

Galaxy 300

UPS without Internal Batteries

Installation

60–80 kVA
05/2016



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

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

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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.

Electromagnetic Compatibility

NOTICE

RISK OF ELECTROMAGNETIC DISTURBANCE

This is a product Category 3 according to IEC 62040-2 for commercial, industrial and similar applications in the second environment - installation restrictions or additional measures may be needed to prevent disturbances. The second environment includes all commercial, light industry and industrial locations other than residential, commercial and light industrial premises directly connected without intermediate transformer to a public low-voltage mains supply. The installation and cabling must follow the Electromagnetic compatibility rules, e.g.:

- the segregation of cables,
- the use of shielded or special cables when relevant,
- the use of grounded metallic cable tray and supports.

Failure to follow these instructions can result in equipment damage.

Safety Precautions

⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

All safety instructions in this document must be read, understood and followed.

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

⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

Read all instructions in the Installation Manual before installing or working on this UPS system.

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 UPS system 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.
- After the UPS system has been electrically wired, do not start up the system. Start-up must only be performed by Schneider Electric.

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 UPS system in a temperature controlled indoor environment free of conductive contaminants and humidity.
- Install the UPS system 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 UPS 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 UPS system and do not cover the product's ventilation openings when the UPS system is in operation.

Failure to follow these instructions can result in equipment damage.

NOTICE**RISK OF EQUIPMENT DAMAGE**

Do not connect the UPS output to regenerative load systems including photovoltaic systems and speed drives.

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 UL 1778 4th 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.

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

NOTICE**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, Schneider Electric recommends 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 equipment damage.

Specifications

Input Specifications

	60 kVA			80 kVA		
Nominal input voltage (V)	380	400	415	380	400	415
Input voltage (V)	380–400–415					
Connection type	3P + N + PE					
Voltage range (V)	342–475					
Frequency range (Hz)	45–65					
Nominal input current (A)	80	76	73	106	100	97
Maximum input current (A)	99	94	91	128	122	118
Input current limitation (A)	228					
Total harmonic distortion (THDI)	<5% at full linear load					
Maximum input short-circuit withstand (kA)	I _{cc} =16 kA I _{pk} /I _{cc} =1.7 Test duration: 30 ms Upstream protection device: See <i>Overcurrent Protection</i> , page 13.					
Protection	Backfeed signal					
Ramp-in	1–30 s					

Bypass Specifications

	60 kVA			80 kVA		
Nominal bypass voltage (V)	380	400	415	380	400	415
Connection type	3P + N + PE					
Bypass voltage range (V)	323–470					
Frequency (Hz)	50/60					
Frequency range (Hz)	50/60 ±8%					
Nominal bypass current (A)	91	87	84	121	116	111
Protection	Backfeed signal					

Output Specifications

	60 kVA			80 kVA		
Nominal output voltage (V)	380	400	415	380	400	415
Connection type	3P + N + PE					
Overload capacity	125% for 10 minutes at 40 °C 150% for 1 minute at 40 °C >150% for 100 ms at 40 °C					
Output voltage tolerance	±2%					
Output power factor	0.8 0.9 ¹					
Nominal output current (A)	91	87	84	121	116	111
Total harmonic distortion (THDU)	<3% at 100% linear load <5% at 100% non-linear load					
Output frequency (Hz)	50/60 ±1%					
Slew rate (Hz/sec)	2					
Load crest factor	3:1					
Load power factor	From 0.5 leading to 0.5 lagging					

Battery Specifications for Systems without Internal Batteries

	60 kVA	80 kVA
Charging power	6.04 kW charge from 0% to 100% load	
Nominal battery voltage (16 blocks/15 blocks) (VDC)	±192/180	
Nominal float voltage (16 blocks/15 blocks) (VDC)	±218/206	
End of discharge voltage (16 blocks/15 blocks) (full load) (VDC)	±158/148	
End of discharge voltage (16 blocks/15 blocks) (no load) (VDC)	±158/148	
Battery current at full load and nominal battery voltage (16 blocks/15 blocks)(A)	137/146	183/195
Battery current at full load and minimum battery voltage (16 blocks/15 blocks)(A)	167/176	222/236
Temperature compensation	Yes	
Ripple current	< 5% C10	
Battery test	Yes	
Deep discharge protection	Yes	
Recharge according to battery temperature	Yes	

1. 0.9 power factor when temperature is below 25 °C in normal operation. The battery can support maximum 64 kW (80 kVA UPS)/48 kW (60 kVA UPS).

Recommended Cable Sizes

Cables sizes in this manual are based on table 52–C2 of IEC 60364–5–52 with the following assertions:

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

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

	60 kVA	80 kVA
Input cables (mm ²)	35	50
Bypass cables (mm ²)	35	50
Output cables (mm ²)	35	50
Battery cables (mm ²)	70	70

Recommended PE Cable Sizes

Protective earth (PE) cables are sized in accordance with IEC 60364-5-54 Article 543 and Table 54.3.

Recommended Bolt and Lug Sizes

Cable Size (mm ²)	Terminal Bolt Diameter	Cable Lug Type
35	M6	KST TLK35-6
50	M8	KST TLK50-8
70	M8	KST TLK70-8

Overcurrent Protection

Required Upstream/Downstream Breakers

DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

The upstream breakers listed below are required to obtain the conditional short-circuit current rating I_{cc} at 16 kA symmetrical rms.

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

kVA rating	60 kVA			80 kVA		
	Input	Bypass	Output	Input	Bypass	Output
Breaker	NSX160F Micro 2.2	NSX160F Micro 2.2	NSX160F Micro 2.2	NSX160F Micro 2.2	NSX160F Micro 2.2	NSX160F Micro 2.2
Rating (A)	160	160	160	160	160	160
I _o	100	125	125	125	160	160
I _r (x I _o)	1	1	1	1	1	1
I _{sd} (x I _r)	1.5-10	1.5-10	1.5-10	1.5-10	1.5-10	1.5-10

Torque Specifications

Bolt size	Torque
M3	1 Nm
M4	1.2–2.2 Nm
M5	3.5–4.5 Nm
M6	4.5–6 Nm
M8	10–12 Nm

UPS Weights and Dimensions

UPS with internal batteries

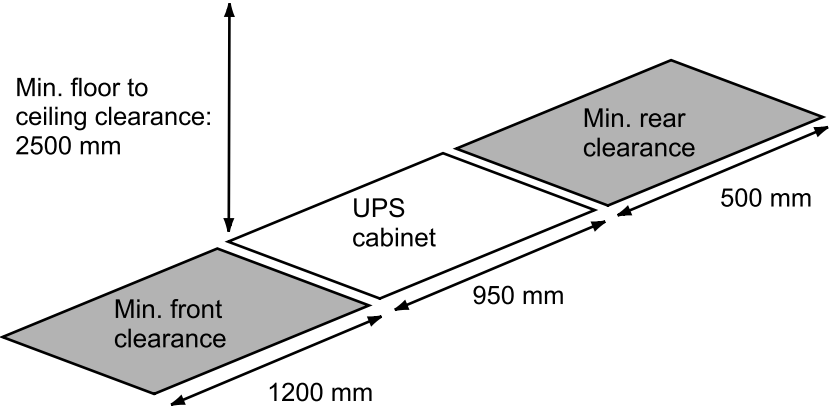
	Weight kg	Height mm	Width mm	Depth mm
60 kVA UPS with internal batteries with 5 min battery runtime (G3HT60KHB1S)	575	1900	700	950
60 kVA UPS with internal batteries with 10 min battery runtime (G3HT60KHB2S)	660			
80 kVA UPS with internal batteries with 5 min battery runtime (G3HT80KHB1S)	735			

UPS without internal batteries

	Weight kg	Height mm	Width mm	Depth mm
60 kVA UPS without internal batteries, 0 min CLA (G3HT60KHLS)	300	1900	700	950
80 kVA UPS without internal batteries, 0 min CLA (G3HT80KHLS)	375			

UPS Cabinet 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.



