Galaxy VS

Input Transformer Cabinet 600 V In, 480 V Out

Installation

GVSBPIT100, GVSBPIT150

Latest updates are available on the Schneider Electric website
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www.se.com

Legal Information

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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.

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 product.

⚠⚠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 product before working on or inside the equipment.
- Before working on the product, check for hazardous voltage between all terminals including the protective earth.
- The product contains an internal energy source. Hazardous voltage can be present even when disconnected from the mains supply. Before installing or servicing the product, ensure that the product is OFF and that utility/mains and batteries are disconnected. Wait five minutes before opening the product to allow the capacitors to discharge.
- The product 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.

When the 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 input terminals, and on all primary power isolators installed remotely from the installation area and on external access points between such isolators and the product, by the user, displaying the following text (or equivalent in a language which is acceptable in the country in which the product is installed):

⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

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

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

Surge Protection Device (SPD)

⚠CAUTION

LOSS OF SURGE SUPPRESSION

- Do not energize the surge protection device until the electrical system is completely installed, inspected, tested, and all conductors have been connected and functional, including the neutral.
- Verify the voltage rating of the device and system before energizing the surge protection device.
- Perform high-potential insulation testing, or any other tests where surge protection device components will be subjected to voltages higher than their rated turn-on voltage, with the neutral and surge protection device disconnected from the power source.

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

NOTICE

- Turn OFF the main electrical supply before installing the surge protection device.
- Surge protection device SSP08EMA12 must be installed and connected before the input transformer cabinet is turned ON.
- The surge protection device must always be part of the circuit.
- The indicators on the surge protection device must show full operational state for the surge protection device.

Failure to follow these instructions can result in equipment damage.

Specifications

UPS rating	20 kW	30 kW	40 kW	50 kW
Input voltage (V)	600			
Input connections	4-wire (L1, L2, L3, N, G)			
Nominal input current (A)	20	30	40	50
Maximum input current (A)	24	36	47	59
Bypass voltage (V)	600			
Bypass connections	4-wire (L1, L2, L3, N, G)			
Nominal bypass current (A)	19	29	39	49
Output connections	4-wire (L1, L2, L3, N, G)			
Output voltage (V)	480			
Nominal output current (A)	29	44	59	74
Frequency (Hz)	60			
Circuit breaker interrupting ratings (kA)	25 at 600 V (for UIB/SSIB)			
Continuous operation limited to maximum 110% load.				

UPS rating	60 kW	80 kW	100 kW	120 kW	150 kW
Input voltage (V)	600				
Input connections	4-wire (L1, L2, L3, N, G)				
Nominal input current (A)	60	79	99	119	149
Maximum input current (A)	70	94	118	141	178
Bypass voltage (V)	600				
Bypass connections	4-wire (L1, L2, L3, N, G)				
Nominal bypass current (A)	59	78	97	117	146
Output connections	4-wire (L1, L2, L3, N, G)				
Output voltage (V)	480				
Nominal output current (A)	88	117	147	177	222
Frequency (Hz)	60				
Circuit breaker interrupting ratings (kA)	25 at 600 V (for UIB/SSIB)				
Continuous operation limited to maximum 110% load.					

For specifications for the surge protection device: Refer to the installation manual provided with the surge protection device (SSP08EMA12).

Trip Settings

NOTE: Ir, tr, and Ii must be set during installation. Set the breaker settings per system kW rating as listed in the table below. Changing the settings to other than the listed settings will change the 125% and 150% overload operation, and will impact system performance.

Trip Settings for UIB and SSIB (SSIB is Only Applicable to Dual Mains System)

UPS rating	Breaker type	Ir	tr at 6 Ir	Ii (x In)
20 kW	JJF36250CU31X	70	0.5	1.5
30 kW	JJF36250CU31X	70	0.5	1.5
40 kW	JJF36250CU31X	70	0.5	1.5
50 kW	JJF36250CU31X	80	0.5	1.5
60 kW	JJF36250CU31X	100	0.5	1.5
80 kW	JJF36250CU31X	125	0.5	1.5
100 kW	JJF36250CU31X	175	0.5	1.5
120 kW	JJF36250CU31X	200	0.5	1.5
150 kW	JJF36250CU31X	250	0.5	1.5

Recommended Upstream Protection

Trip Settings for Input Breaker and Bypass Breaker (Bypass is Only Applicable to Dual Mains System)

UPS rating	Breaker type	Ir	tr at 6 Ir	Ii (x In)
20 kW	HJL36060U31X	35	0.5	1.5
30 kW	HJL36060U31X	50	0.5	1.5
40 kW	HJL36060U31X	60	0.5	1.5
50 kW	HJF36100U31X	80	0.5	1.5
60 kW	HJL36100U31X	100	0.5	1.5
80 kW	HJF36150U31X	125	0.5	1.5
100 kW	JJL36250CU31X	175	0.5	1.5
120 kW	JJL36250CU31X	200	0.5	1.5
150 kW	JJL36250CU31X	250	0.5	1.5

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 4/0 AWG.

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

NOTE: Overcurrent protection and cable lugs are to be provided by others.

Cable sizes in this manual are based on Table 310.15 (B)(16) of the National Electrical Code (NEC) with the following assertions:

- 90 °C (194 °F) conductors (75 °C (167 °F) termination)
- An ambient temperature of 30 °C (86 °F)
- Use of copper or aluminum conductors

If the ambient temperature is greater than 30 °C (86 °F), larger conductors are to be selected in accordance with the correction factors of the NEC.

Equipment grounding conductors (EGC) are sized in accordance with NEC Article 250.122 and Table 250.122.

NOTE: Neutral conductor is sized to handle 1.73 times phase current in case of high harmonic content from non-linear loads. If few or no harmonic currents are expected, neutral conductor can be sized as phase conductor.

NOTE: The DC cables are connected directly in the UPS. See the UPS installation manual for recommended cables sizes for DC cables.

Copper

UPS rating	20 kW	30 kW	40 kW	50 kW	60 kW	80 kW	100 kW	120 kW	150 kW
Input phases (AWG/kcmil)	10	6	4	3	2	1/0	2/0	4/0	2 x 4/0
Input EGC (AWG/kcmil)	10	10	8	8	8	6	6	6	4
Bypass phases (AWG/kcmil)	10	8	6	4	4	2	1/0	2/0	4/0
Bypass EGC (AWG/kcmil)	10	10	10	8	8	8	6	6	6
Output phases (AWG/kcmil)	10	8	6	4	3	2	1/0	2/0	4/0
Output EGC (AWG/kcmil)	10	10	8	8	8	6	6	6	4
Neutral (AWG/kcmil)	6	4	2	1/0	2/0	4/0	2 x 1/0	2 x 1/0	2 x 1/0

Aluminum

UPS rating	20 kW	30 kW	40 kW	50 kW	60 kW	80 kW	100 kW	120 kW	150 kW
Input phases (AWG/kcmil)	8	4	3	2	1/0	3/0	4/0	2 x 4/0	2 x 2/0
Input EGC (AWG/kcmil)	8	8	6	6	6	4	4	4	2 x 2
Bypass phases (AWG/kcmil)	10	6	4	3	2	1/0	3/0	4/0	2 x 4/0
Bypass EGC (AWG/kcmil)	8	8	8	6	6	6	4	4	4
Output phases (AWG/kcmil)	6	6	4	2	1	2/0	3/0	250	300
Output EGC (AWG/kcmil)	6	6	6	6	6	4	4	4	2
Neutral (AWG/kcmil)	4	2	1/0	2/0	4/0	2 x 1/0	2 x 2/0	2 x 250	2 x 2/0

Recommended Bolt and Lug Sizes

NOTICE

RISK OF EQUIPMENT DAMAGE

Use only UL approved compression cable lugs.

Failure to follow these instructions can result in equipment damage.

Copper — One Hole Cable Lugs

Cable size	Bolt size	Cable lug type	Crimping tool	Die
10 AWG	M8 x 35 mm	LCA10-56-L	NA	NA
8 AWG	M8 x 35 mm	LCA8-56-L	CT-720	CD-720-1 Red P21
6 AWG	M8 x 35 mm	LCA6-56-L	CT-720	CD-720-1 Blue P24
4 AWG	M8 x 35 mm	LCA4-56-L	CT-720	CD-720-1 Gray P29
3 AWG	M8 x 35 mm	LCA4-56-L	CT-720	CD-720-1 Gray P29
2 AWG	M8 x 35 mm	LCA2-56-Q	CT-720	CD-720-1 Brown P33
1 AWG	M8 x 35 mm	LCA1-56-E	CT-720	CD-720-2 Green P37
1/0 AWG	M8 x 35 mm	LCA1/0-56-X	CT-720	CD-720-2 Pink P42
2/0 AWG	M8 x 35 mm	LCA2/0-56-X	CT-720	CD-720-2 Black P45
3/0 AWG	M8 x 35 mm	LCA3/0-56-X	CT-720	CD-720-2 Orange P50
4/0 AWG	M8 x 35 mm	LCA4/0-56-X	CT-720	CD-720-3 Purple P54

Aluminum — One Hole Cable Lugs

Cable size	Bolt size	Cable lug type	Crimping tool	Die
6 AWG	M8 x 35 mm	LAA6–56–x	CT-720	CD-720–1 Gray P29
4 AWG	M8 x 35 mm	LAA4–56–x	CT-720	CD-720–2 Green P37
2 AWG	M8 x 35 mm	LAA2–56–x	CT-720	CD-720–2 Pink P42
1 AWG	M8 x 35 mm	LAA1–56–X	CT-720	CD-720–2 Gold P45
1/0 AWG	M8 x 35 mm	LAA1/0–56–5	CT-720	CD-720–2 Tan P50
2/0 AWG	M8 x 35 mm	LAA2/0–38–5	CT-720	CD-720–3 Olive P54
3/0 AWG	M8 x 35 mm	LAA3/0–38–5	CT-720	CD-720–3 Ruby P60
4/0 AWG	M8 x 35 mm	LAA4/0–38–5	CT-720	CD-720–4 White P66

