Easy UPS 3L

Maintenance Bypass Cabinet for IEC

Installation

E3LMBP250K600H

Latest updates are available on the Schneider Electric website
1/2025

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Table of Contents

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.

Per IEC 62040-1: "Uninterruptible power systems (UPS) -- Part 1: Safety Requirements," this equipment, including battery access, must be inspected, installed and maintained by a skilled person.

The skilled person is a person with relevant education and experience to enable him or her to perceive risks and to avoid hazards which the equipment can create (reference IEC 62040-1, section 3.102).

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 system 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 system.

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

⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR 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 will result in death or serious injury.

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.

Additional Safety Precautions After Installation

⚠⚠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. If additional construction work is needed in the installation room after this product has been installed, turn off the product and cover the product with the protective packaging bag the product was delivered in.

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

Electrical Safety

This manual contains important safety instructions that should be followed during the installation and maintenance of the UPS system.

⚠⚠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.
- Disconnection devices for AC and DC must be provided by others, be readily accessible, and the function of the disconnect device marked for its function.
- 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.

The label below must be added if:

1. The UPS input is connected through external isolators that, when opened, isolate the neutral, OR
2. The UPS input is connected via an IT power system.

The label must be placed adjacent to all upstream power disconnection devices that isolate the neutral.

⚠⚠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.

Specifications

Maximum Short Circuit Rating

The maximum short circuit rating for the maintenance bypass cabinet is Icc=35 kA conditioned by installation of the upstream protection breaker listed in the UPS installation manual.

Required Upstream Protection

Refer to the UPS installation manual for recommended upstream protection.

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 240 mm^2.

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

Refer to the UPS installation manual for recommended cable sizes.

Torque Specifications

Bolt size	Torque
M3	0.7 Nm
M4	1.2 Nm
M5	2.3 Nm
M6	4.5 Nm
M8	15 Nm
M10	28 Nm
M12	50 Nm

Maintenance Bypass Cabinet Weight and Dimensions

Commercial reference	Weight kg	Height mm	Width mm	Depth mm
E3LMBP250K600H	227	1970	500	850

Maintenance Bypass Cabinet Shipping Weight and Dimensions

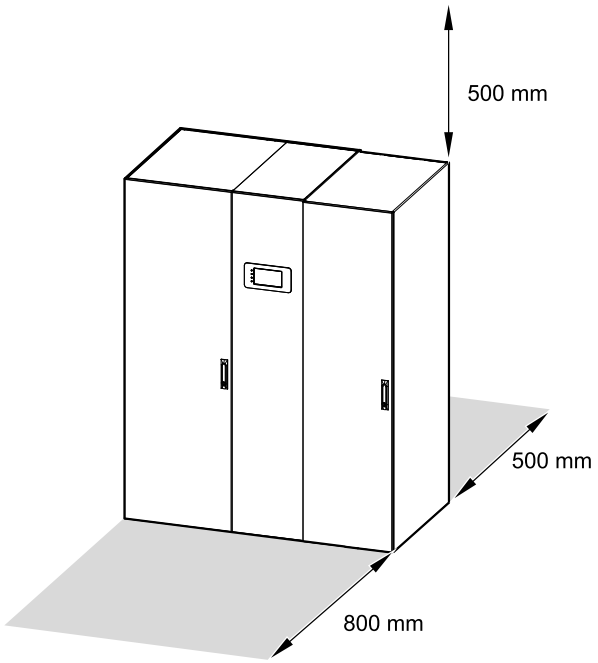
Commercial reference	Weight kg	Height mm	Width mm	Depth mm
E3LMBP250K600H	267	2150	950	990

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 maintenance bypass cabinet can be installed remotely to the UPS. It illustrates the procedures of installing the maintenance bypass cabinet to the right of the UPS in this manual as an example.

Front View of the UPS and the Maintenance Bypass Cabinet



Environment

	Operating	Storage
Temperature	0 °C to 30 °C (at power factor = 1) 30 °C to 40 °C (at power factor = 0.9)	-25 °C to 55 °C
Relative humidity	0-95% non-condensing	
Protection class	IP20	
Color	RAL 9003, gloss level 85%	

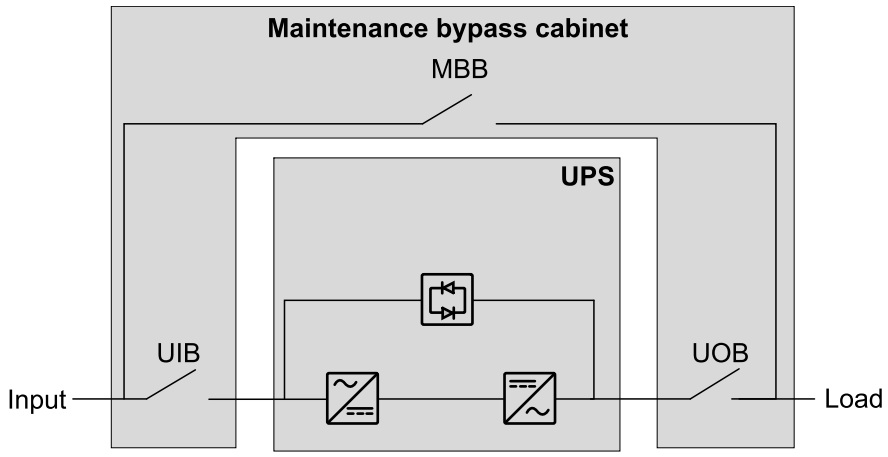
Compliance

Safety	IEC 62040-1:2017, Edition 2.0, Uninterruptible power systems (UPS) – Part 1: Safety requirements
Transportation	ISTA 2B
Pollution degree	2
Overvoltage category	III
Earthing system	TN-S, TN-C, TT, or IT

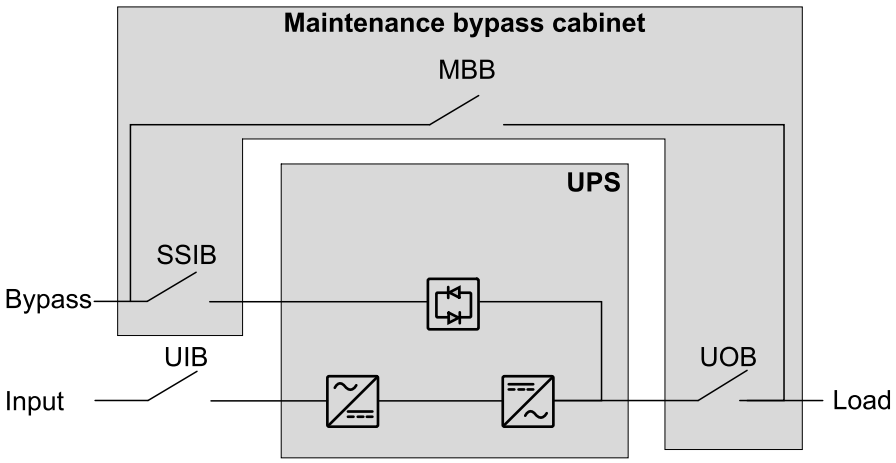
System Overview

UIB	Unit input breaker/unit input switch
SSIB	Static switch input switch
MBB	Maintenance bypass switch
UOB	Unit output switch