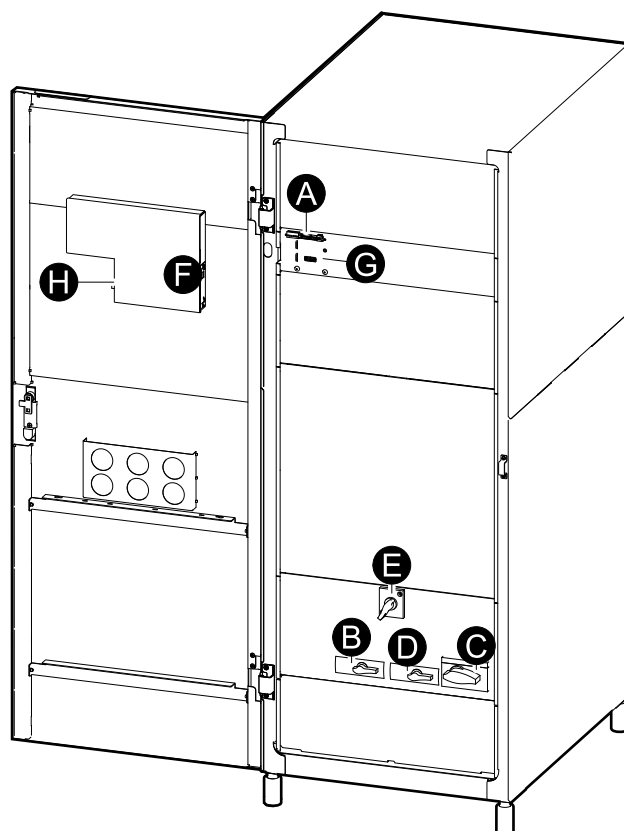
Environmental

	Operation	Storage
Temperature	0 °C to 40 °C	-15 °C to 40 °C for systems with batteries -25 °C to 55 °C for systems without batteries
Relative humidity	0% to 95% non-condensing	
Elevation derating according to IEC 62040–3	1000 m: 1.000 1500 m: 0.975 2000 m: 0.950 2500 m: 0.925 3000 m: 0.900	≤ 15000 m above sea level (or in an environment with equivalent air pressure)
Audible noise	65 dBA at 100% load	
Protection class	IP20 (dust filter as standard)	
Color	RAL 9023 Gray	

Heat Dissipation

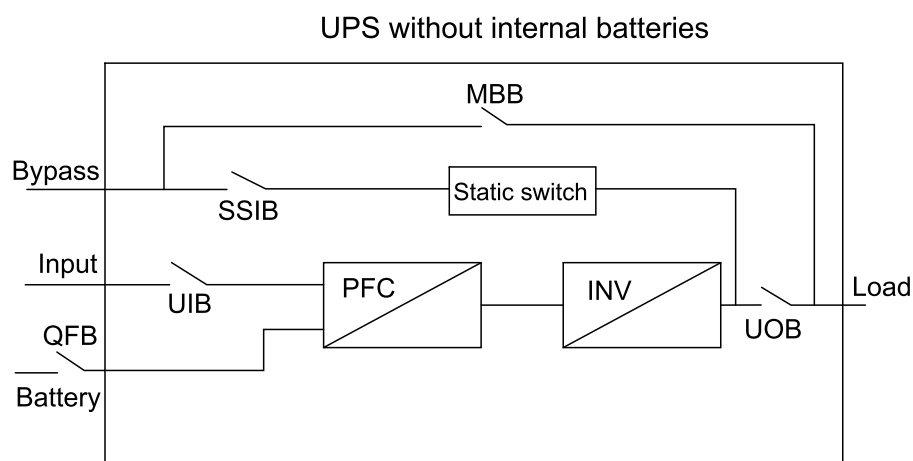
Rating	60 kVA	80 kVA
Heat dissipation (kW)	3.6	4.9

Overview of UPS without Internal Batteries



- A. Dry contact, ATIZ, and EPO terminals
- B. UIB – Unit input breaker
- C. UOB – Unit output breaker
- D. SSIB – Static switch input breaker
- E. MBB – Maintenance bypass breaker
- F. Network management card
- G. Parallel port (optional)
- H. Service interface

One Line Diagram



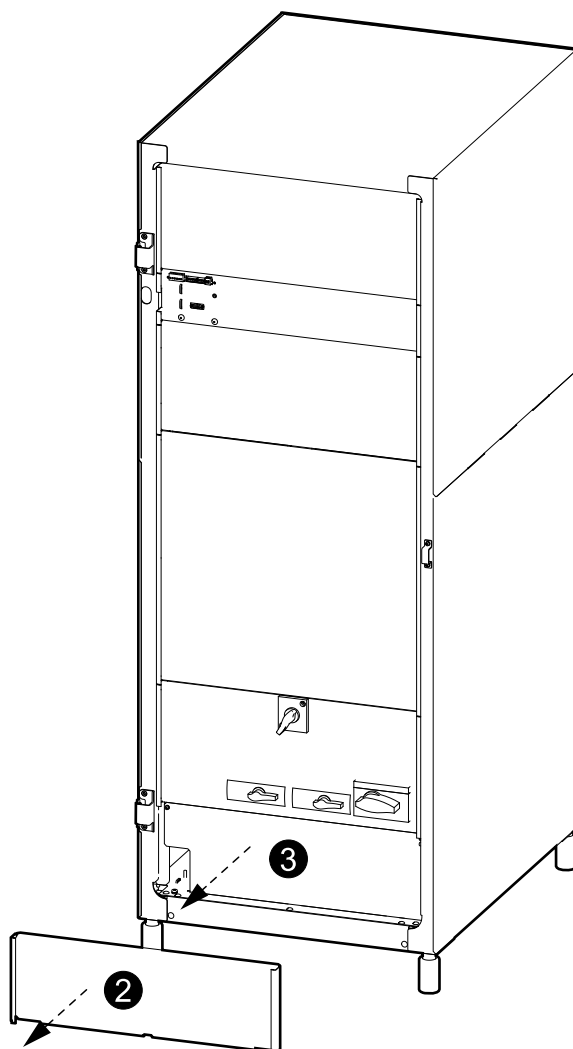
Parallel System

The UPS can be installed in parallel with a maximum of two UPS units. The two UPS units must be installed separately. The parallel connection between the two UPS units can only be carried out by a Schneider Electric Field Service Engineer using the parallel kit bought separately.

