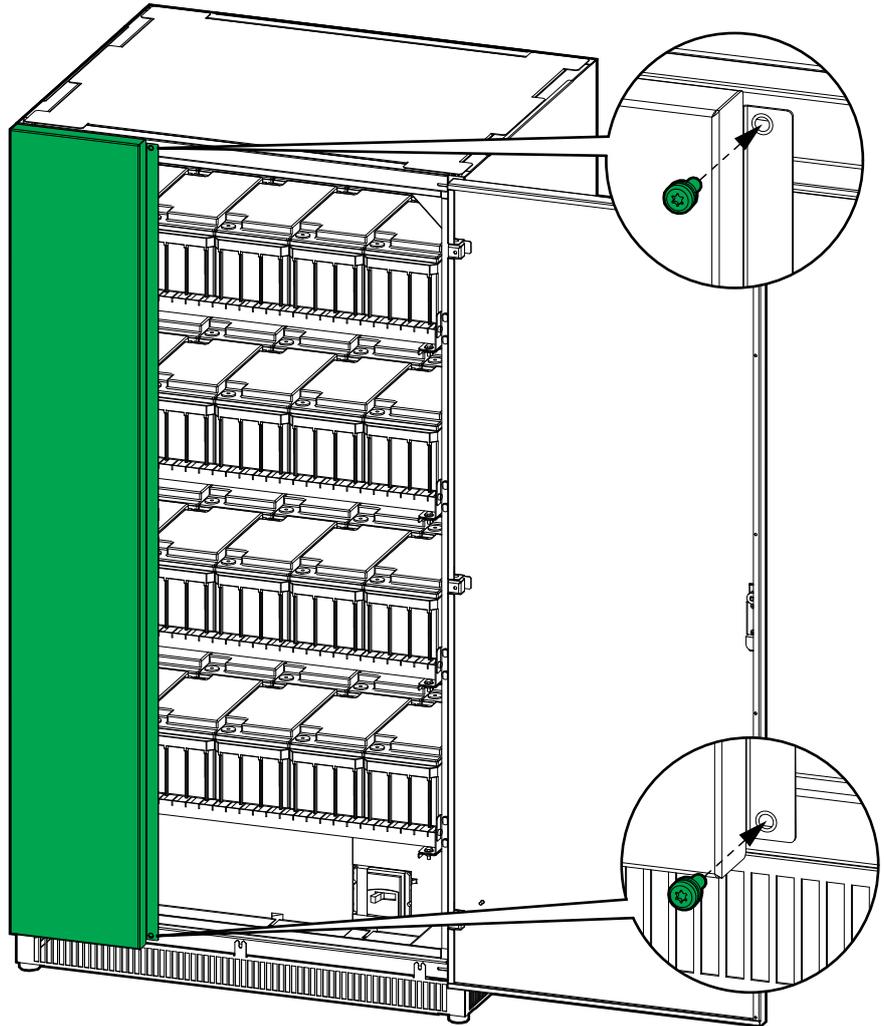
1. Find the sheets with translated safety labels provided with your product.
2. Check which 885-XXX numbers are on the sheet with translated safety labels.
3. Locate the safety labels on your product that match the translated safety labels on the sheet – look for the 885-XXX numbers.
4. Add the replacement safety label in your preferred language to your product on top of the existing French safety label.

Final Installation

1. Install the provided kick plates on the front, rear, and sides of the classic battery cabinet.



2. Close the door(s). On GVSCBC10A2 and GVSCBC10B2, install two screws to close the left door.

GVSCBC10A2, GVSCBC10B2

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

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