Single Mains UPS System



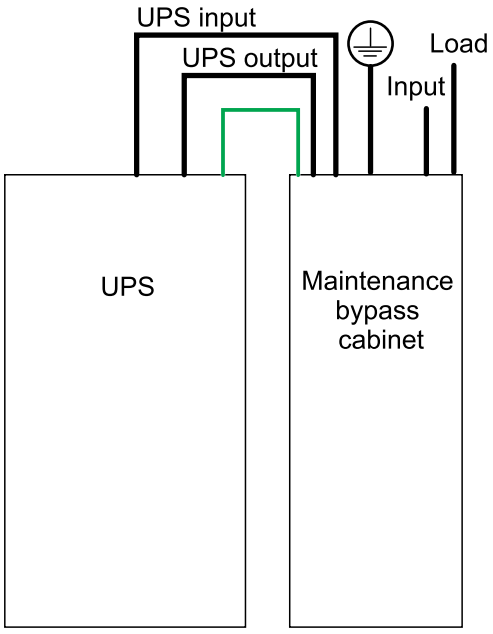
Dual Mains UPS System



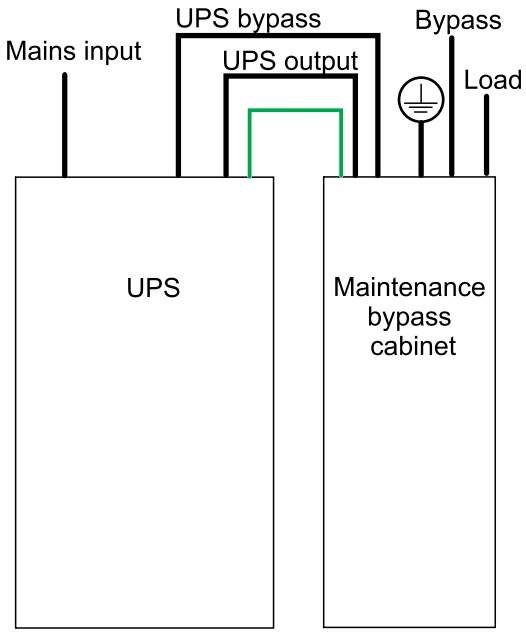
Installation Procedure

Signal cable
Power cable

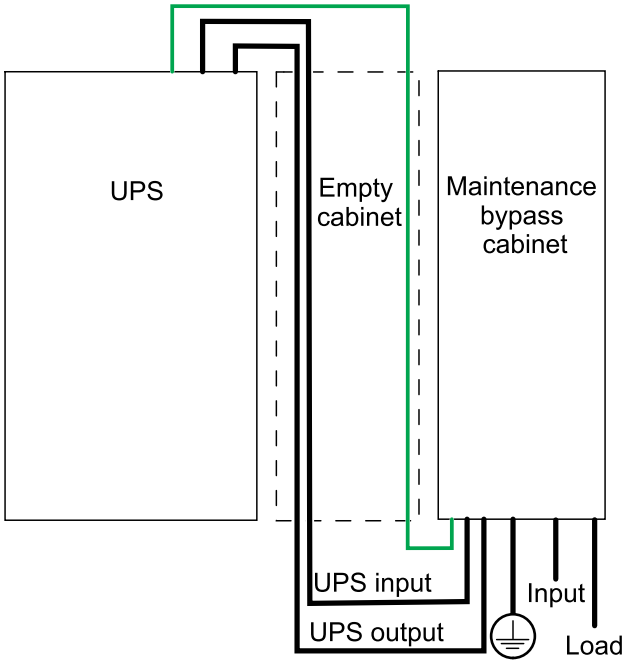
Single Mains – Top Cable Entry



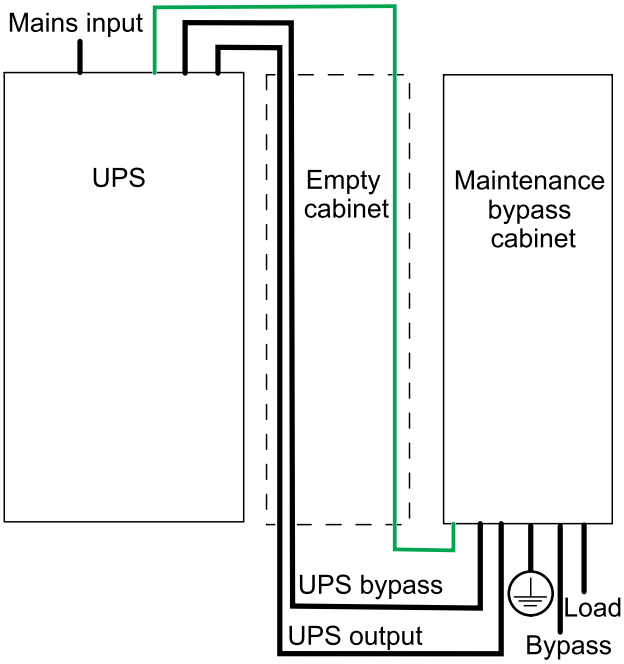
Dual Mains – Top Cable Entry



Single Mains – Bottom Cable Entry

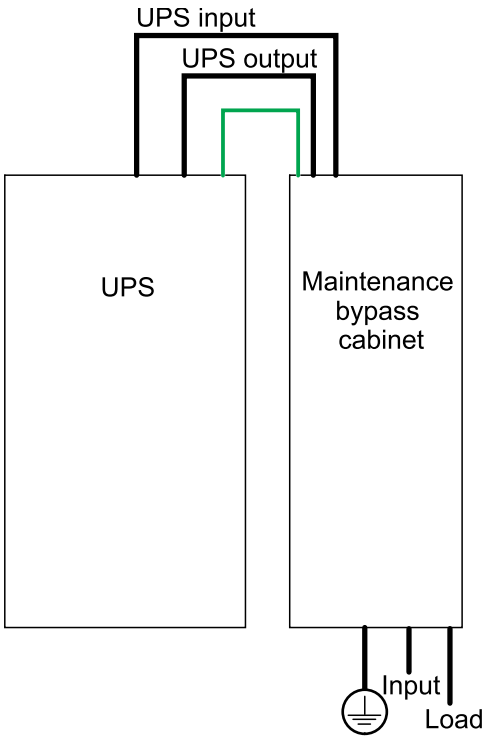


Dual Mains – Bottom Cable Entry

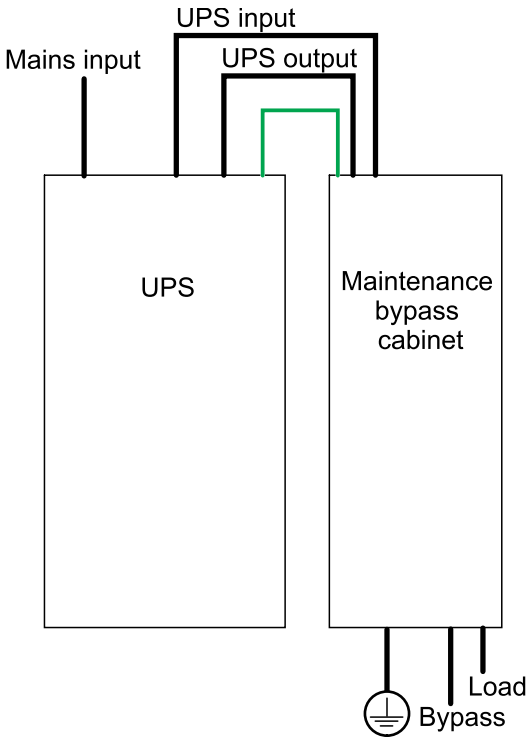


NOTE: An empty cabinet should be used to route the cables in bottom cable entry system.

Single Mains – Top and Bottom Cable Entry



Dual Mains – Top and Bottom Cable Entry



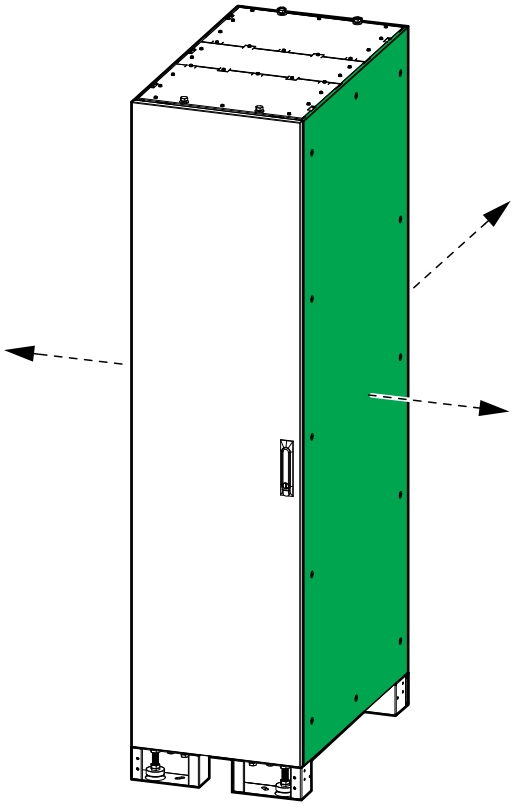
1. Follow the UPS installation manual to prepare the UPS for installation.
2. Prepare for Installation, page 15.
3. Connect the Power Cables, page 19.
4. Prepare Internal Signal Cables Between MBC and UPS, page 21.

5. Connect the Signal Cables Between the Maintenance Bypass Cabinet and the UPS, page 25.
6. Follow the UPS installation manual and other auxiliary product installation manuals to connect relevant signal cables and external communication cables in the UPS.
7. Final Installation, page 27.