Connect the Power Cables

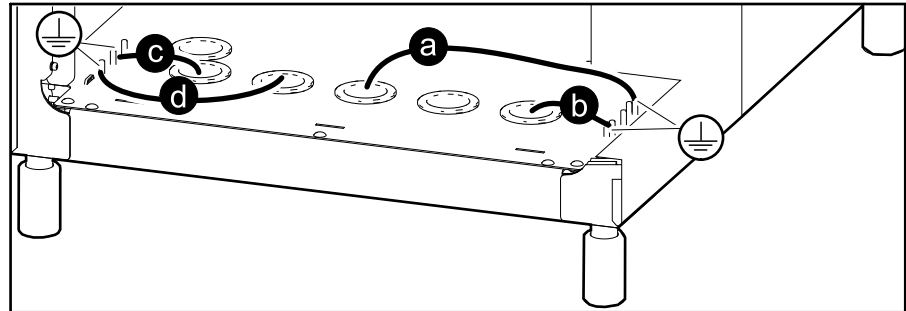
1. Open the front door.
2. Remove the bottom panel.
3. Remove the protection panel.

Front View of the UPS Cabinet

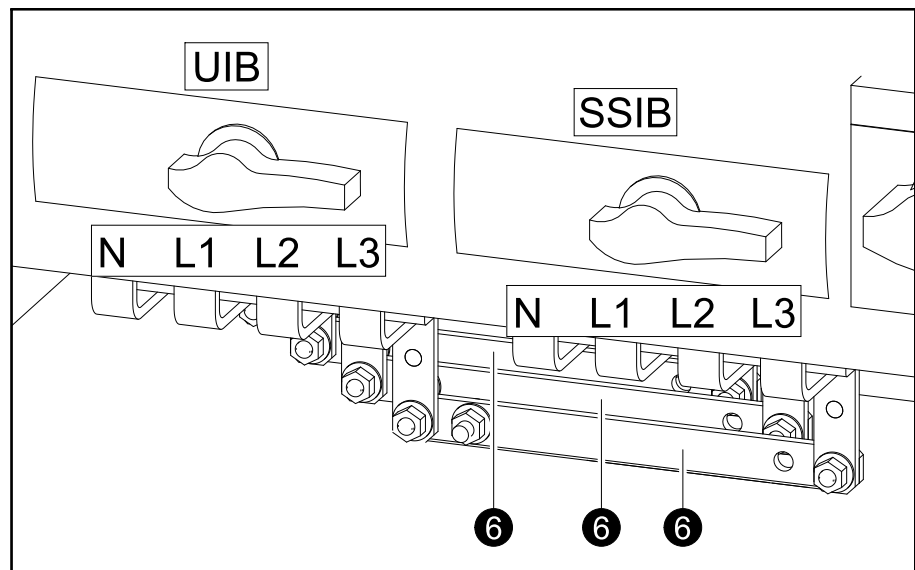


4. Route and connect the PE cable to the PE terminal.
 - a. Route the input PE cable through the dedicated hole in the bottom of the UPS cabinet and connect it to the dedicated PE stud.
 - b. Route the output PE cable through the dedicated hole in the bottom of the UPS cabinet and connect it to the dedicated PE stud.
 - c. Route the battery PE cable from battery cabinet 1 through the dedicated hole in the bottom of the UPS cabinet and connect it to the dedicated PE stud.
 - d. Route the battery PE cable from battery cabinet 2 through the dedicated hole in the bottom of the UPS cabinet and connect it to the dedicated PE stud.

Front View of the UPS Cabinet



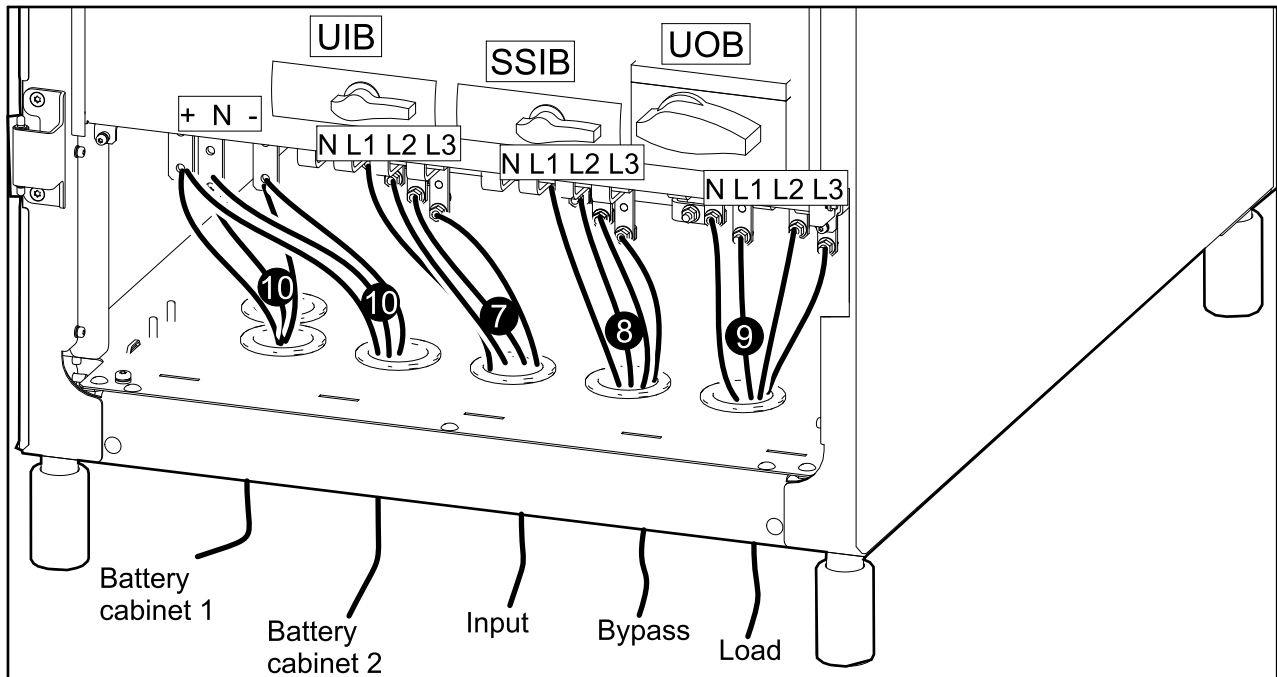
5. Route the input cables, bypass cables, output cables, and battery cables through the holes in the bottom of the UPS cabinet.
6. **Only for dual mains:** Remove the three busbars that connect the input terminals to the bypass terminals (L1 to L1, L2 to L2, L3 to L3).