Copper — Two Hole Cable Lugs

Cable size	Bolt size	Cable lug type[1]	Crimping tool	Die
6 AWG	M8 x 35 mm	LCC6-12-L	CT-930	CD-920-6 Blue P24
4 AWG	M8 x 35 mm	LCC4-12-L	CT-930	CD-920-4 Gray P29
3 AWG	M8 x 35 mm			
2 AWG	M8 x 35 mm	LCC2-12-Q	CT-930	CD-920-2 Brown P33
1 AWG	M8 x 35 mm	LCC1-12-E	CT-930	CD-920-1 Green P37
1/0 AWG	M8 x 35 mm	LCC1/0-12-X	CT-930	CD-920-1/0 Pink P42
2/0 AWG	M8 x 35 mm	LCC2/0-12-X	CT-930	CD-920-2/0 Black P45
3/0 AWG	M8 x 35 mm	LCC3/0-12-X	CT-930	CD-920-3/0 Orange P50
4/0 AWG	M8 x 35 mm	LCC4/0-12-X	CT-930	CD-920-4/0 Purple P54

1. Use oversized M8 flat washer.

Aluminum — Two Hole Cable Lugs

Cable size	Bolt size	Cable lug type[2]	Crimping tool	Die
2/0 AWG	M8 x 35 mm	LAB2/0–12–5	CT-720	CD-720–3 Olive P54
3/0 AWG	M8 x 35 mm	LAB3/0–12–5	CT-720	CD-720–3 Ruby P60
4/0 AWG	M8 x 35 mm	LAB4/0–12–5R	CT-720	CD-720–4 White P66

Torque Specifications

Bolt size	Torque
M4	1.7 Nm (1.25 lb-ft / 15 lb-in)
M5	2.2 Nm (1.62 lb-ft / 19.5 lb-in)
M6	5 Nm (3.69 lb-ft / 44.3 lb-in)
M8	17.5 Nm (12.91 lb-ft / 154.9 lb-in)
M10	30 Nm (22 lb-ft / 194.7 lb-in)
M12	50 Nm (36.87 lb-ft / 442.5 lb-in)

Input Transformer Cabinet Weights and Dimensions

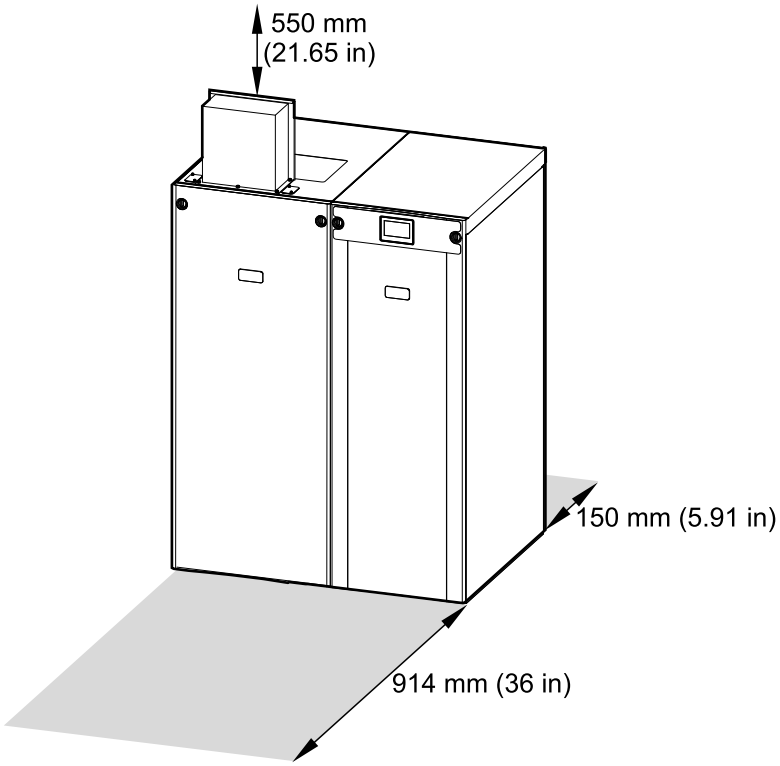
Commercial reference	Weight kg (lbs)	Height mm (in)	Width mm (in)	Depth mm (in)
GVSBPIT100 with surge protection device (SSP08EMA12) installed	370 (816)	1800 (70.86)	600 (23.62)	836 (32.91)
GVSBPIT150 with surge protection device (SSP08EMA12) installed	370 (816)	1800 (70.86)	600 (23.62)	836 (32.91)

2. Use oversized M8 flat washer.

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.

Front View of the Input Transformer Cabinet and the UPS



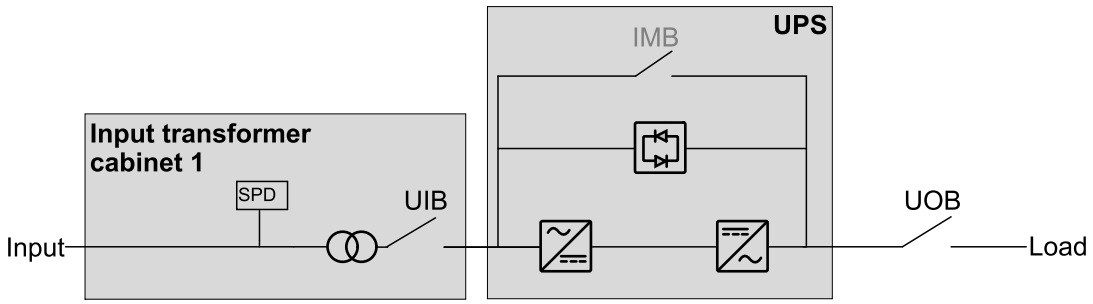
Environment

	Operating	Storage
Temperature	0 °C to 40 °C (32 °F to 104 °F)	-25 °C to 55 °C (-13 °F to 131 °F)
Relative humidity	0 - 95% non-condensing	0-95% non-condensing
Elevation	Designed for operation in 0-3000 m (0-10000 feet) elevation. Power derating required from 1000-3000 m (3300-10000 feet): Up to 1000 m (3300 feet): 1.000 Up to 1500 m (5000 feet): 0.975 Up to 2000 m (6600 feet): 0.950 Up to 2500 m (8300 feet): 0.925 Up to 3000 m (10000 feet): 0.900	
Protection class	IP20	
Color	Input transformer cabinet (GVSBPIT100, GVSBPIT150): RAL 9003, gloss level 85% Surge protection device (SSP08EMA12): Black	

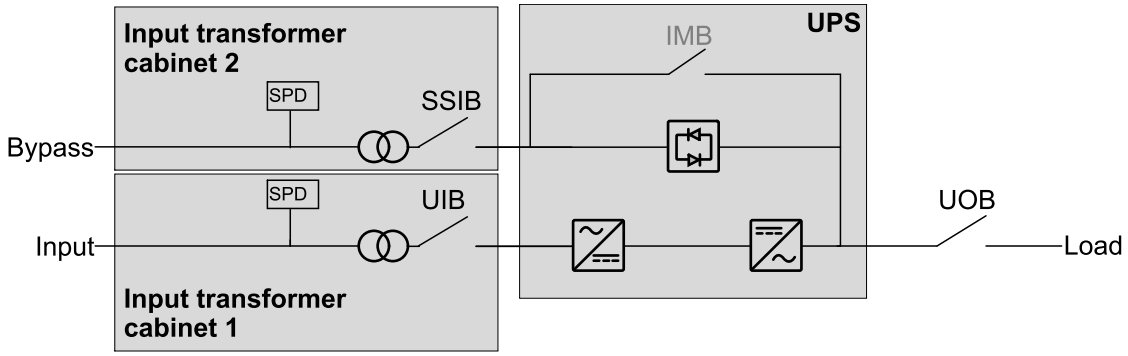
System Overview

UIB	Unit input breaker
SSIB	Static switch input breaker
IMB	Internal maintenance breaker
UOB	Unit output breaker
SPD	Surge protection device (SSP08EMA12)

Single Mains UPS System



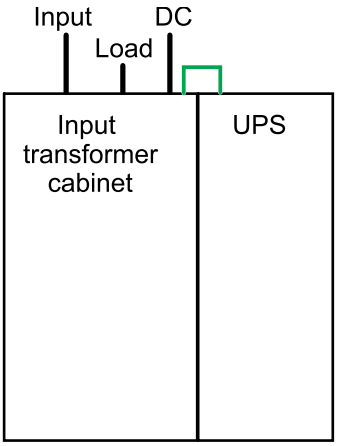
Dual Mains UPS System



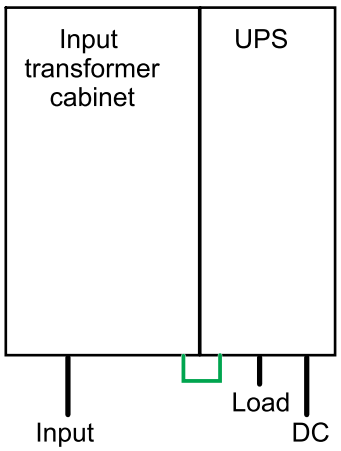
Installation Procedure for Single Mains System

NOTE: The Galaxy VS cable kit single mains UIB GVSOPT041 is required for a single mains system.

Top Cable Entry System



Bottom Cable Entry System



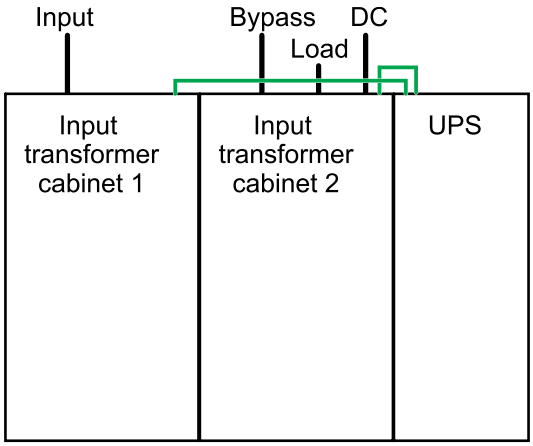
Signal cable
Power cable

1. Prepare the Input Transformer Cabinet(s) for Cables, page 19.
2. Install the Seismic Anchoring (Option), page 21.
3. Interconnect the UPS and the Input Transformer Cabinet in a Single Mains System, page 22.
4. Install the Surge Protection Device (SSP08EMA12), page 31.
5. Follow the installation manual provided with the surge protection device (SSP08EMA12) to connect the power cables and signal cables to the surge protection device.
6. Connect the Power Cables in the Input Transformer Cabinet in a Single Mains System, page 33.
7. Connect the Signal Cables in a Single Mains System, page 37.
8. Final Installation, page 42.
9. Follow the UPS installation manual to connect the power cables from the input transformer cabinet in the UPS and to complete the rest of the UPS installation.