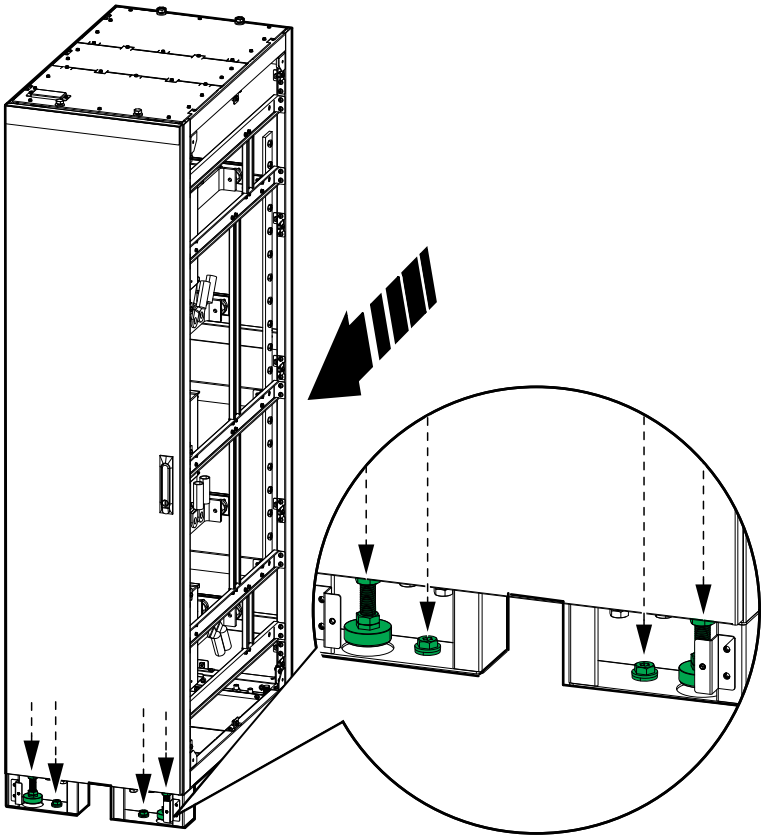
For moving or decommissioning the maintenance bypass cabinet after installation has been completed, please see Decommission or Move the Maintenance Bypass Cabinet to a New Location, page 28.

Prepare for Installation

1. Remove the right/left side panel(s) (optional) and the rear panel from the maintenance bypass cabinet.

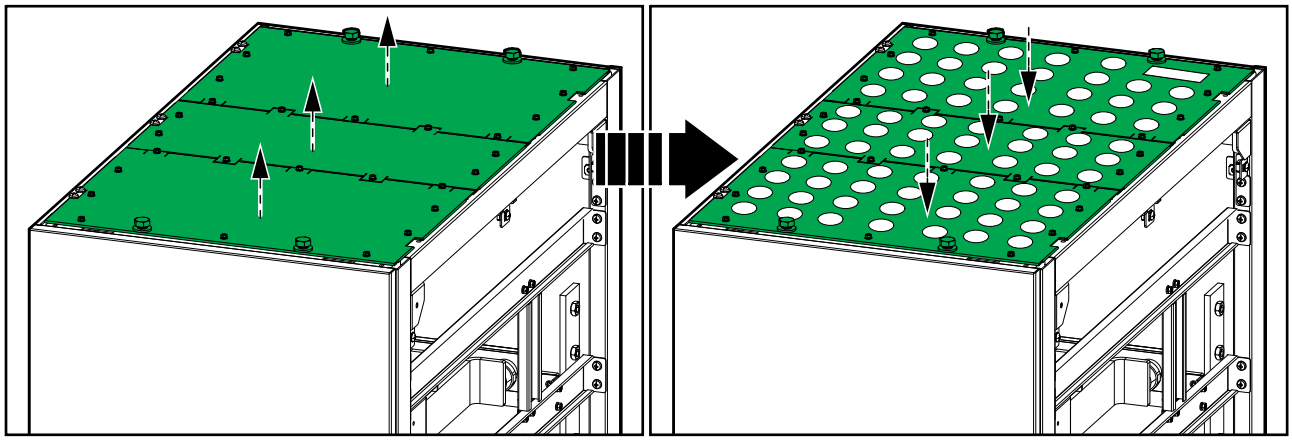


2. Push the maintenance bypass cabinet into final position. Lower the front and rear feet on the maintenance bypass cabinet with a wrench until they connect with the floor. Use a bubble-leveler to check that the maintenance bypass cabinet is level. Install the four M10 screws in the maintenance bypass cabinet and mount it to the floor or steel rack.



3. Perform one of the following:
   – **Top cable entry:** Remove the top gland plates. Drill or punch holes for power cables or grommets (not provided) in the gland plates.

Top Cable Entry



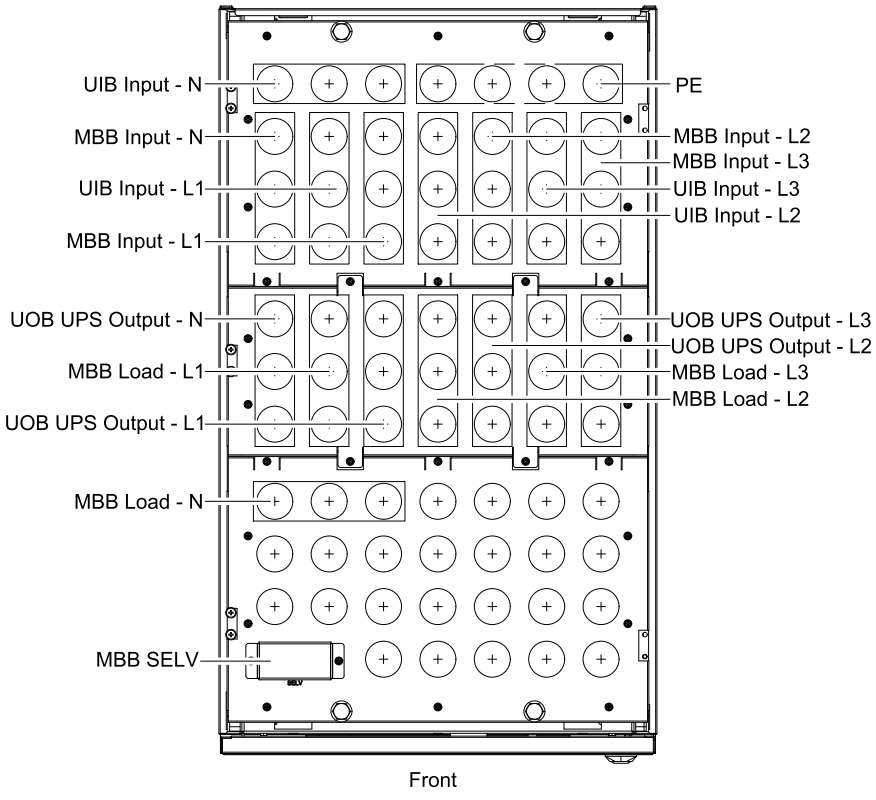
⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

Do not drill or punch holes with the gland plates installed and do not drill or punch holes in close proximity to the cabinet.

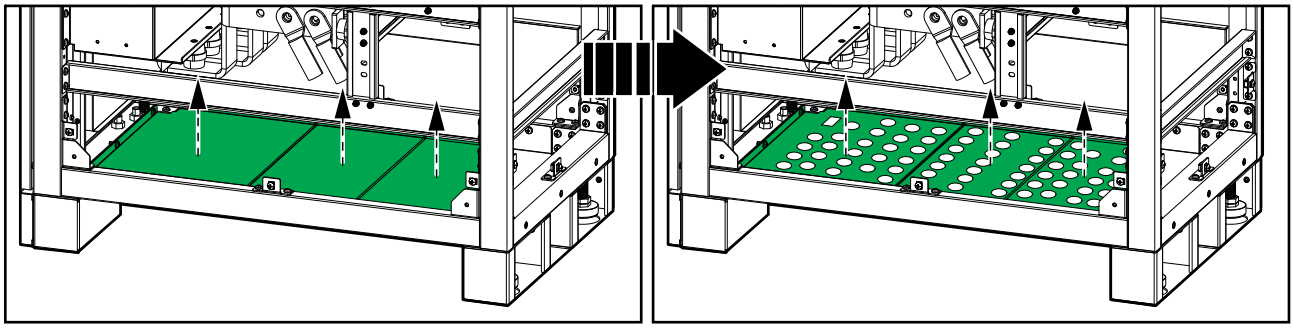
Failure to follow these instructions will result in death or serious injury.

Top View of the Maintenance Bypass Cabinet



– **Bottom cable entry:** Remove the bottom gland plates. Drill or punch holes for power cables or grommets (not provided) in the gland plate.