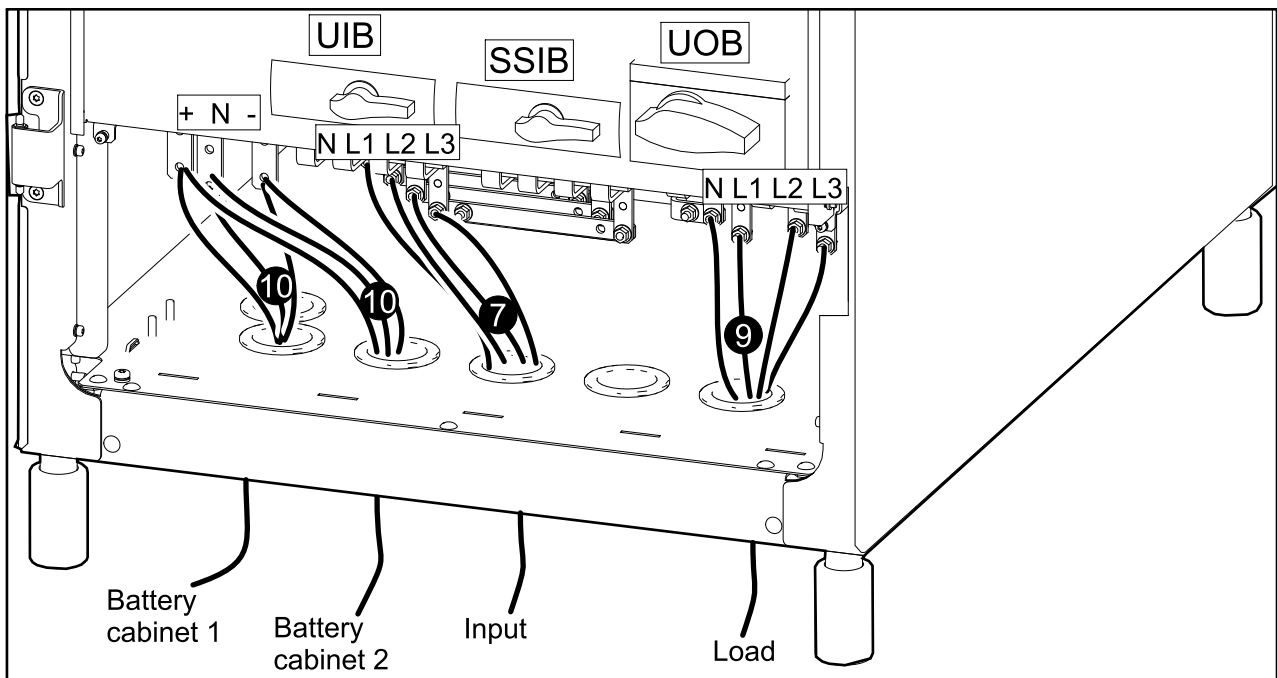
7. Connect the input cables (N, L1, L2, L3) to the UIB terminals.
8. **Only for dual mains:** Connect the bypass cables (N, L1, L2, L3) to the SSIB terminals.
9. Connect the output cables (N, L1, L2, L3) to the UOB terminals.

10. Connect the battery cables from the external battery solution to the battery terminals.

Front View of the UPS Cabinet – Dual Mains



Front View of the UPS Cabinet – Single Mains



Install Backfeed Protection

NOTE: The presence of a backfeed protection on input and bypass is mandatory according to IEC 62040-1.

An additional external isolation device must be installed in the UPS system. A magnetic contactor or a circuit breaker with UVR (Under Voltage Release) functionality can be used for this purpose. In the shown examples, the isolation device is a magnetic contactor (marked with a **C1** for single mains configurations and marked with a **C1** and **C2** for dual mains configurations).

The isolation device must be able to carry the UPS input current. Check with the relevant input current in *Input Specifications*, page 11.

NOTE: The 24 V source should be generated from the input source in single mains configurations and from the bypass source in dual mains configurations.

NOTE: The examples shown in the backfeed protection instructions are for TN earthing systems. For other earthing systems, the external isolation device schematics are similar; refer to Galaxy 300 Earthing Manual. In case of an IT earthing system installation, where the upstream protection is a 4 pole device, the external isolation device must also be 4 pole.

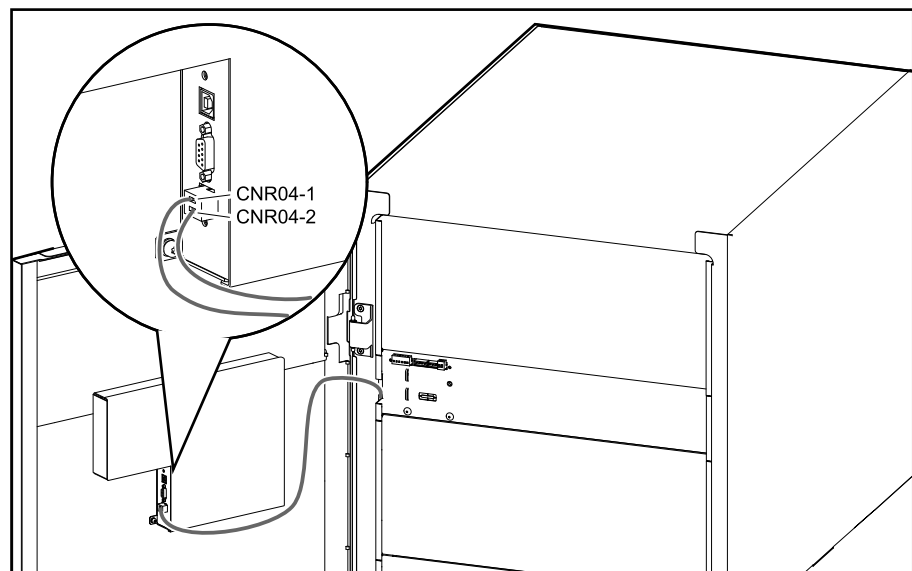
If the UPS is fed by single mains, connect the backfeed protection as instructed in *Install External Backfeed Protection in Single Mains System*, page 22.

If the UPS is fed by dual mains, connect the backfeed protection as instructed in *Install External Backfeed Protection in Dual Mains System*, page 23.

Install External Backfeed Protection in Single Mains System

1. Connect the UPS backfeed dry contact CNR04-1 to an external +24 VDC supply pole "+". Route the cable with the other signal cables.
2. Connect the UPS backfeed dry contact CNR04-2 to a terminal of the relay R coil. Route the cable with the other signal cables.