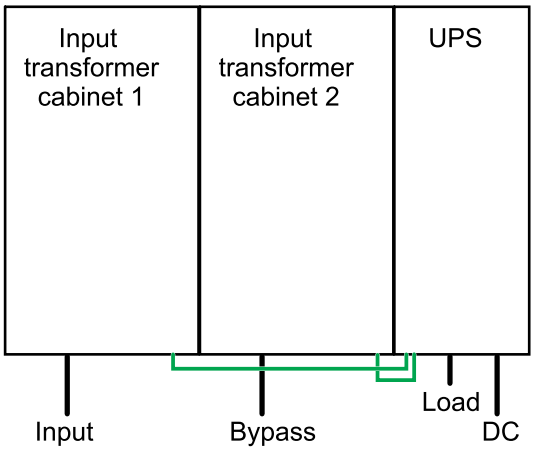
Installation Procedure for Dual Mains System

NOTE: The Galaxy VS cable kit single mains UIB GVSOPT041 and the Galaxy VS cable kit dual mains SSIB GVSOPT042 are required for a dual mains system.

Top Cable Entry System



Bottom Cable Entry System



Signal cable
Power cable

1. Prepare the Input Transformer Cabinet(s) for Cables, page 19.
2. Install the Seismic Anchoring (Option), page 21.
3. Interconnect the UPS and the Input Transformer Cabinet in a Dual Mains System, page 25.
4. Install the Surge Protection Device (SSP08EMA12), page 31.
5. Follow the installation manual provided with the surge protection device (SSP08EMA12) to connect the power cables and signal cables to the surge protection device.
6. Connect the Power Cables in the Input Transformer Cabinets in a Duals Mains System, page 35.
7. Connect the Signal Cables in a Dual Mains System, page 39.
8. Final Installation, page 42.
9. Follow the UPS installation manual to connect the power cables from the input transformer cabinet in the UPS and to complete the rest of the UPS installation.

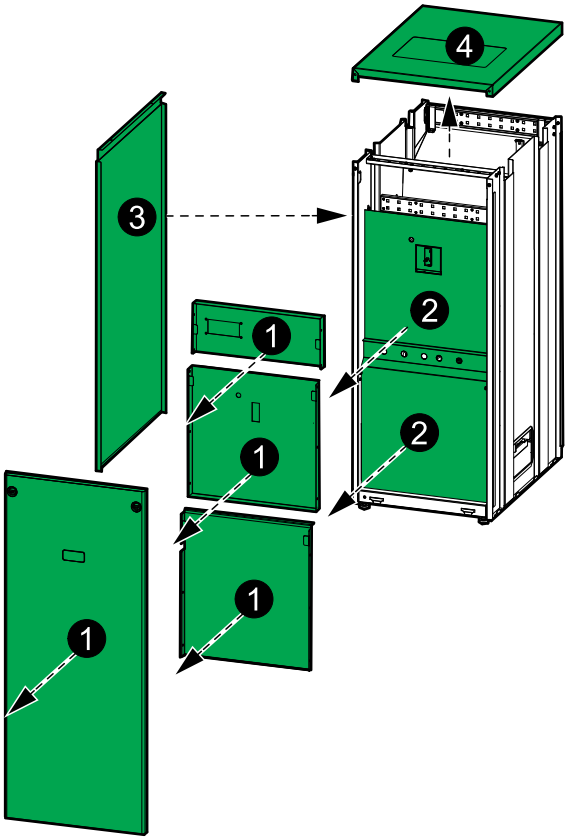
Prepare the Input Transformer Cabinet(s) for Cables

⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

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

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



1. Remove the front panel and the front plates from the input transformer cabinet(s).
2. Remove the transparent plates from the input transformer cabinet(s).
3. Remove the left side panel from the UPS and reinstall the side panel on the left side of input transformer cabinet 1.
4. **For top cable entry**:
   a. Remove the top cover from the input transformer cabinet(s).
   b. Remove the gland plate from the top cover.
   c. Drill or punch holes for power cables or conduits in the gland plate. Conduits are not provided.
   d. Reinstall the gland plate in the top cover.
   e. Reinstall the top cover on the input transformer cabinet(s) with four screws.

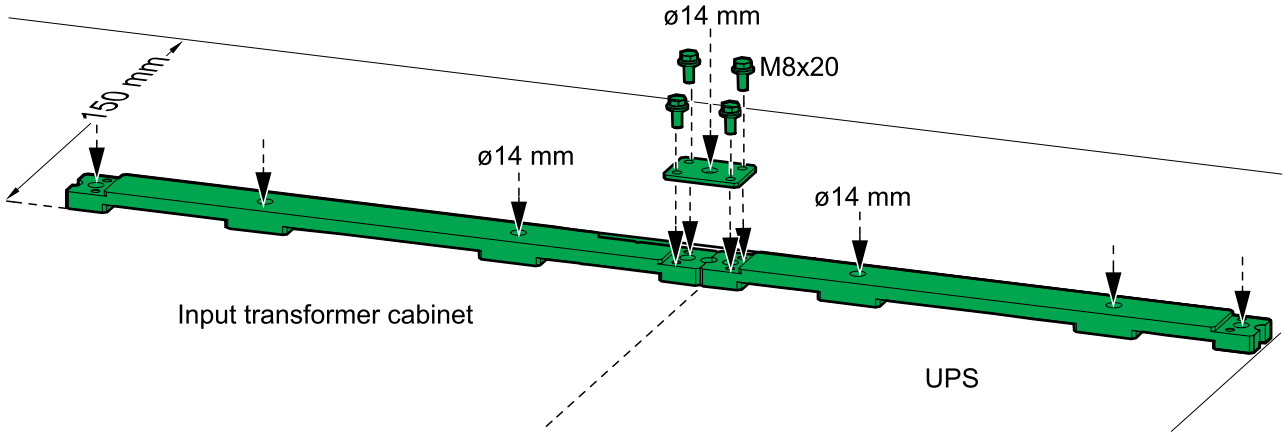
5. **For bottom cable entry**:
    a. Remove the gland plate from the bottom of the input transformer cabinet (s).
    b. Drill or punch holes for power cables or conduits in the gland plate. Conduits are not provided.
    c. Reinstall the gland plate in the bottom of the input transformer cabinet(s).

Install the Seismic Anchoring (Option)

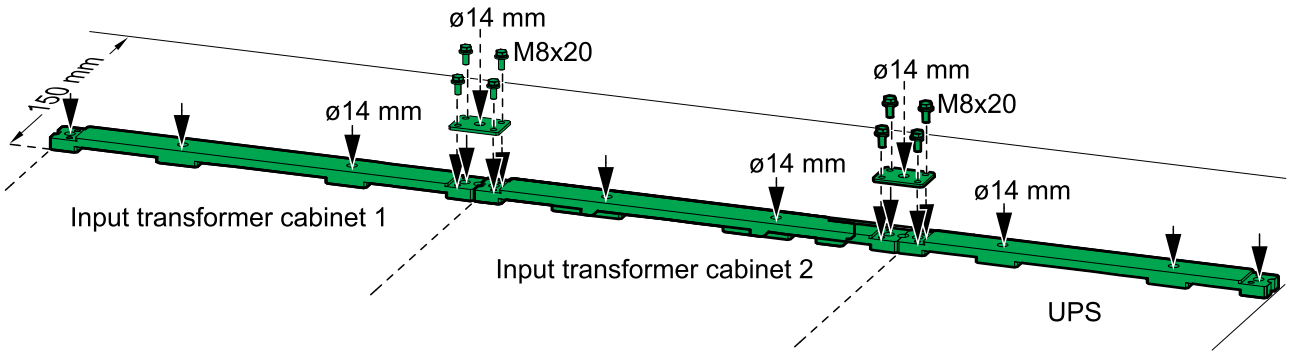
Use the optional installation kits GVSOPT002 (for the UPS) and GVSOPT008 (for the input transformer cabinet) for this procedure.

1. Interconnect the rear anchors for the input transformer cabinet(s) and the UPS with the interconnection plate(s) and four M8 bolts (provided).
2. Mount the rear anchor assembly to the floor. Use appropriate hardware for the floor type – the hole diameter in the rear anchor is ø14 mm.

Single Mains System

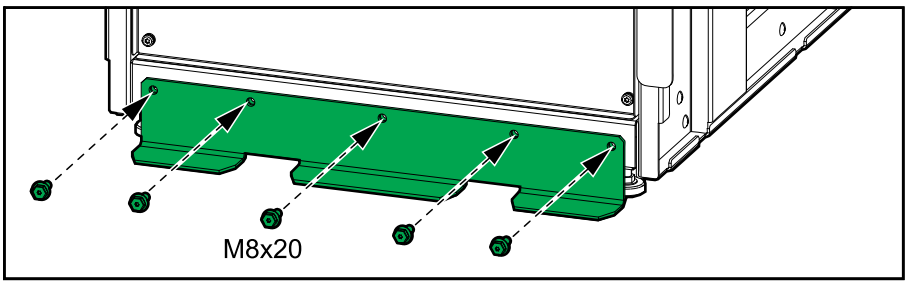


Dual Mains System



3. Install the rear anchoring brackets on the UPS and the input transformer cabinet(s) with the M8 bolts (provided).

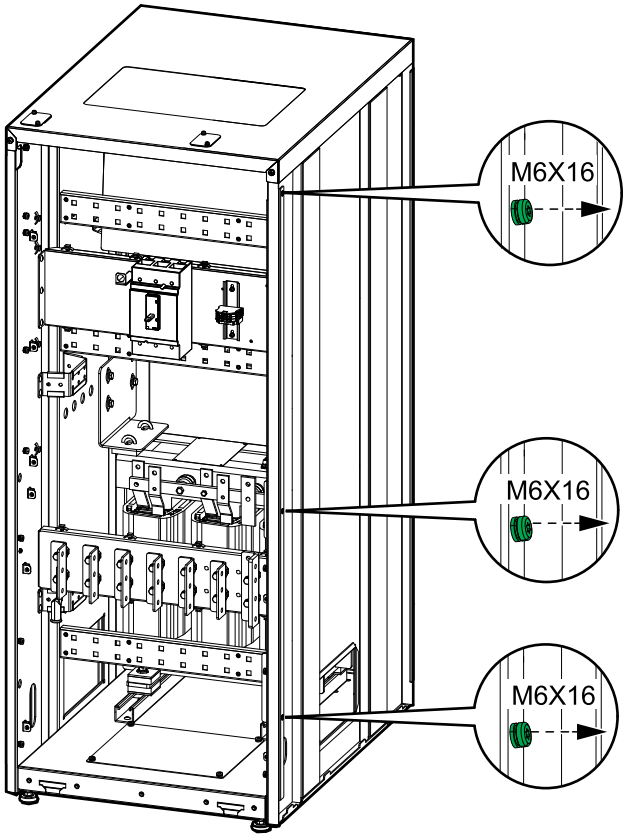
Rear View of the Input Transformer Cabinet