Bottom Cable Entry



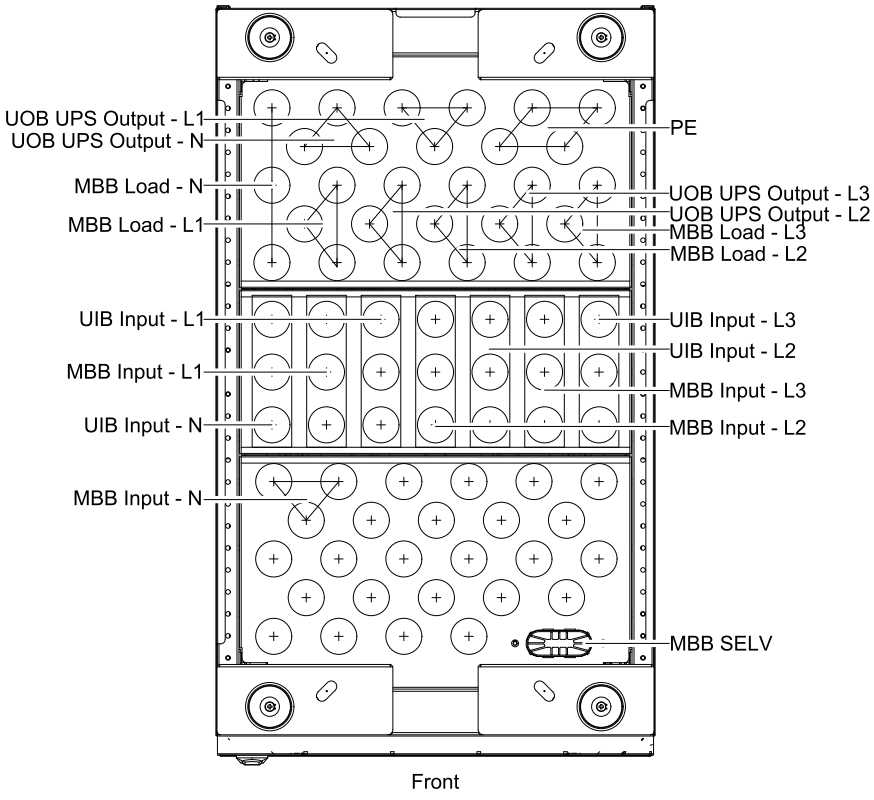
⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

Do not drill or punch holes with the gland plates installed and do not drill or punch holes in close proximity to the cabinet.

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

Bottom View of the Maintenance Bypass Cabinet

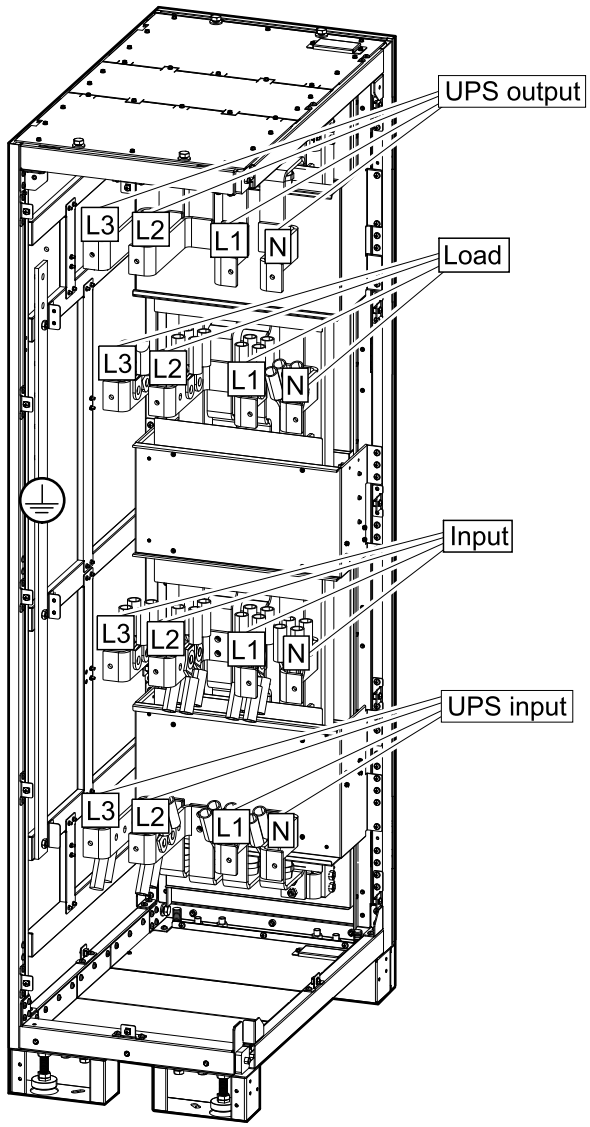


4. Reinstall the top or bottom gland plate.

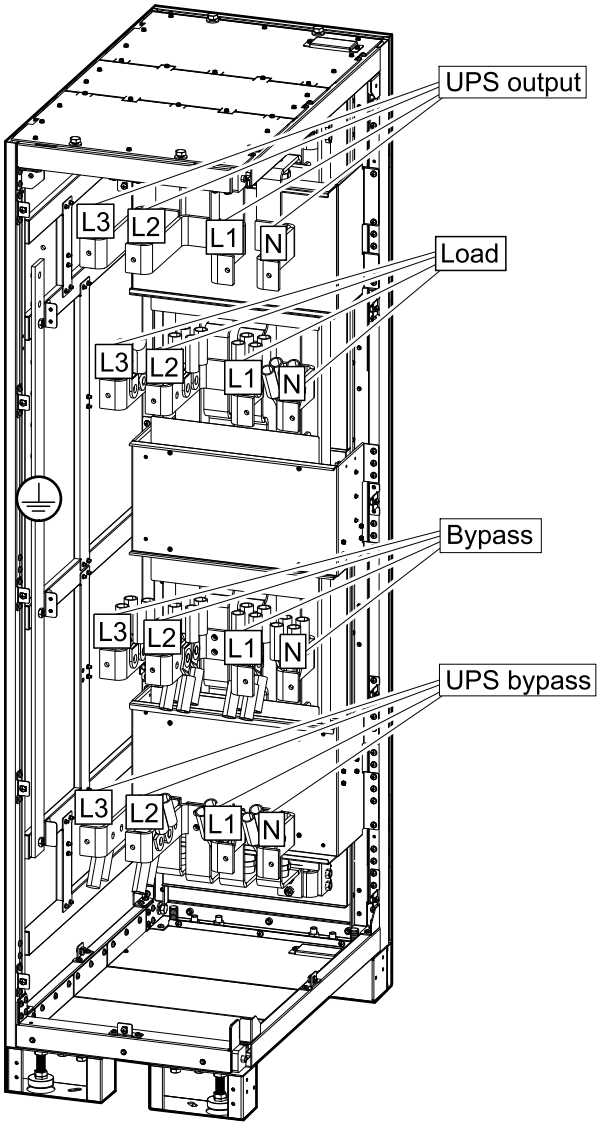
Connect the Power Cables

1. Route the power cables through the top or bottom of the maintenance bypass cabinet.
2. Connect the input cables/bypass cables, UPS input cables/UPS bypass cables and load cables.

Single Mains – Rear View



Dual Mains – Rear View



NOTE: If there is no room available for removing the right side panel from the maintenance bypass cabinet, follow the sequence on the label on the maintenance bypass cabinet to connect the input and output cables.

Top Entry:
UOB UPS Output-L3 → UOB UPS Output-L2 → UOB UPS Output-L1 → UOB UPS Output-N
MBB Load-L3 → MBB Load-L2 → MBB Load-L1 → MBB Load-N
MBB Input-L3 → MBB Input-L2 → MBB Input-L1 → MBB Input-N
UIB Input-L3 → UIB Input-L2 → UIB Input-L1 → UIB Input-N → PE

Bottom Entry:
UIB Input-L3 → UIB Input-L2 → UIB Input-L1 → UIB Input-N
MBB Input-L3 → MBB Input-L2 → MBB Input-L1 → MBB Input-N
MBB Load-L3 → MBB Load-L2 → MBB Load-L1 → MBB Load-N
UOB UPS Output-L3 → UOB UPS Output-L2 → UOB UPS Output-L1 → UOB UPS Output-N → PE