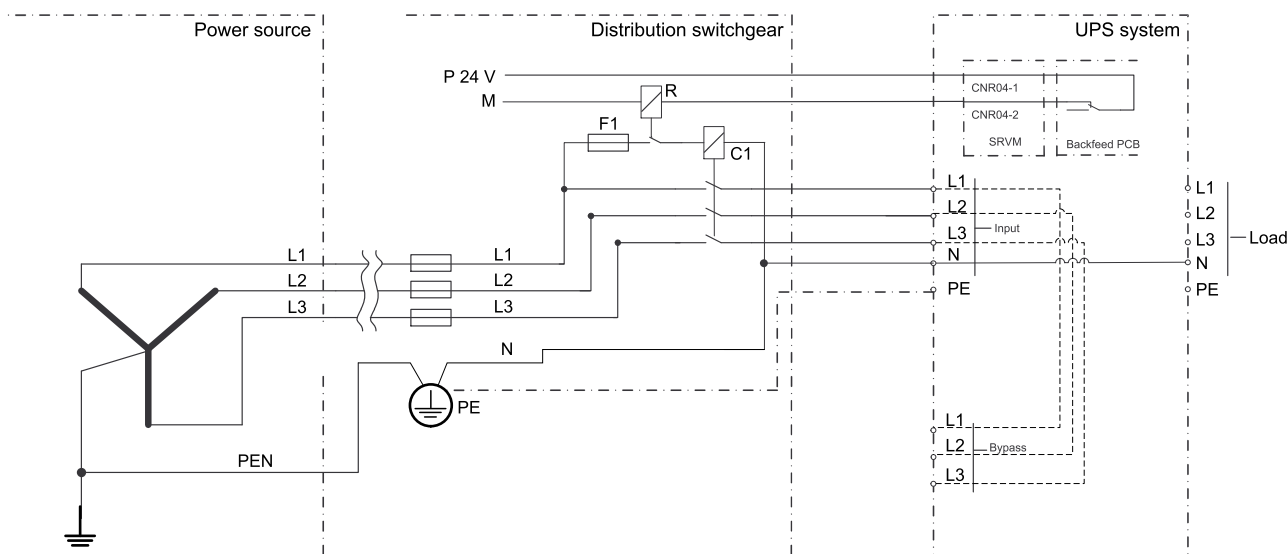
Front View of the UPS Cabinet



3. Connect the other terminal of the relay R coil to a +24 VDC supply pole "-"(M).
4. Serial-connect the fuse (F1), the auxiliary contact of relay R, and the coil of C1 as shown in the illustration below.
5. Connect C1 (L1, L2, L3) to UPS input (L1, L2, L3) as shown in the illustration below.

6. Connect C1 (L1, L2, L3) to input (L1, L2, L3) in distribution switchgear as shown in the illustration below.
7. Connect UPS input (N) to PE in the distribution switchgear, and connect PE in the distribution switchgear to PE in the UPS.

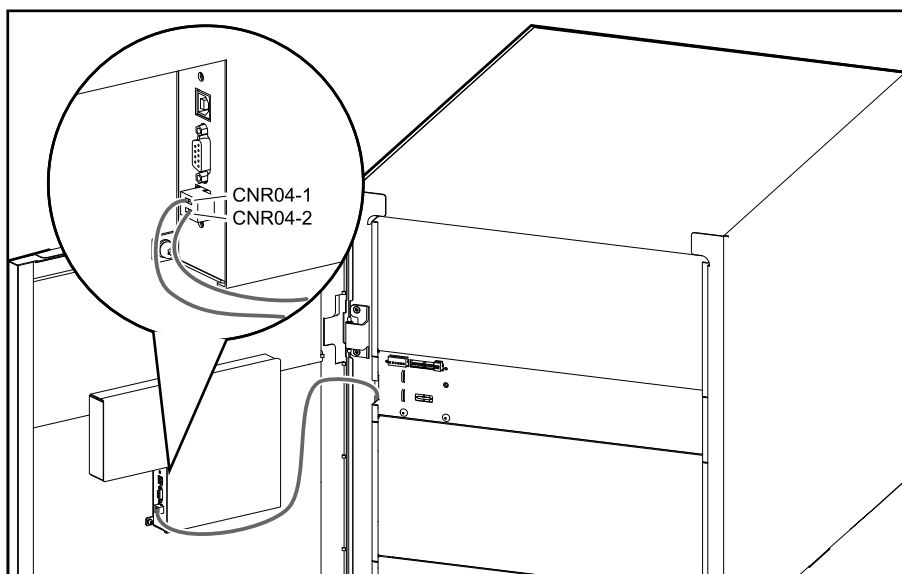
Single Mains UPS and External Isolation Device



Install External Backfeed Protection in Dual Mains System

1. Connect the UPS backfeed dry contact CNR04-1 to an external +24 VDC supply pole “+”. Route the cable with the other signal cables.
2. Connect the UPS backfeed dry contact CNR04-2 to a terminal of the relay R coil. Route the cable with the other signal cables.

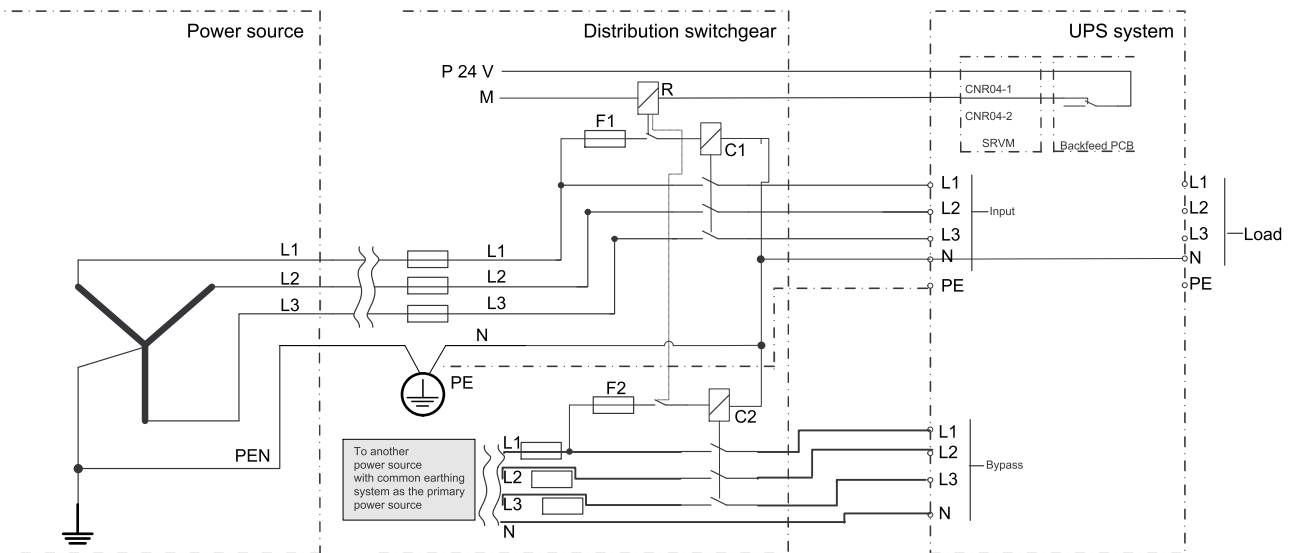
Front View of the UPS Cabinet



3. Connect the other terminal of the relay R coil to a +24 VDC supply pole “-”(M).
4. Serial-connect the fuse (F1), the auxiliary contact of relay R, and the coil of C1 as shown in the illustration below.
5. Connect C1 (L1, L2, L3) to UPS input (L1, L2, L3) as the shown in the illustration below.
6. Connect C1 (L1, L2, L3) to input (L1, L2, L3) in the distribution switchgear as shown in the illustration below.

7. Connect UPS input (N) to PE in the distribution switchgear, and connect PE in the distribution switchgear to PE in the UPS.
8. Connect the other fuse (F2), the other auxiliary contact of relay R, and the coil of C2 as shown in the illustration below.
9. Connect C2 (L1, L2, L3) with UPS bypass input (L1, L2, L3) as shown in the illustration below.
10. Connect C1 (L1, L2, L3) with the input feeding (L1, L2, L3) in distribution switchgear as shown in the illustration below.
11. Connect bypass input (N) with mains feeding (N) in distribution switchgear.