Interconnect the UPS and the Input Transformer Cabinet in a Single Mains System

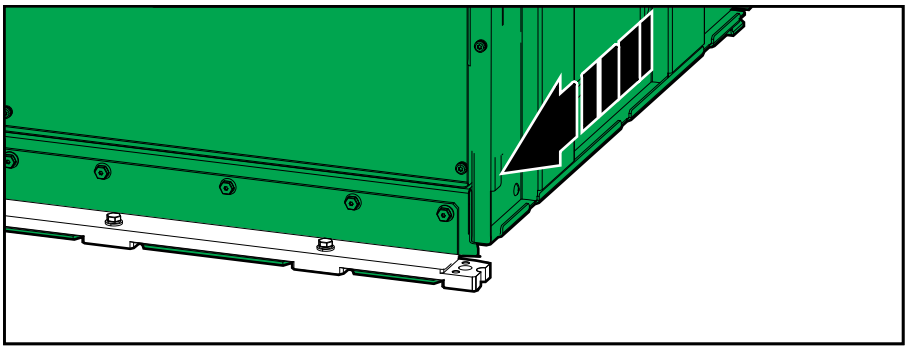
1. Remove the three M6 x 16 mm interconnection screws from the right side of the input transformer cabinet. Save for interconnection.

Front View of the Input Transformer Cabinet



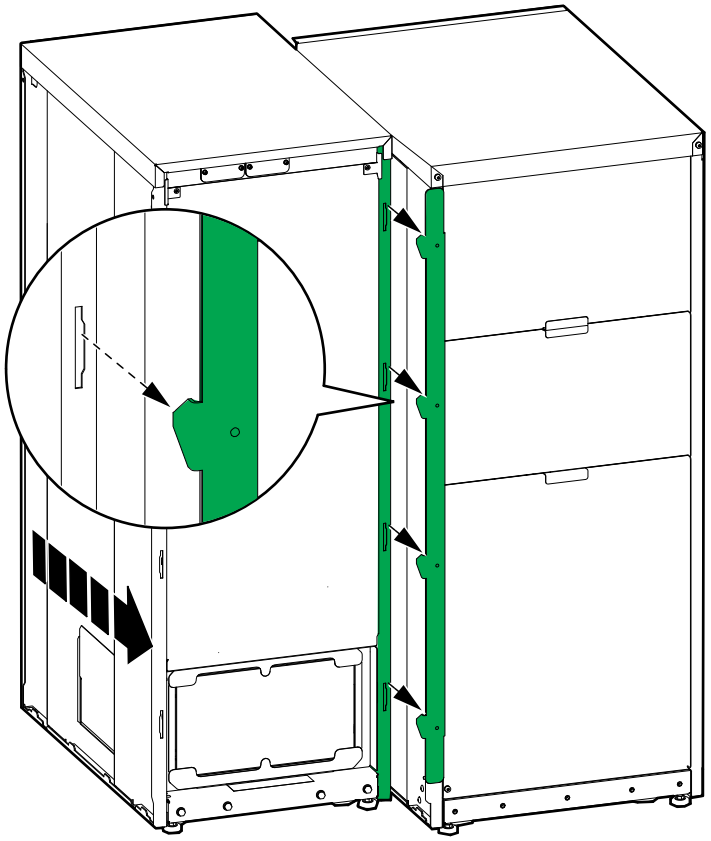
2. Push the input transformer cabinet into final position. **For seismic anchoring**: Align so the rear anchoring bracket on the input transformer cabinet connects to the rear anchor.

Rear View of the Input Transformer Cabinet with Seismic Anchoring



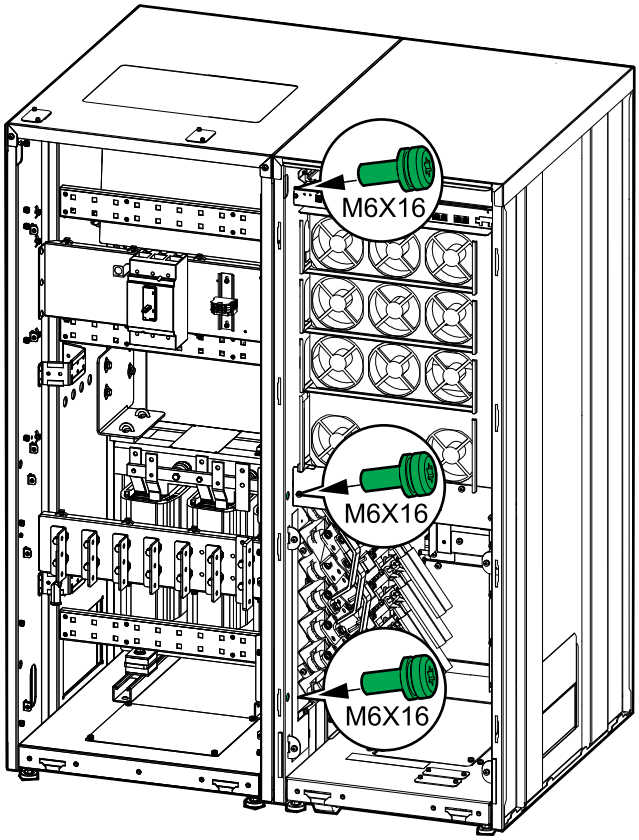
3. Push the UPS into final position next to the input transformer cabinet. The rear bracket on the input transformer cabinet must connect to the UPS. Align with the rear anchors if seismic anchoring is present.

Rear View of the UPS and the Input Transformer Cabinet



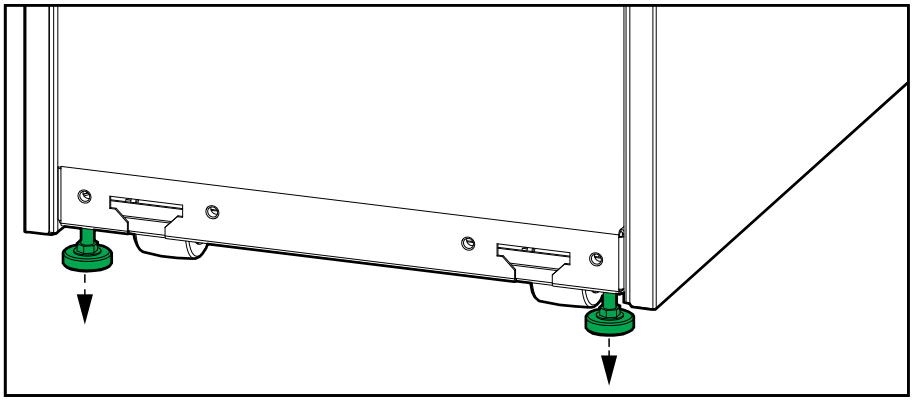
4. Install the three M6 x 16 mm interconnection screws between the input transformer cabinet and the UPS as shown.

Front View of the Input Transformer Cabinet and the UPS



5. Lower the front and rear leveling feet on the UPS and the input transformer cabinet with a wrench until they connect with the floor. Use a bubble-leveler to check that the UPS and input transformer cabinet are level.

Front View of the UPS



⚠CAUTION

TIP HAZARD

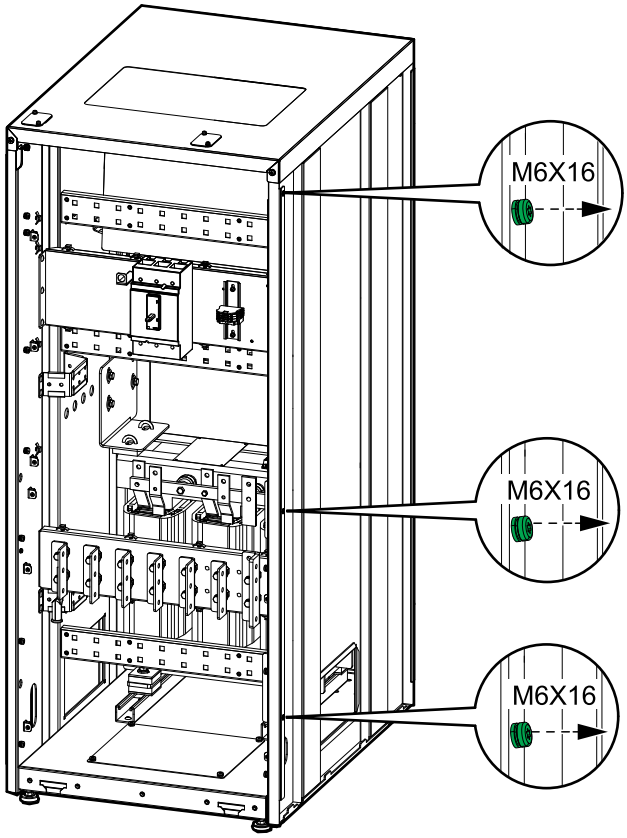
Do not move the cabinet after the leveling feet have been lowered.

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

Interconnect the UPS and the Input Transformer Cabinet in a Dual Mains System

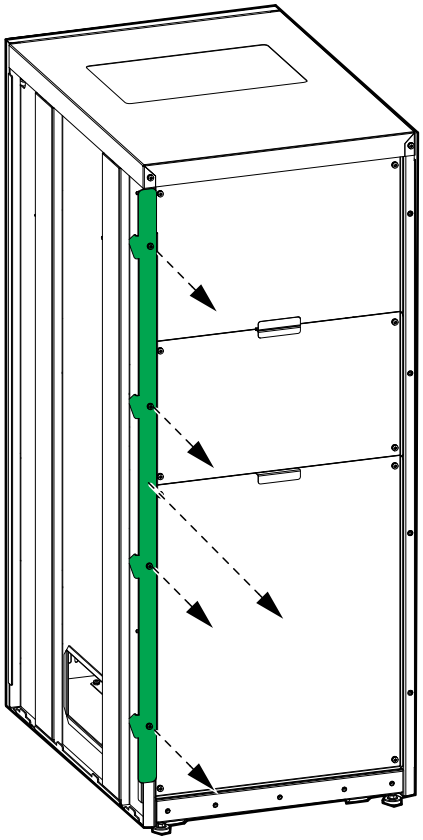
1. Remove the three M6 x 16 mm interconnection screws from the right side of the input transformer cabinets. Save for interconnection.