3. Check the fastening of the cable lugs.

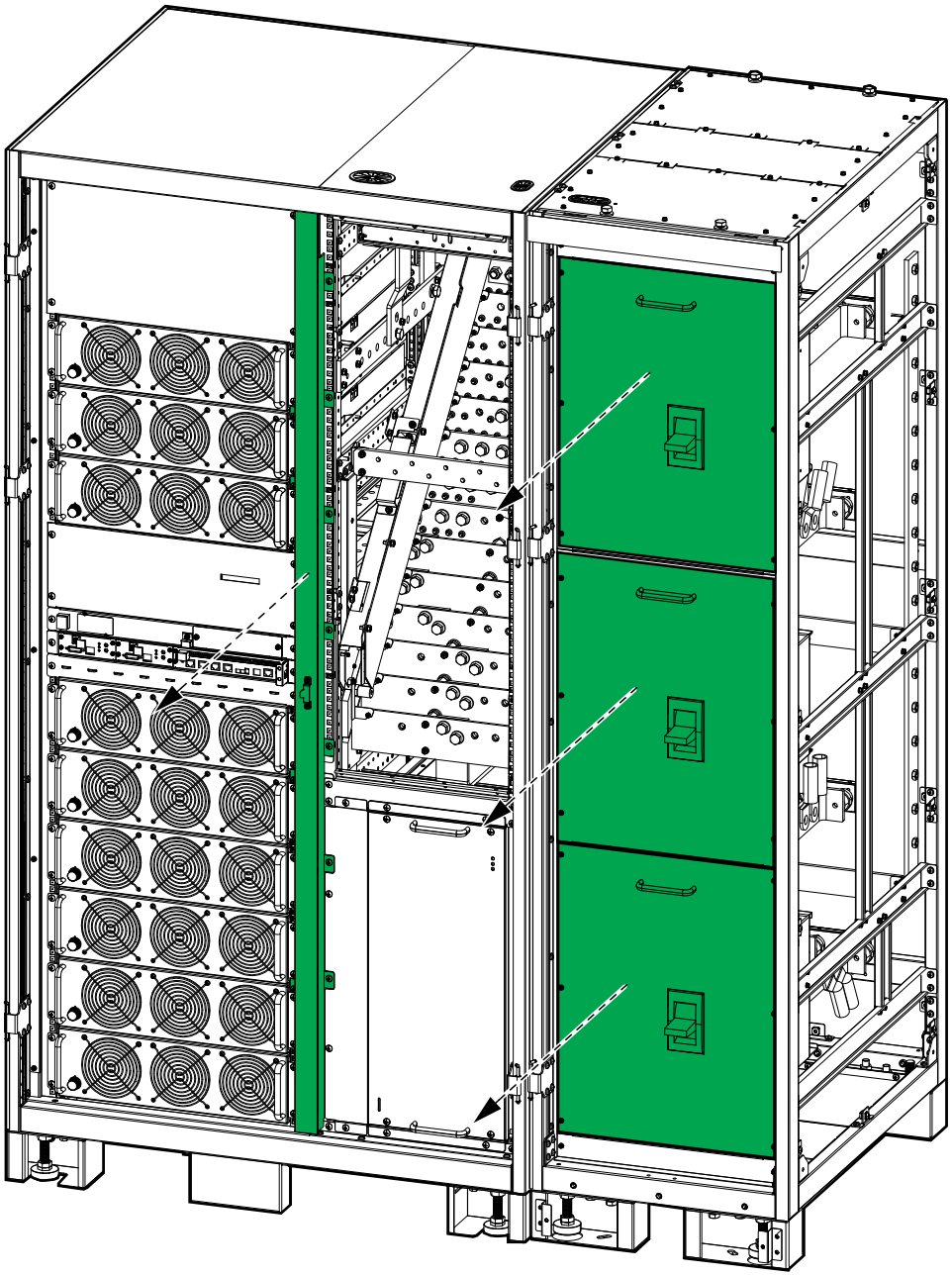
> **⚠ CAUTION**
>
> **RISK OF EQUIPMENT DAMAGE**
>
> Check the fastening of the cable lugs. If the cable lugs move due to pulling on the cables, the bolt can become loose.
>
> **Failure to follow these instructions can result in injury or equipment damage.**

4. **Only for single mains system**: Route the UPS input cables and the UPS output cables through the top of the maintenance bypass and into the UPS. Follow the UPS installation manual to connect the UPS input cables and the UPS output cables in the UPS.
5. **Only for dual mains system**: Route the UPS bypass cables and the UPS output cables through the top of the maintenance bypass cabinet and into the UPS. Follow the UPS installation manual to connect the input cables, the UPS bypass cables and the UPS output cables in the UPS.
6. Clean/vacuum the maintenance bypass cabinet of any debris and foreign objects.

Prepare Internal Signal Cables Between MBC and UPS

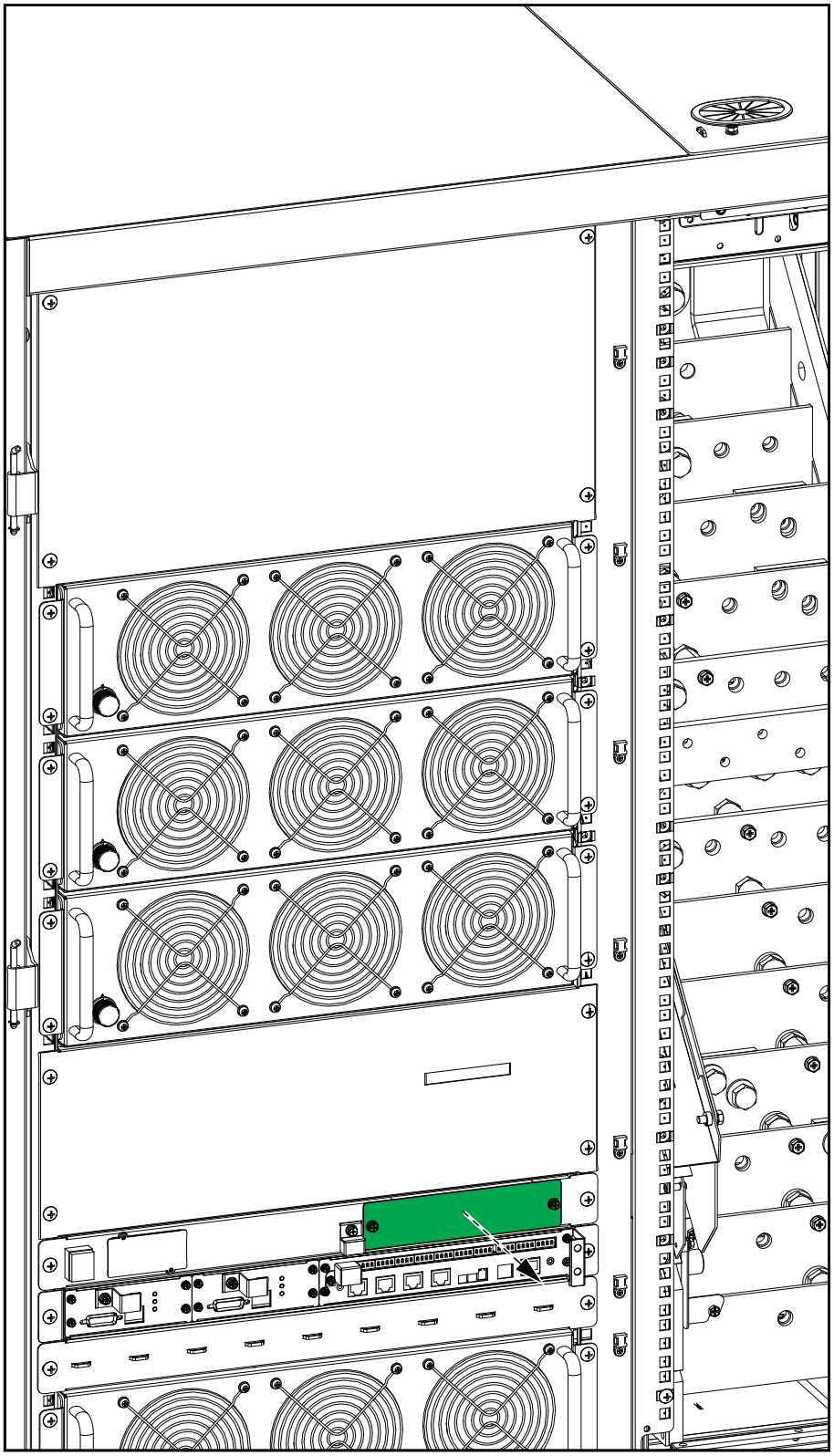
1. Remove the signal cable cover from the UPS. Open the front door of the maintenance bypass cabinet and remove the three front panels from the maintenance bypass cabinet.