Dual Mains UPS and External Isolation Device



Connect the Signal Cables

⚠ WARNING

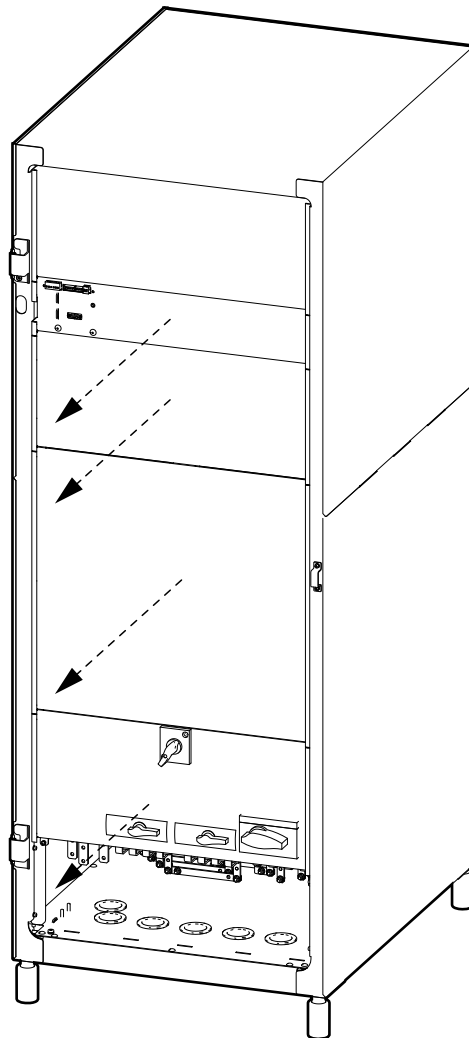
HAZARD OF ELECTRIC SHOCK

All signal cables must have a shielded layer and must be connected to grounding at all connection points.

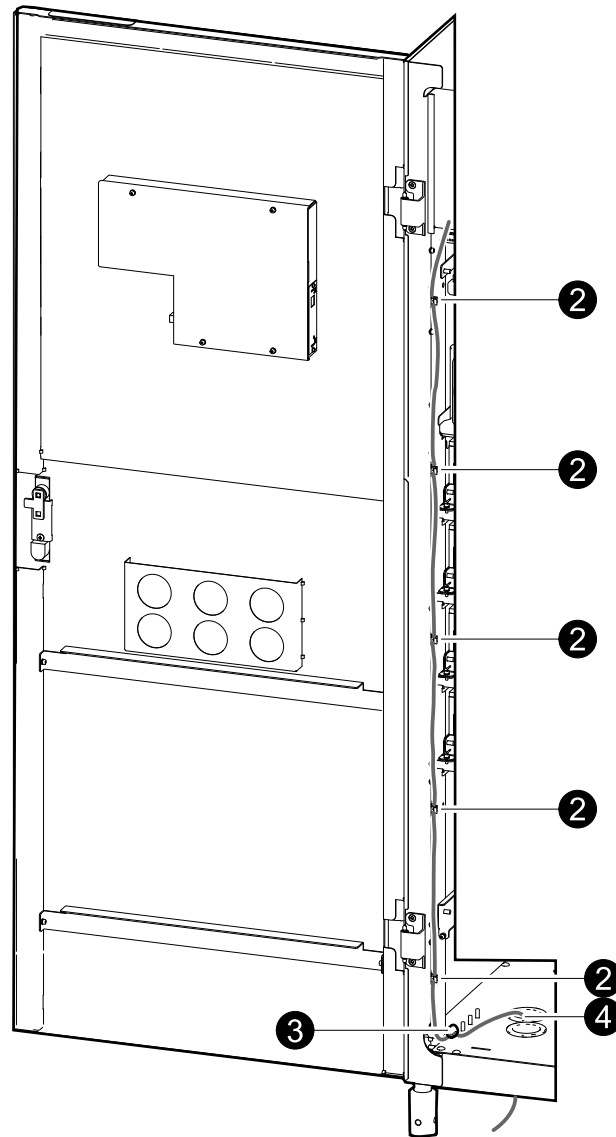
Failure to follow these instructions can result in death, serious injury, or equipment damage.

1. Remove the four indicated panels.

Front View of the UPS Cabinet



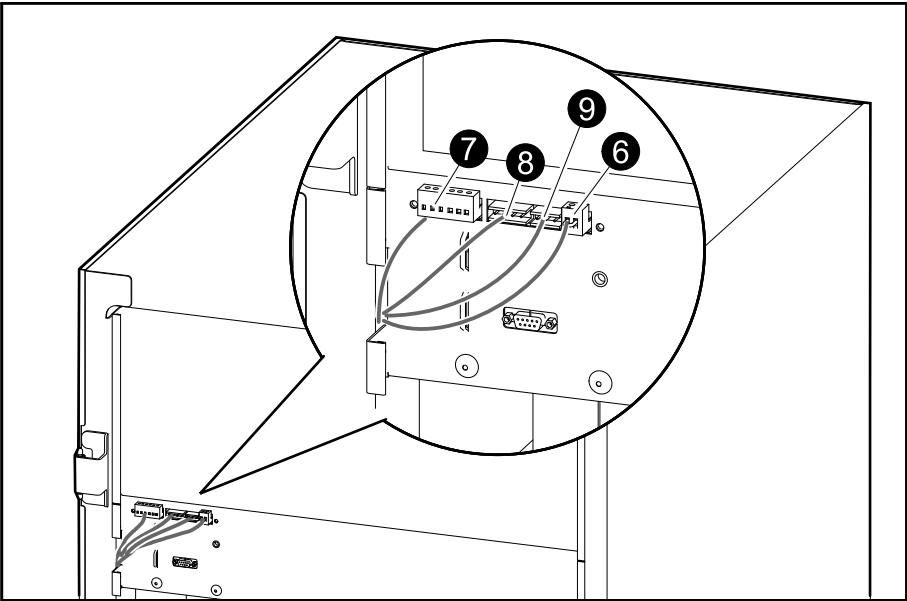
2. Fasten the signal cables to the cable clippers running down the left side of the UPS cabinet.



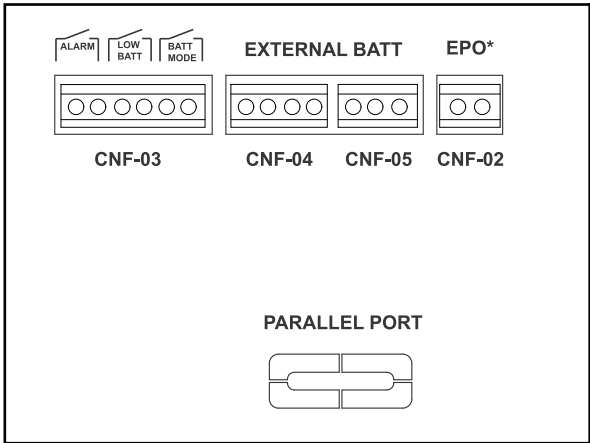
3. Fasten the signal cables with cable ties in the bottom of the UPS cabinet as shown.
4. Route the signal cables out through the dedicated opening for signal cables in the bottom of the UPS cabinet.
5. Reinstall the top panel removed in step 1 and route the signal cables through the slot in the panel.

- 6. Connect the EPO cable (not provided) to the EPO terminal (CNF-02) (normally open contact). If you do not install an EPO device, install a jumper in the EPO terminal.