Front View of the Input Transformer Cabinet



2. Remove the rear bracket from input transformer cabinet 1.

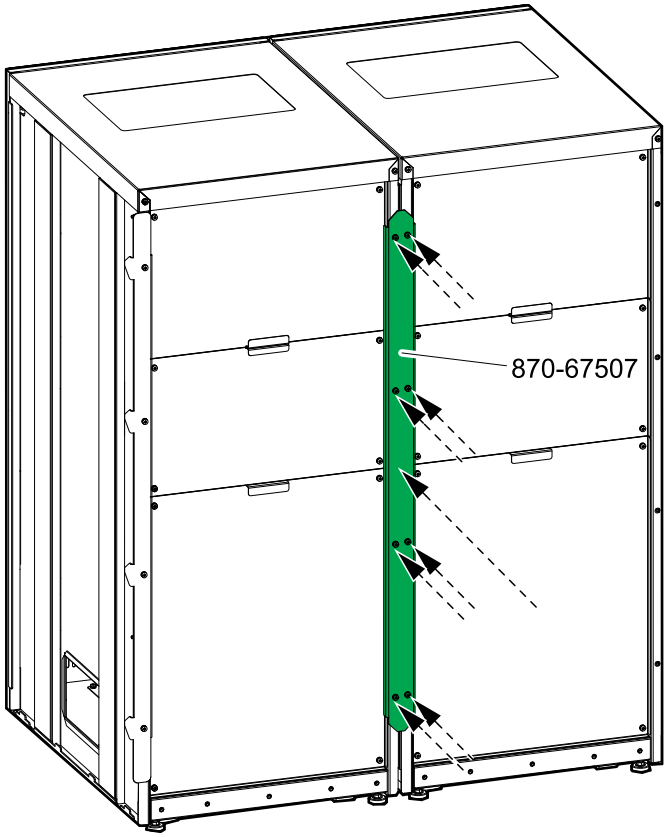
Rear View of Input Transformer Cabinet 1



3. Position input transformer cabinet 2 and input transformer cabinet 1 next to each other.

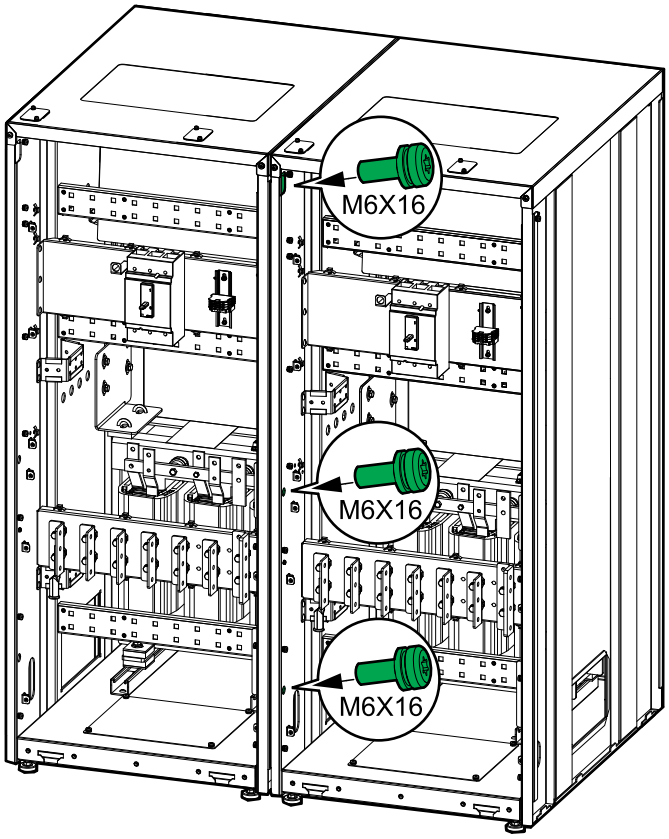
4. Install the provided interconnection rear bracket (870-67507) (provided in the Galaxy VS cable kit dual mains SSIB GVSOPT042) between the input transformer cabinets.

Rear View of Input Transformer Cabinet 2 and Input Transformer Cabinet 1



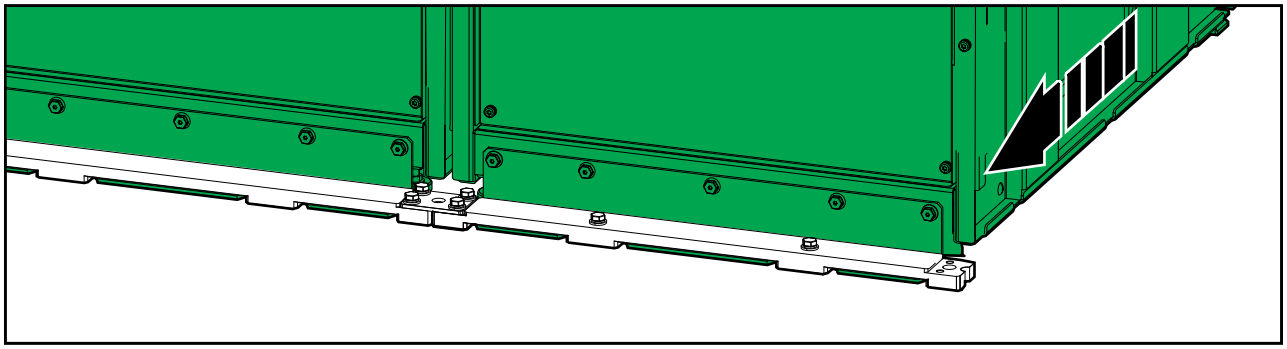
5. Install the three M6 x 16 mm interconnection screws between the input transformer cabinets as shown.

Front View of Input Transformer Cabinet 1 and Input Transformer Cabinet 2



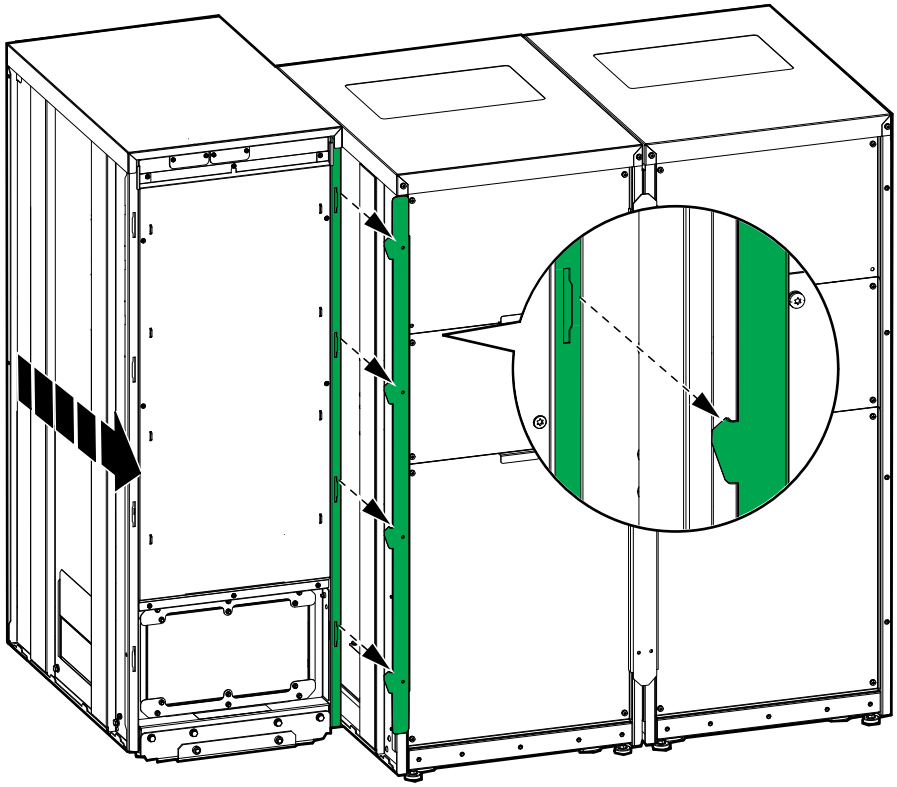
6. Push the interconnected input transformer cabinets into final position. **For seismic anchoring**: Align so the rear anchoring bracket on the input transformer cabinets connects to the rear anchors.

Rear View of Input Transformer Cabinet 2 and Input Transformer Cabinet 1 with Seismic Anchoring



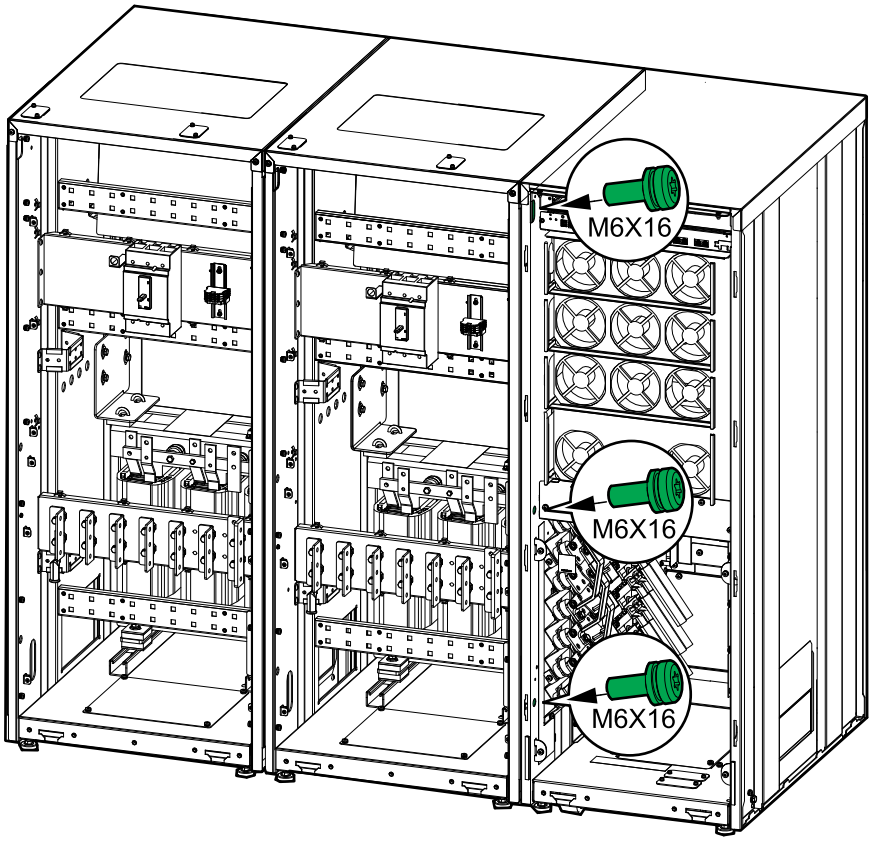
7. Push the UPS into final position next to input transformer cabinet 2. The rear bracket on input transformer cabinet 2 must connect to the UPS. Align with the rear anchors if seismic anchoring is present.