Front View of the UPS and Maintenance Bypass Cabinet



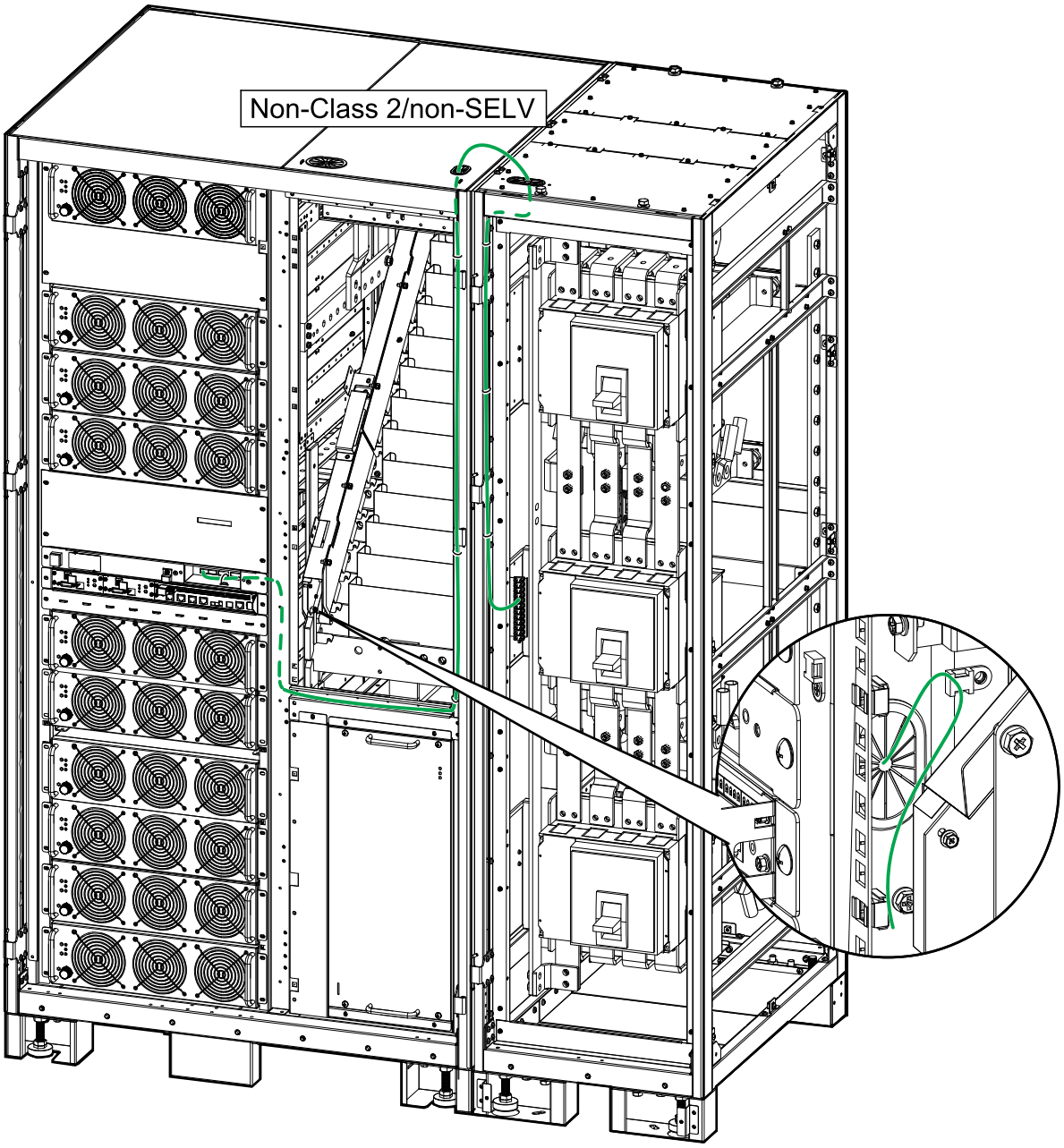
2. Remove the protection cover over the non-Class 2/non-SELV terminals.

Front View of the UPS



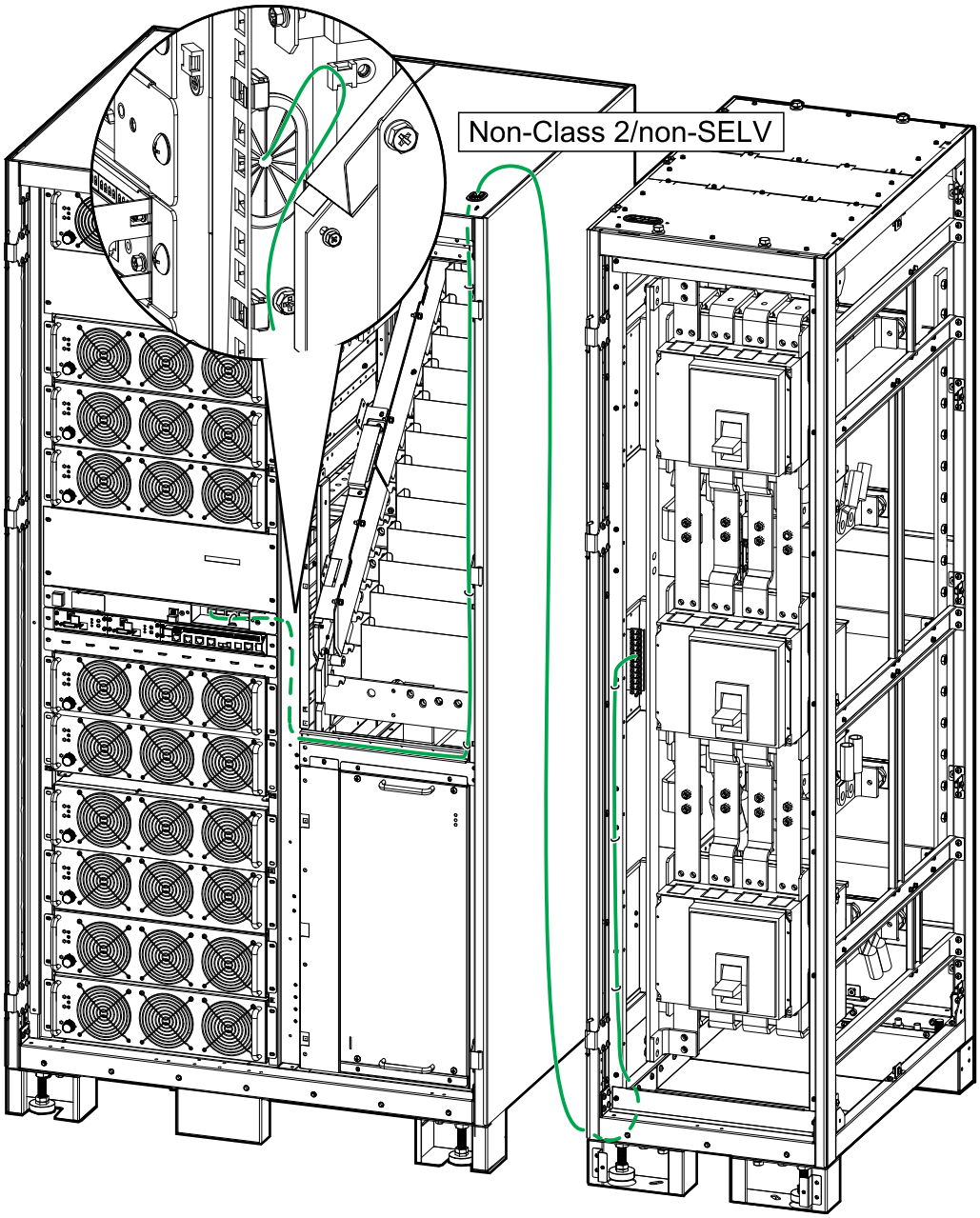
3. **Only for top cable entry:** Route the non-Class 2/non-SELV signal cables through the top opening and down to the non-Class 2/non-SELV terminals as shown.

Front View of the UPS and Maintenance Bypass Cabinet



4. **Only for bottom cable entry:** Route the non-Class 2/non-SELV signal cables through the bottom opening and up to the non-Class 2/non-SELV terminals as shown.

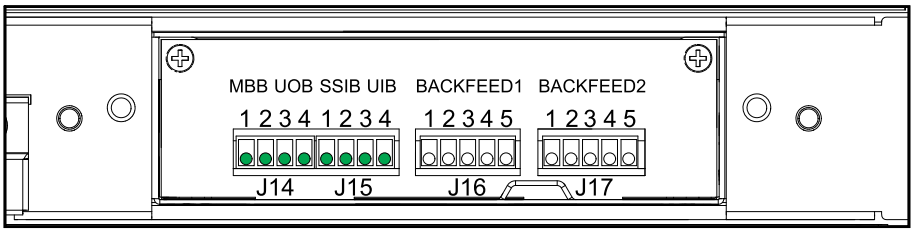
Front View of the UPS and Maintenance Bypass Cabinet



5. Fasten the signal cables with cable ties as shown.

Connect the Signal Cables Between the Maintenance Bypass Cabinet and the UPS

AUX Switch Signal Terminals of the UPS

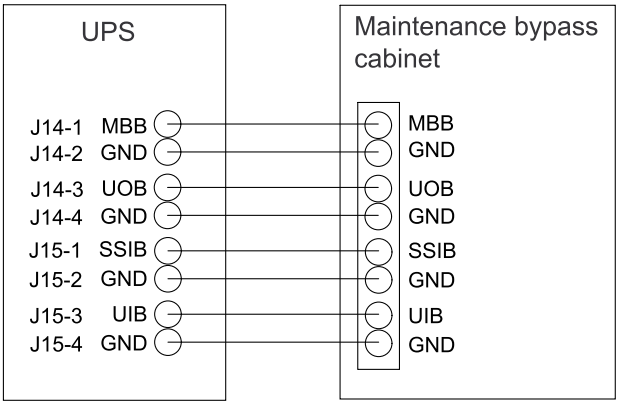


NOTE: These signal cables are non-Class 2/non-SELV.