Front View of the UPS Cabinet



Overview of Signal Cable Terminals



- 7. Connect the dry connector with a shielded cable (not provided) to the dry contact terminal (CNF-03).

Dry Connector Cable Requirements

Permissible voltage (VDC)	30
Permissible current (A)	1
Cable size	4 x 0.93 mm ² , Ø 6.6 ±0.3 mm ²

- 8. Connect the external battery temperature signal cable to port 2 (CNF-04).

9. Connect the external battery breaker signal cable to port 3 (CNF-05).

⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

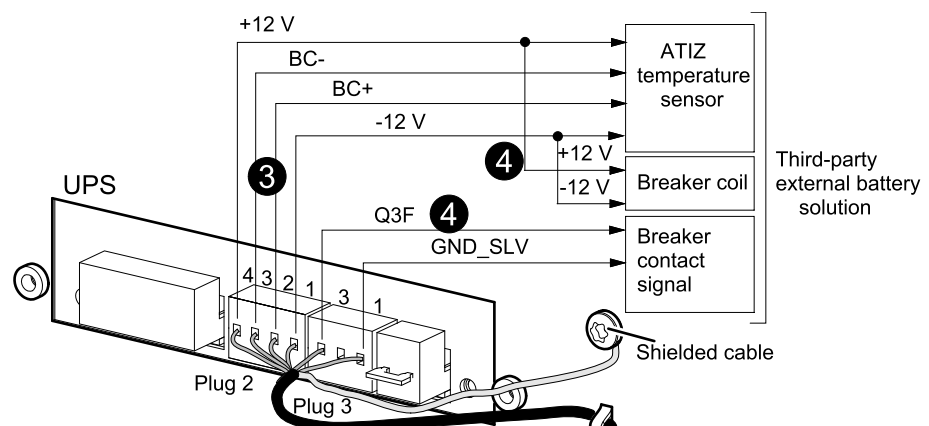
- You must only use the UPS unit version intended for external batteries. A third party battery solution must ONLY be used for a UPS configured with long backup time charger (CLA).
- Before carrying out any of the below steps, you must make sure that the UPS unit and battery unit are powered off. See the operation manual (990-5450) shipped with the UPS unit on how to power off the UPS via the display.
- The external battery temperature detection kit (ATIZ) and the breaker signal must be installed to ensure that the battery works normally. If the ATIZ kit is not installed, the UPS will report a temperature alarm with a permanent alarm. Only a Schneider Electric field service engineer can disable this alarm. The consequence of not installing the ATIZ kit is that the unit does not have a temperature compensation function, and this will also affect the battery life, if the battery is installed in a room that is not appropriately air-cooled.
- The cables must have shielded layer, and they must be connected to the UPS and the external third party battery solution. If not, the unit will face EMC and shutdown problems.
- The battery breaker must be equipped with a coil terminal and an auxiliary contact (min. 24 VDC).
- Schneider Electric is not responsible for the wiring of external third party batteries.

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

10. Prepare one or two shielded cables with four twisted pairs for the ATIZ contact and the battery breaker. All shielded cables must be wound three times around a high permeability NiZn ferrite placed as close to the UPS as possible.

NOTE: +/-12 V power supply is common for ATIZ and the auxiliary coil of the battery breaker.

Front View of the UPS



11. Install the ATIZ signal board in the third party battery solution.

12. Connect the ATIZ signal cable to the ATIZ board in the third party battery solution (see the below table for cable description).

Cable description			
Cable color	Cable label	Description	
Black	-12	-12 V power supply	– to the ATIZ contact
White	BC-	BC- (ATIZ signal)	
Green	BC+	BC+ (ATIZ signal)	
Red	+12	+12 V power supply	
Green-yellow			Grounding

NOTE: If a battery breaker has not been installed in the third party battery solution, install one now. The battery breaker must be equipped with a coil terminal and an auxiliary contact (min. 24 VDC). If there is no undervoltage coil terminal in the battery breaker, then the UPS cannot open the battery breaker when necessary (EPO). If there is no auxiliary contact in the battery breaker, then the UPS will report a battery breaker open alarm with a permanent alarm.

DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

The battery breaker must be open (in the OFF position) before you connect the cables.

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

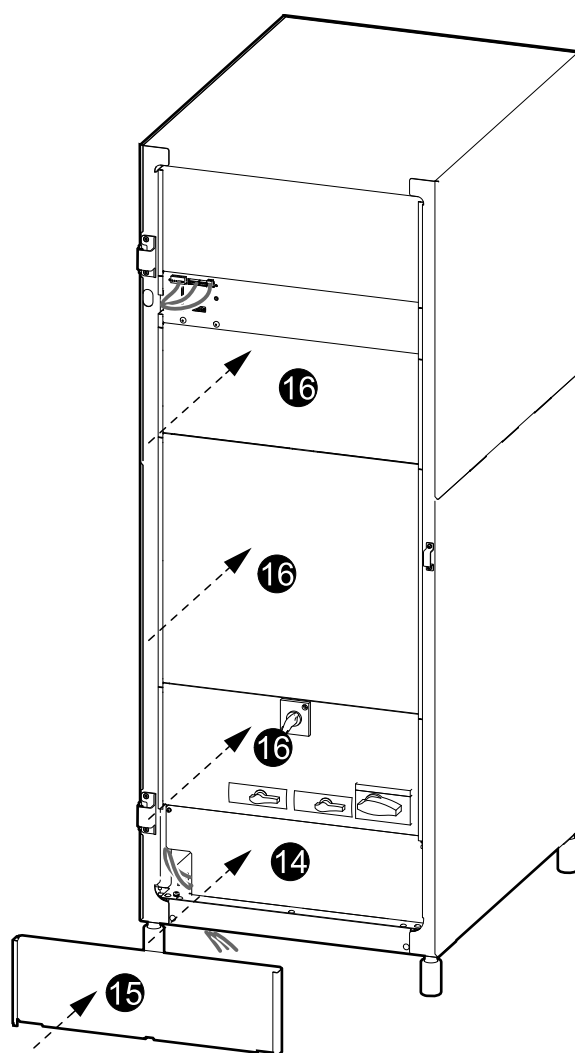
13. Connect the battery breaker signal cable from the UPS to the battery breaker in the third party battery solution (see the below table for cable description).

Cable description			
Cable color	Cable label	Description	
Yellow	QB OF-11	CB contact signal	– to the auxiliary contact (normally closed)
White	QB OF-14	CB contact signal	
Red	QB OF-D4	+12 V power supply	– to the coil terminal
Black	QB OF-D1	-12 V power supply	

NOTE: You can skip steps 14–16 if you are also connecting network management card signal cables.