Rear View of the UPS and Input Transformer Cabinet 2 and Input Transformer Cabinet 1



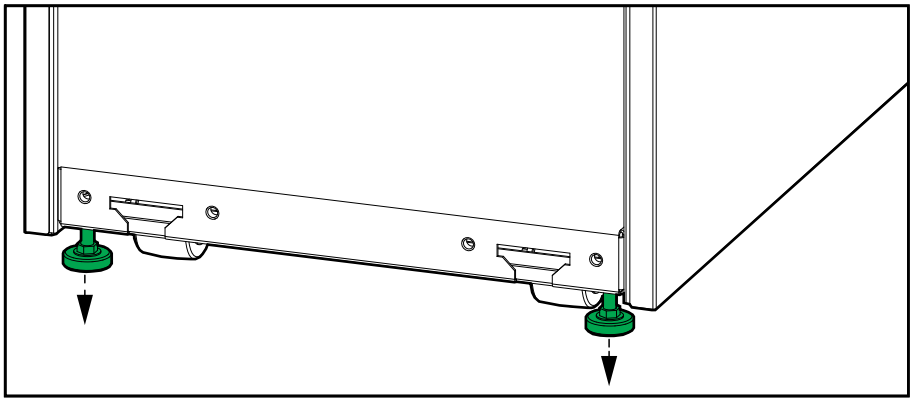
8. Install the three M6 x 16 mm interconnection screws between input transformer cabinet 2 and the UPS as shown.

Front View of Input Transformer Cabinet 1 and Input Transformer Cabinet 2 and the UPS



9. Lower the front and rear leveling feet on the UPS and the input transformer cabinets with a wrench until they connect with the floor. Use a bubble-leveler to check that the UPS and input transformer cabinets are level.

Front View of the UPS



⚠CAUTION

TIP HAZARD

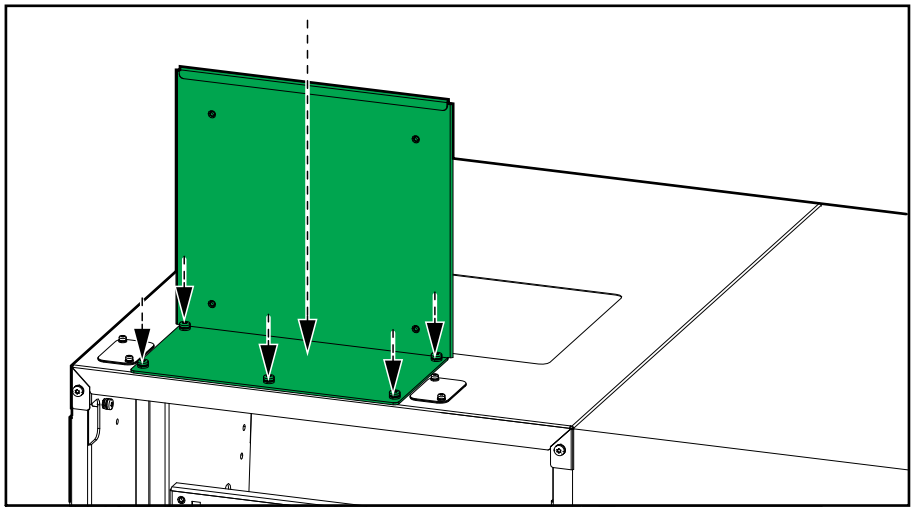
Do not move the cabinet after the leveling feet have been lowered.

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

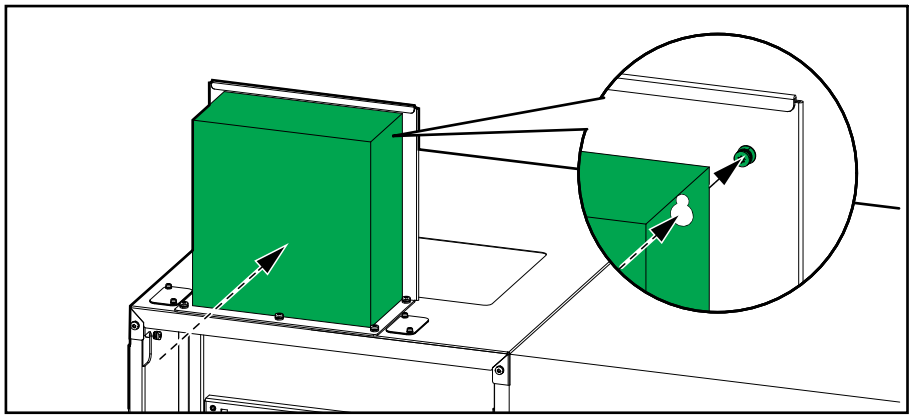
Install the Surge Protection Device (SSP08EMA12)

Mounting bracket, washers, and screws are provided in the Galaxy VS cable kit single mains UIB GVSOPT041 and the Galaxy VS cable kit dual mains SSIB GVSOPT042.

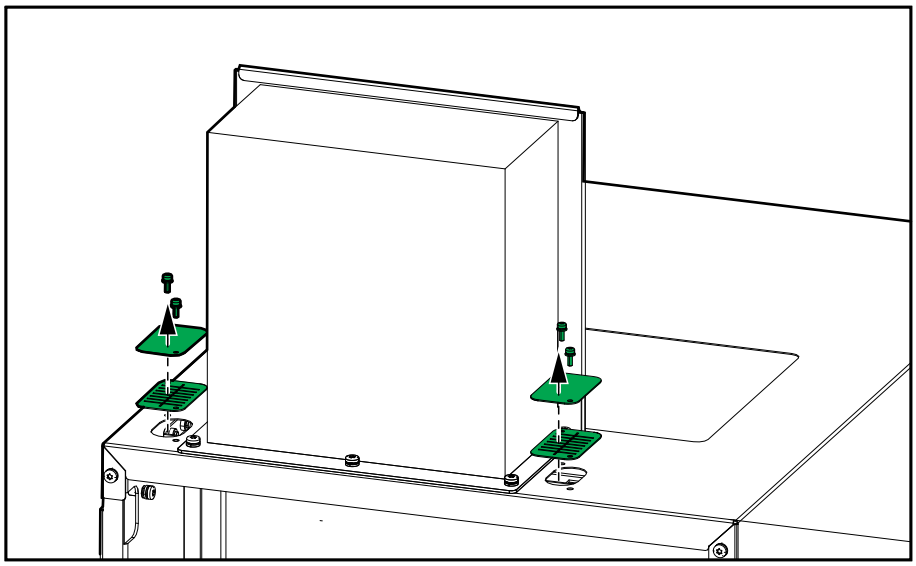
1. Remove the five preinstalled M6 screws from the top of the input transformer cabinet. Install the mounting bracket on the top of the input transformer cabinet(s) with the five M6 screws.



2. Install the surge protection device (SSP08EMA12) on the preinstalled screws and washers on the mounting bracket.

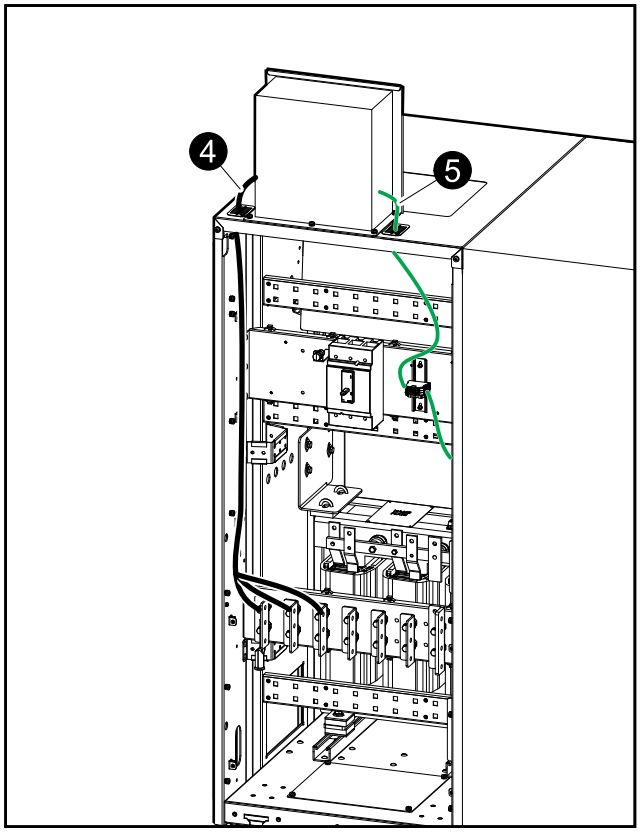


3. Remove the top gland plates and the top brush plates from the input transformer cabinet(s).

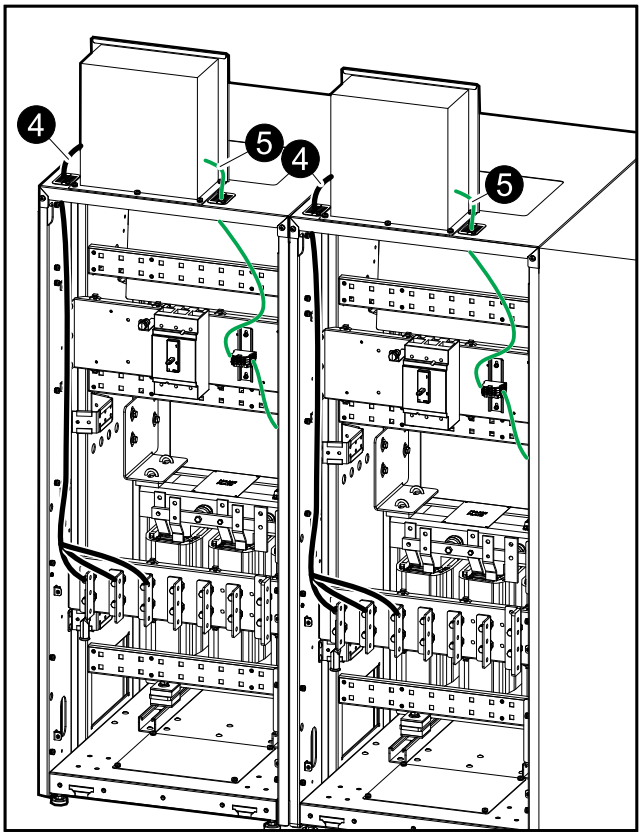


4. Perform one of the following:
   - **For installation without conduits**: Reinstall the brush plates.
   - **For installation with conduits**: Drill a hole in the gland plates for conduits, install conduits (not provided), and reinstall the gland plates.
5. Route the preinstalled power cable from inside the input transformer cabinet (s) out through the left brush plate/gland plate. Follow the installation manual provided with the surge protection device to connect the power cables.
6. Route the preinstalled signal cable from inside the input transformer cabinet out through the right brush plate/gland plate. Follow the installation manual provided with the surge protection device to connect the signal cable.