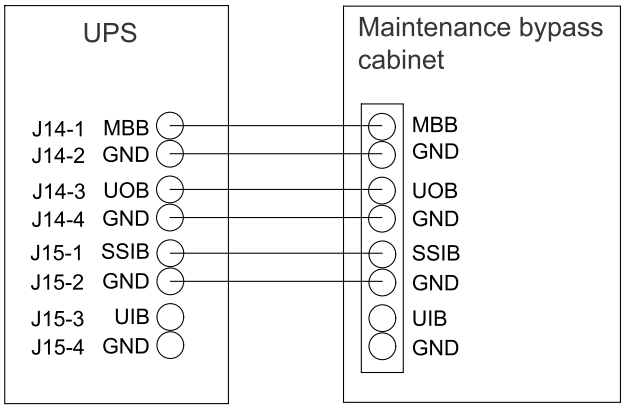
Terminal	Function
J14-1	Maintenance bypass breaker (MBB) AUX switch
J14-2	Signal ground (GND)
J14-3	Unit output breaker (UOB) AUX switch
J14-4	Signal ground (GND)
J15-1	Static switch input breaker (SSIB) AUX switch
J15-2	Signal ground (GND)
J15-3	Unit input breaker (UIB) AUX switch
J15-4	Signal ground (GND)

1. Connect the non-Class 2/non-SELV signal cables between the maintenance bypass cabinet and the UPS as shown.

Single Mains System



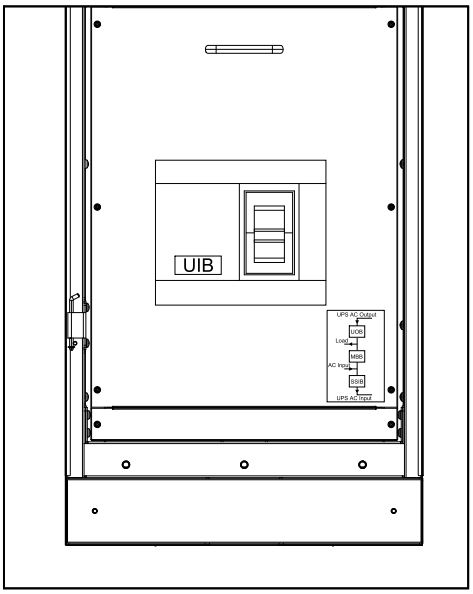
Dual Mains System



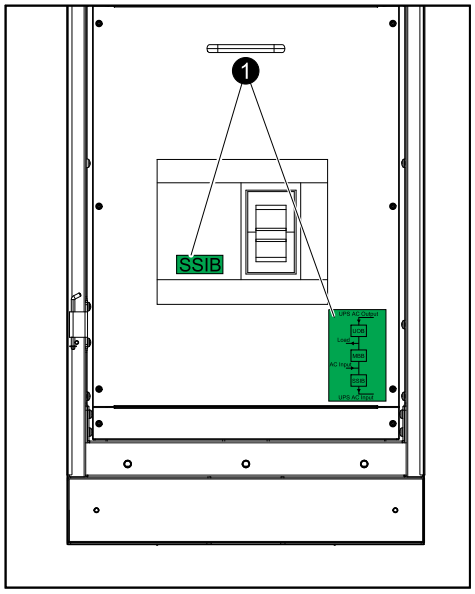
Final Installation

1. Reinstall the three front plates to the maintenance bypass cabinet.
2. **Only for dual mains**: Add the provided labels for SSIB and the diagram label on the maintenance bypass cabinet.

Single Mains



Dual Mains



3. Reinstall the right side panel and the rear panel to the maintenance bypass cabinet. Install four kick plates to the maintenance bypass cabinet.
4. Close the front door on the maintenance bypass cabinet.

Decommission or Move the Maintenance Bypass Cabinet to a New Location

NOTE: Follow the instructions in the UPS installation manual to prepare the UPS for being moved/decommissioned.

1. Shut down the UPS system completely.
2. Lockout/Tagout all switches in the maintenance bypass cabinet in the OFF (open) position.
3. Lockout/Tagout all breakers in the upstream switchgear in the OFF (open) position.
4. Lockout/Tagout all battery breakers in the switchgear/battery solution in the OFF (open) position.
5. Open the front door of the maintenance bypass cabinet and the UPS.
6. If present, Lockout/Tagout the backfeed breaker BF2 in the OFF (open) position on the UPS.

7. On the maintenance bypass cabinet, remove the three front panels and measure for and verify ABSENCE of voltage with a multimeter probe on all busbars.

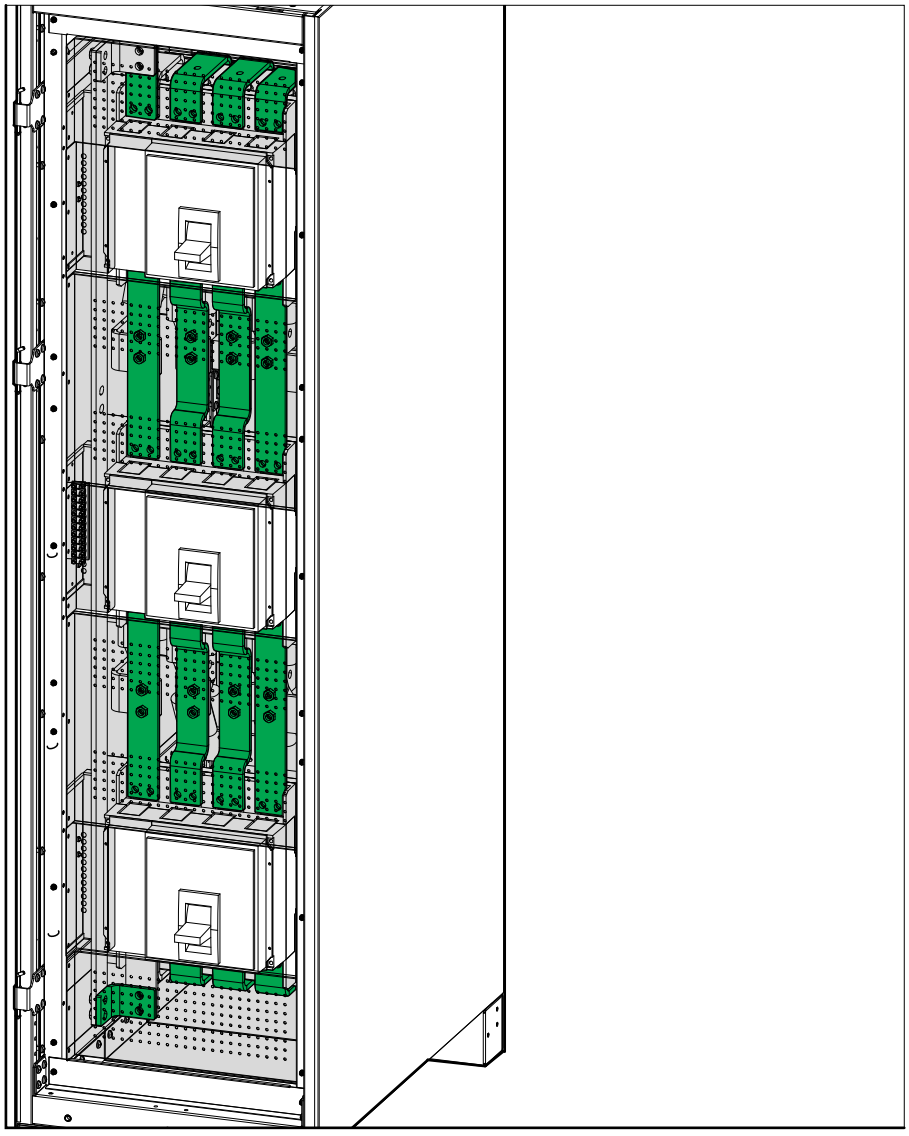
⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

Measure for and verify ABSENCE of voltage with a multimeter probe on all busbars.