14. Reinstall the indicated protection panel (removed during power cable installation).

Front View of the UPS Cabinet

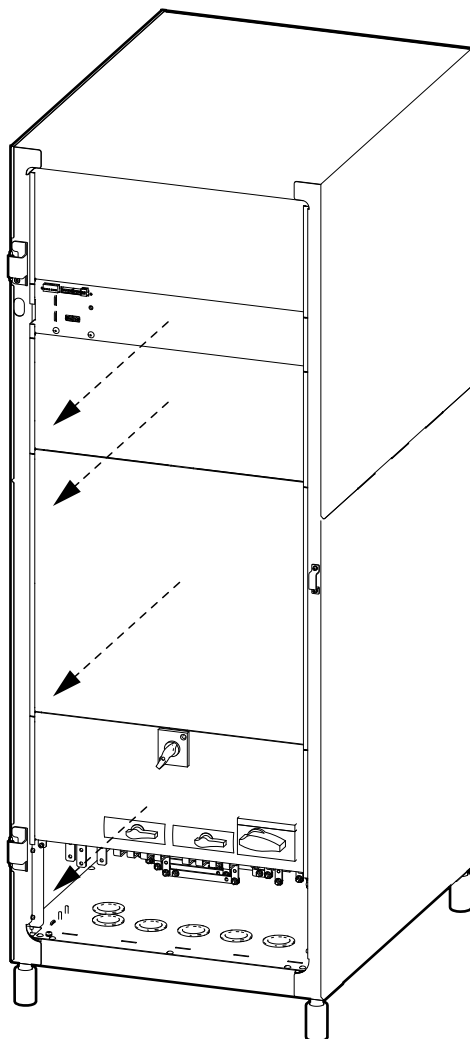


15. Reinstall the bottom panel (removed during power cable installation).
16. Reinstall the three remaining panels removed in step 1.

Connect Network Management Card Signal Cable

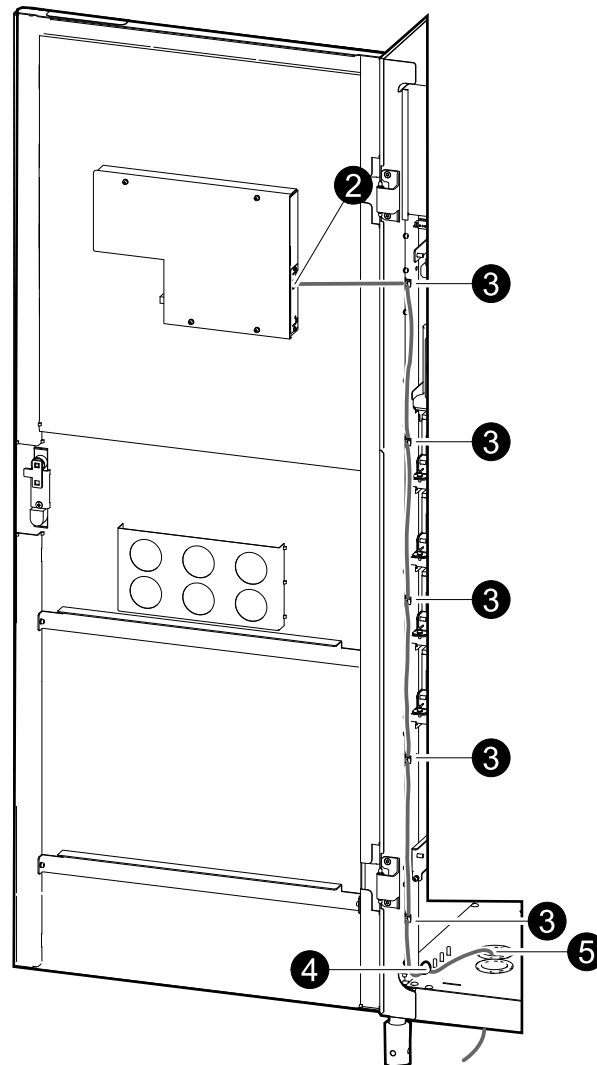
1. Remove the four indicated panels.

Front View of the UPS Cabinet



2. Connect the shielded signal cable to the network management card port in the rear of the door. See network management card documentation for more information.

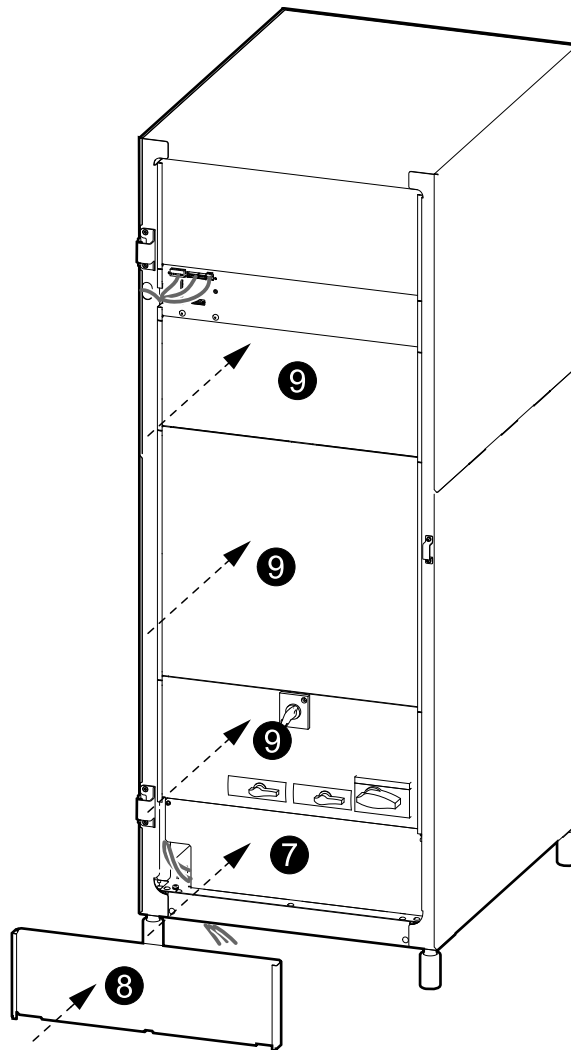
Front View of the UPS Cabinet



3. Route the shielded signal cable through the slot and fasten it to the cable clippers running down the left side of the UPS cabinet.
4. Fasten the shielded signal cable with cable ties in the bottom of the UPS cabinet as shown.
5. Route the shielded signal cable out through the dedicated opening for signal cables in the bottom of the UPS cabinet.
6. Connect the shielded signal cable to your computer interface network.

7. Reinstall the indicated protection panel (removed during power cable installation).

Front View of the UPS Cabinet



8. Reinstall the bottom panel (removed during power cable installation).
9. Reinstall the four panels removed in step 1.

Finish the Installation

1. Check that the PE cables are connected correctly to the left and right side PE studs in the bottom of the UPS cabinet.
2. Turn the following breakers to the **OFF** position:
 - a. Battery breaker in the battery cabinet(s) (**QFB**)
 - b. Maintenance bypass breaker (**MBB**)
 - c. Unit input breaker (**UIB**)
 - d. Unit output breaker (**UOB**)
 - e. Static switch input breaker (**SSIB**)
3. Check that all screws are torqued correctly as stated in *Torque Specifications, page 14*.
4. Check that all cables are fastened with cable ties in the UPS cabinet.
5. Check the clockwise phase rotation (L1, L2, L3) and check that the neutral connection is present.
6. Check that there are no short circuits present on any circuits or the output switchboard.
7. Check that battery polarity matches the battery polarity labels in the bottom of the UPS cabinet.
8. Install the protection panel.
9. Install all panels.

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As standards, specifications, and design change from time to time,
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990–9808A–001