Single Mains



Dual Mains



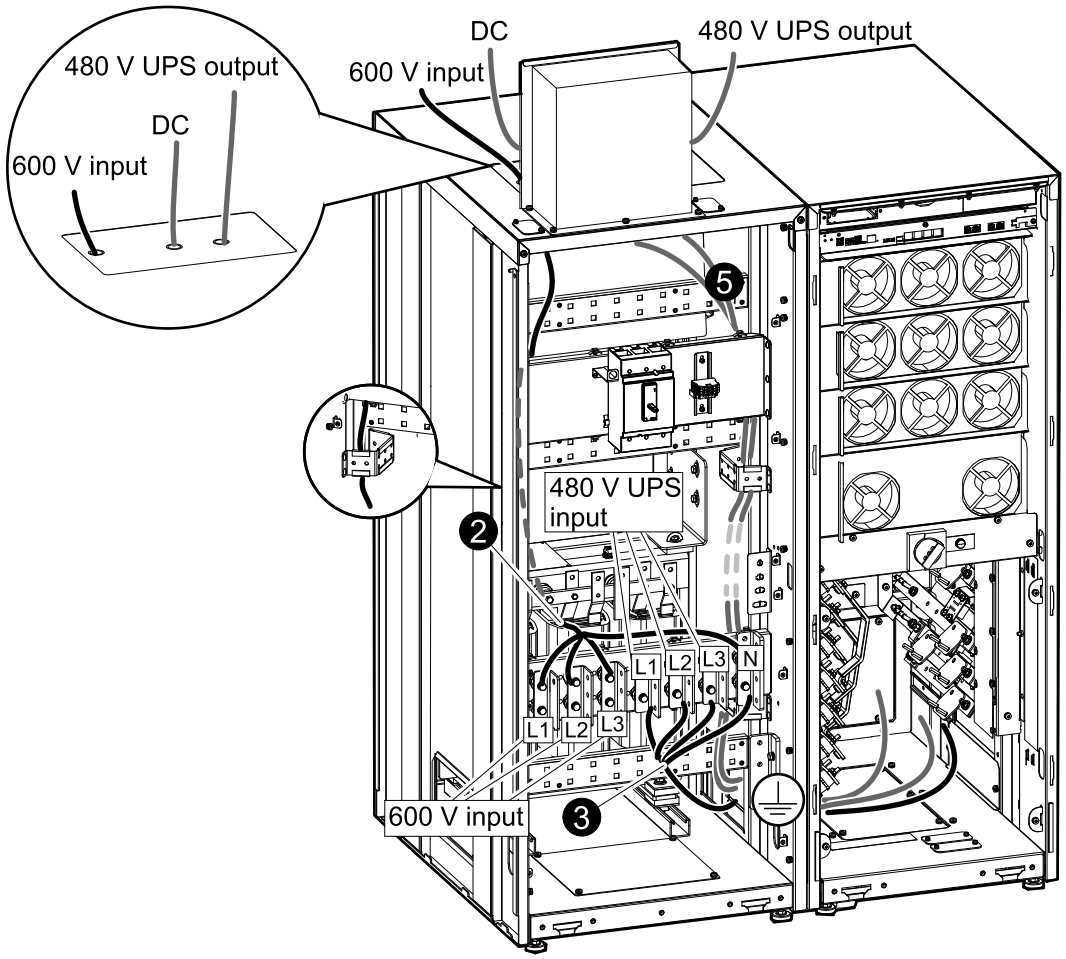
Connect the Power Cables in the Input Transformer Cabinet in a Single Mains System

NOTE: Route the input cables, load cables, and DC cables separately to avoid EMC disturbance.

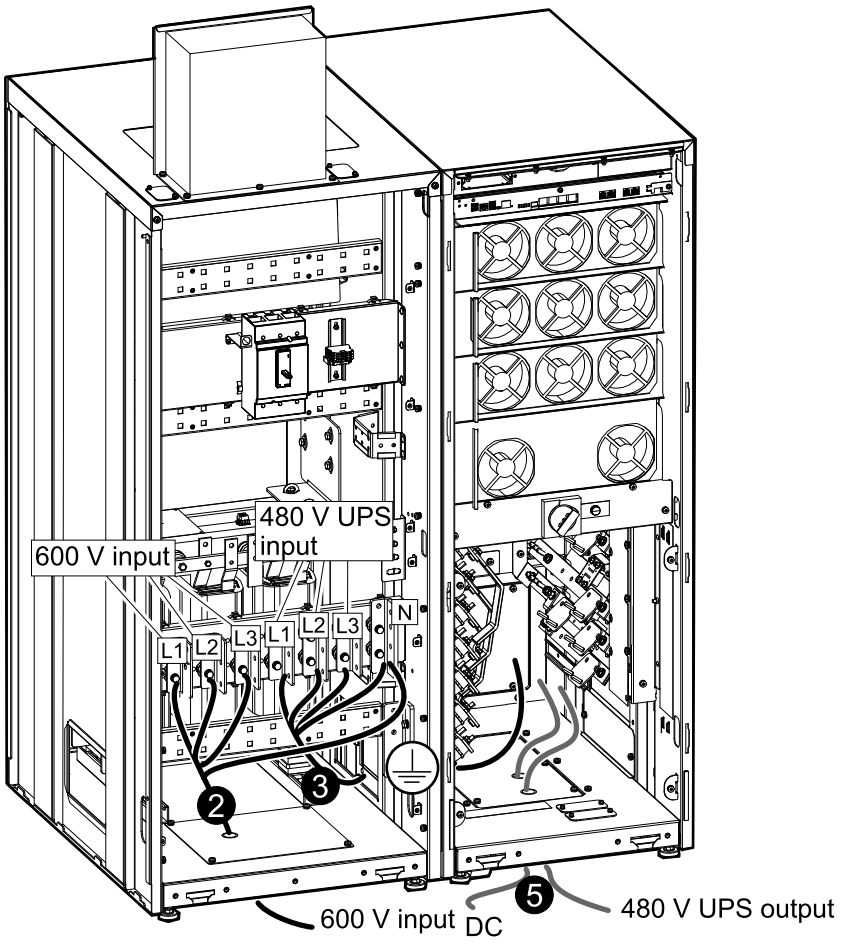
NOTE: Route the power cables in front of the horizontal bracket in the top or bottom of the input transformer cabinet to ensure correct separation from the transformer.

1. Route the equipment grounding conductor through the top or bottom of the input transformer cabinet. Connect the equipment grounding conductor to the ground busbar in the input transformer cabinet.
2. Route the input cables through the top or bottom of the input transformer cabinet and connect the input cables (L1, L2, L3, N) to the 600 V input busbars in the input transformer cabinet.

Front View of Input Transformer Cabinet and UPS – Top Cable Entry



Front View of Input Transformer Cabinet and UPS – Bottom Cable Entry



3. Connect the provided UPS input cables (L1, L2, L3, N) to the UPS input busbars in the input transformer cabinet.
4. Route the UPS input cables through the cable entry opening in the left side of the input transformer cabinet and into the UPS.
5. Perform one of the following:
   - **For top cable entry**: Route the output cables and the DC cables through the top of the input transformer cabinet and through the cable entry opening in the left side of the input transformer cabinet and into the UPS.
   - **For bottom cable entry**: Route the output cables and the DC cables through the bottom of the UPS.
6. Fasten the power cables to the horizontal bracket in the top or bottom of the input transformer cabinet with cable ties.
7. Follow the UPS installation manual to connect the UPS input cables, the DC cables, and the output cables in the UPS.