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

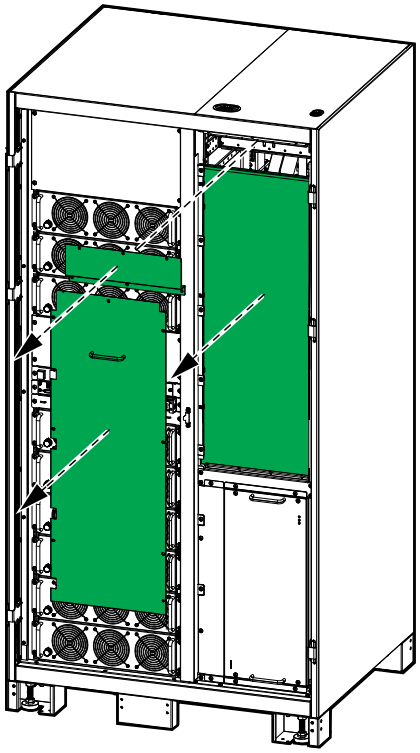
Front View of the Maintenance Bypass Cabinet



8. Reinstall the three front panels of the maintenance bypass cabinet.

9. Remove the front plates of the UPS.

Front View of the UPS



10. On the UPS, measure for and verify ABSENCE of voltage on each input/bypass/output busbar before continuing.

⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

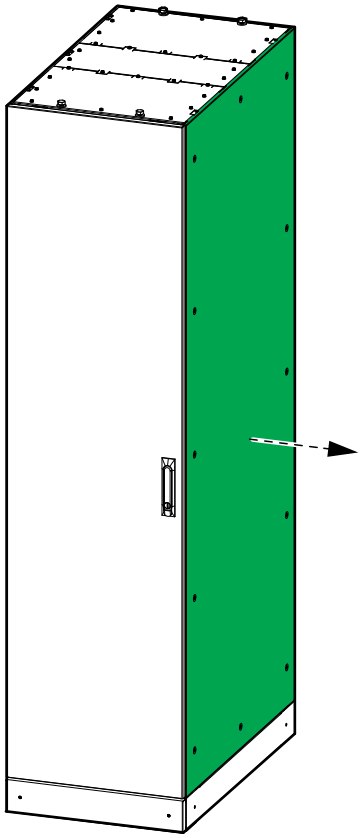
Measure for and verify ABSENCE of voltage on each input/bypass/output busbar before continuing.

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

11. Disconnect and remove any signal cables from the UPS.
12. Close and lock the front door of the UPS.

13. Remove the right side panel from the maintenance bypass cabinet.

Front View of the Maintenance Bypass Cabinet



14. Measure for and verify ABSENCE of voltage on each input/bypass/output busbar in the maintenance bypass cabinet before continuing.

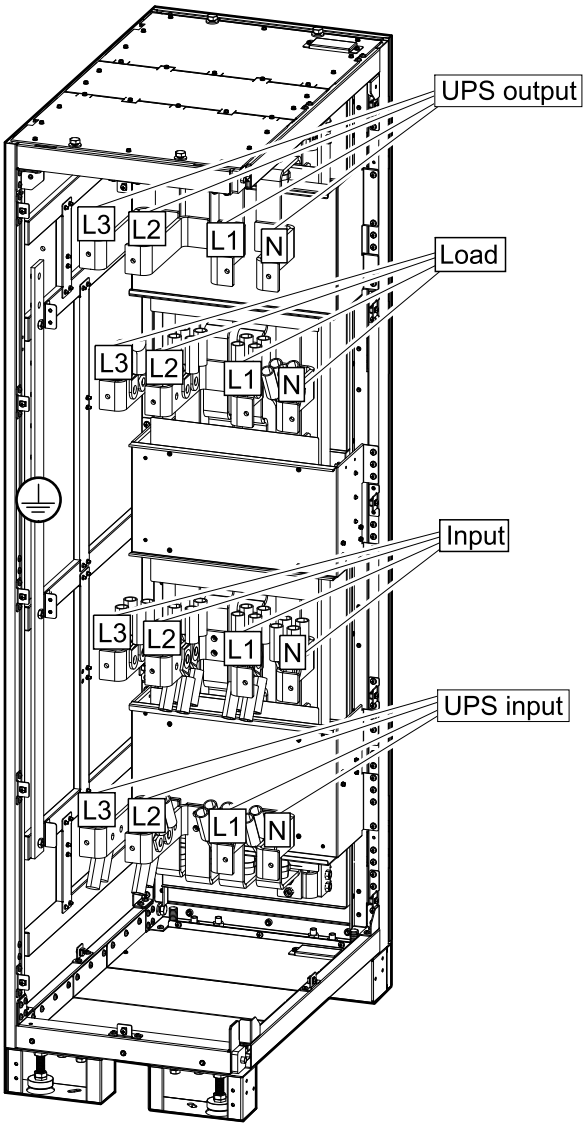
⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

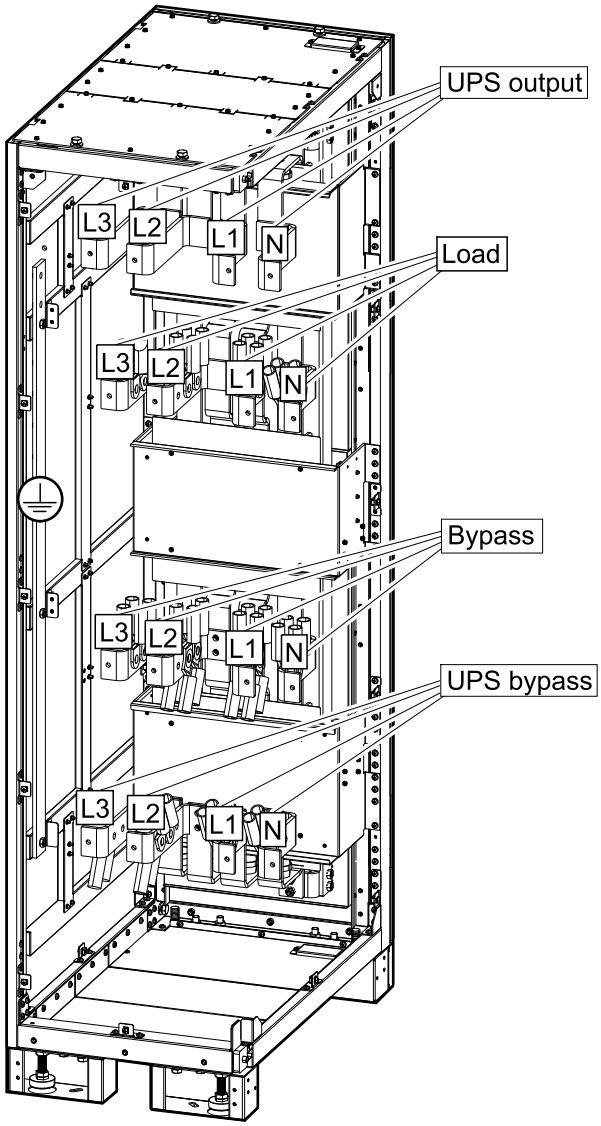
Measure for and verify ABSENCE of voltage on each input/bypass/output busbar before continuing.

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

Single Mains



Dual Mains



15. Remove the power cables from the maintenance bypass cabinet. See Connect the Power Cables, page 19 for details. Reinstall the right side panel.
16. Close and lock the front door of the maintenance bypass cabinet.
17. Remove the kick plates and save for reinstallation. See Final Installation, page 27 for details.

18. Raise the feet of the maintenance bypass cabinet and the cabinet can now be moved on a forklift or pallet truck.

⚠WARNING

TIPPING HAZARD

- Move at a slow pace and pay close attention on the floor conditions and the balance of the maintenance bypass cabinet.

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

19. **For transport over longer distances**:

⚠WARNING

HEAVY LOAD

The maintenance bypass cabinet is tall and heavy. Take appropriate precautions during handling and preparation for transport/shipment.

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

⚠WARNING

TIPPING HAZARD

For transport over short or longer distances, ensure:

- that personnel performing the transport have necessary skill and have received adequate training;
- to use appropriate tools to safely lift and transport the maintenance bypass cabinet;
- to protect the product against damage by using appropriate protection (like wrapping or packaging).

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

Transportation requirements:

- Mount the maintenance bypass cabinet in a vertical position in the center of a suitable pallet with minimum pallet dimensions: 1000 mm x 1000 mm. The pallet must be suitable for the weight of the maintenance bypass cabinet: 227 kg.
- Use appropriate means of fixation to mount the maintenance bypass cabinet to the pallet.
- The original shipping pallet in combination with the original transportation brackets can be reused, if in undamaged condition.

⚠DANGER

TIPPING HAZARD

- The maintenance bypass cabinet must be appropriately fixed to the pallet immediately after being placed on the pallet.
- The fixation hardware must be strong enough to withstand vibrations and shocks during loading, transport, and unloading.

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

⚠WARNING

UNEXPECTED EQUIPMENT BEHAVIOR

Do not lift the maintenance bypass cabinet with a forklift/pallet truck directly on the frame as it may bend or damage the frame.

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

20. Perform one of the following:
    – Decommission the maintenance bypass cabinet, OR
    – Move the maintenance bypass cabinet to a new location to install it.

21. **Only for installing the maintenance bypass cabinet in a new location**: Follow the installation manual to install the maintenance bypass cabinet in the new location. See Installation Procedure, page 12 for installation overview. Startup must only be performed by Schneider Electric.

⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

Startup must only be performed by Schneider Electric.

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

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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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