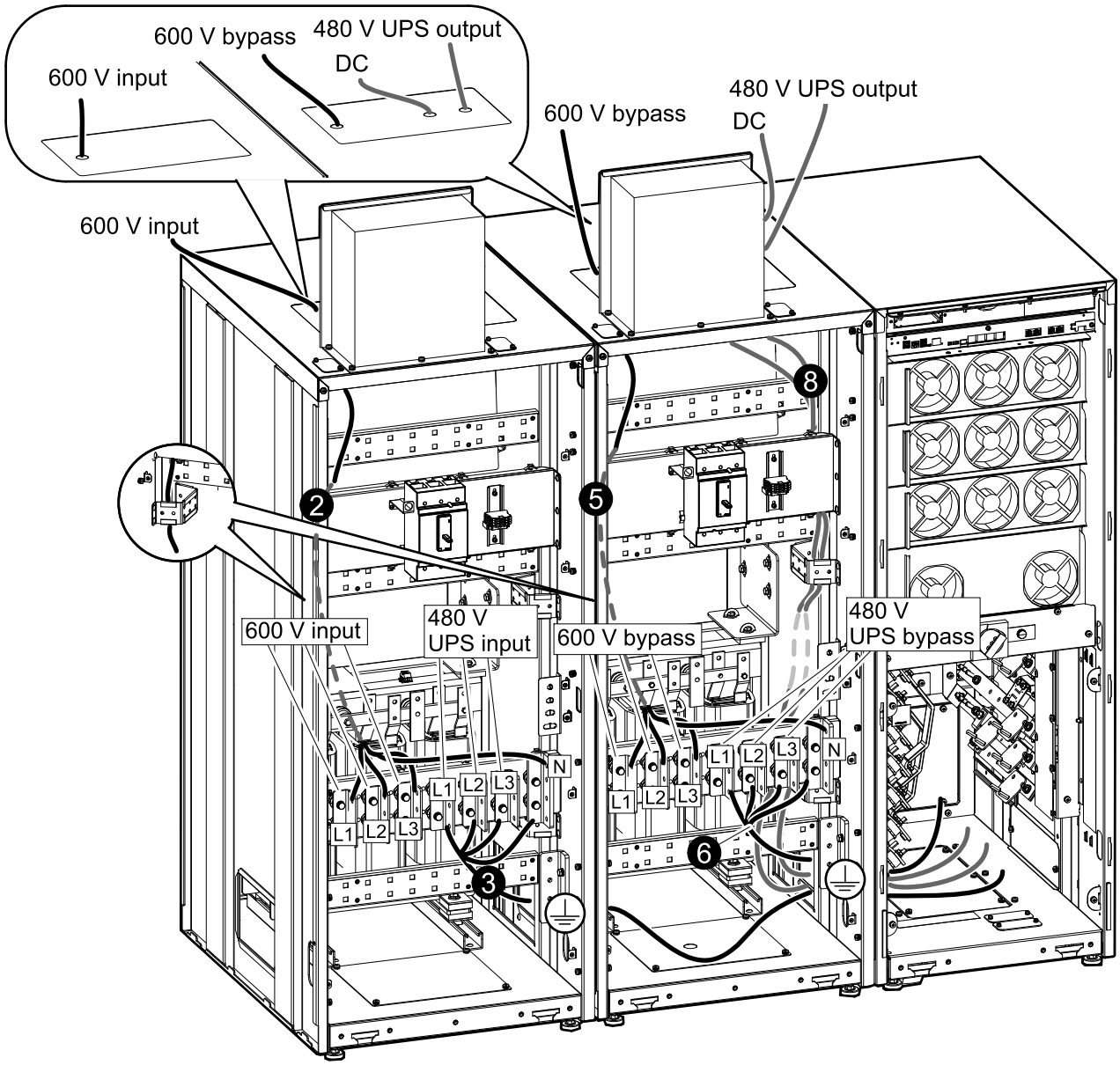
Connect the Power Cables in the Input Transformer Cabinets in a Duals Mains System

NOTE: Route the input cables, bypass cables, load cables, and DC cables separately to avoid EMC disturbance.

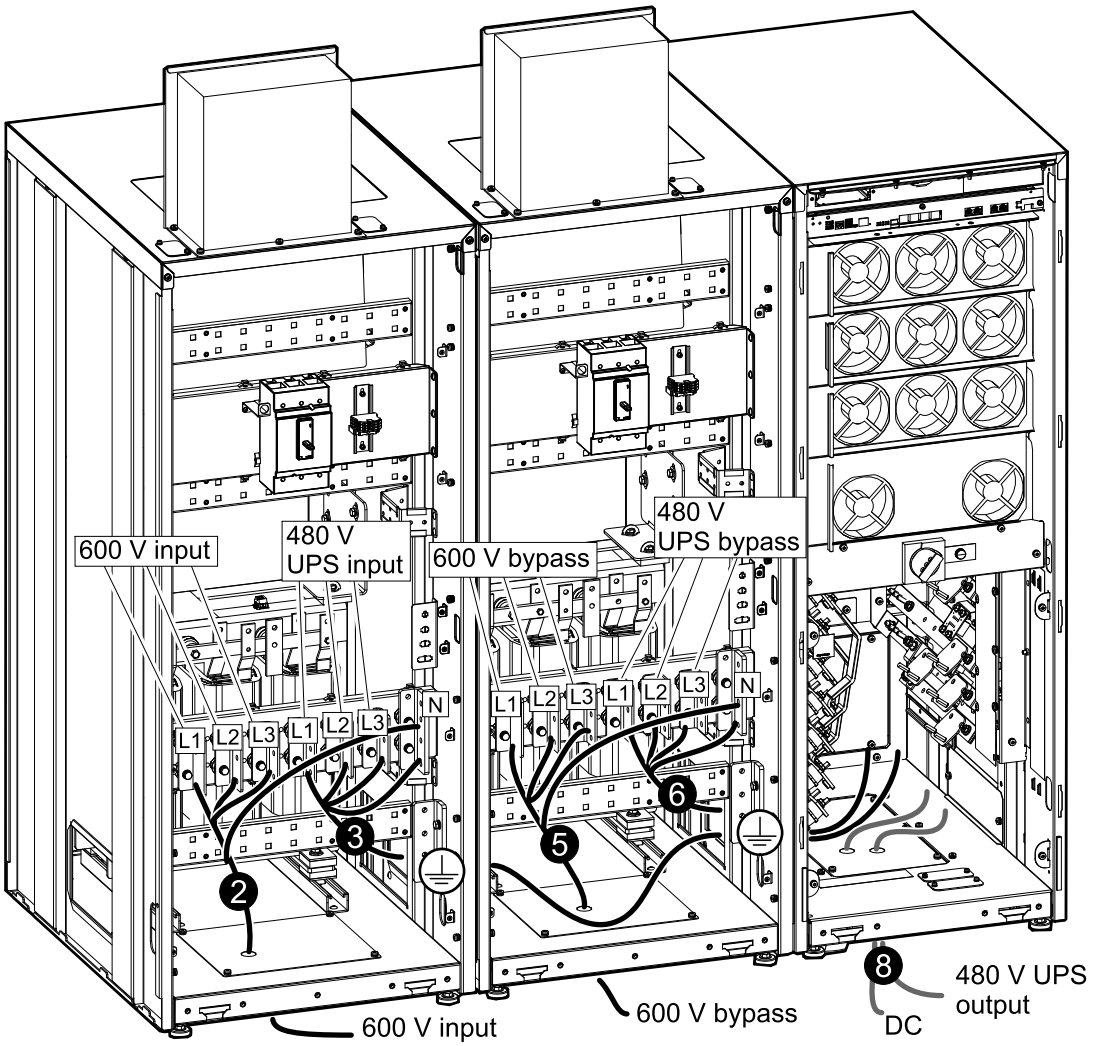
NOTE: Route the power cables in front of the horizontal bracket in the top or bottom of the input transformer cabinet to ensure correct separation from the transformer.

1. Route the equipment grounding conductor through the top or bottom of input transformer cabinet 1 and input transformer cabinet 2. Connect the equipment grounding conductor to the ground busbar in input transformer cabinet 1 and input transformer cabinet 2.
2. Route the input cables through the top or bottom of input transformer cabinet 1 and connect the input cables (L1, L2, L3, N) to the 600 V input busbars in input transformer cabinet 1.
3. Connect the provided UPS input cables (L1, L2, L3, N) to the UPS input busbars in input transformer cabinet 1.

Front View of Input Transformer Cabinet 1 and Input Transformer Cabinet 2 and the UPS – Top Cable Entry



Front View of Input Transformer Cabinet 1 and Input Transformer Cabinet 2 and the UPS – Bottom Cable Entry



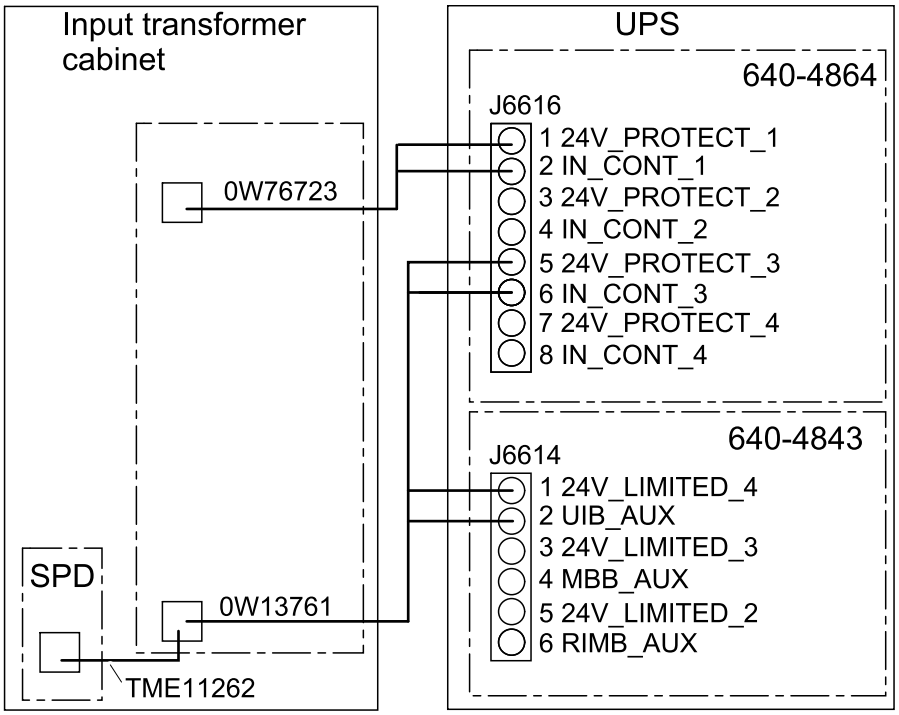
4. Route the UPS input cables through the cable entry opening in the left side of input transformer cabinet 1, through input transformer cabinet 2, and into the UPS.
5. Route the bypass cables through the top or bottom of input transformer cabinet 2 and connect the bypass cables (L1, L2, L3, N) to the 600 V bypass busbars in input transformer cabinet 2.
6. Connect the provided UPS bypass cables (L1, L2, L3, N) to the UPS bypass busbars in input transformer cabinet 2.
7. Route the UPS bypass cables through the cable entry opening in the left side of input transformer cabinet 2 and into the UPS.
8. Perform one of the following:
   - **For top cable entry**: Route the output cables and the DC cables through the top of input transformer cabinet 2 and through the cable entry opening in the left side of input transformer cabinet 2 and into the UPS.
   - **For bottom cable entry**: Route the output cables and the DC cables through the bottom of the UPS.
9. Fasten the power cables to the horizontal bracket in the top or bottom of input transformer cabinet 1 and input transformer cabinet 2 with cable ties.
10. Follow the UPS installation manual to connect the UPS input cables, the UPS bypass cables, the DC cables, and the output cables in the UPS.

Connect the Signal Cables in a Single Mains System

NOTE: Use the signal cables provided in the Galaxy VS cable kit single mains UIB GVSOPT041.

NOTE: Connections to 640-4864 are considered Class 2/SELV. Connections to 640-4843 are considered non-Class 2/non-SELV.

1. Connect the signal cable 0W76723 (transformer thermal sensor) and the signal cable 0W13761 (breaker AUX switches and surge protection device (SPD) alarm signal) to the UPS as shown.

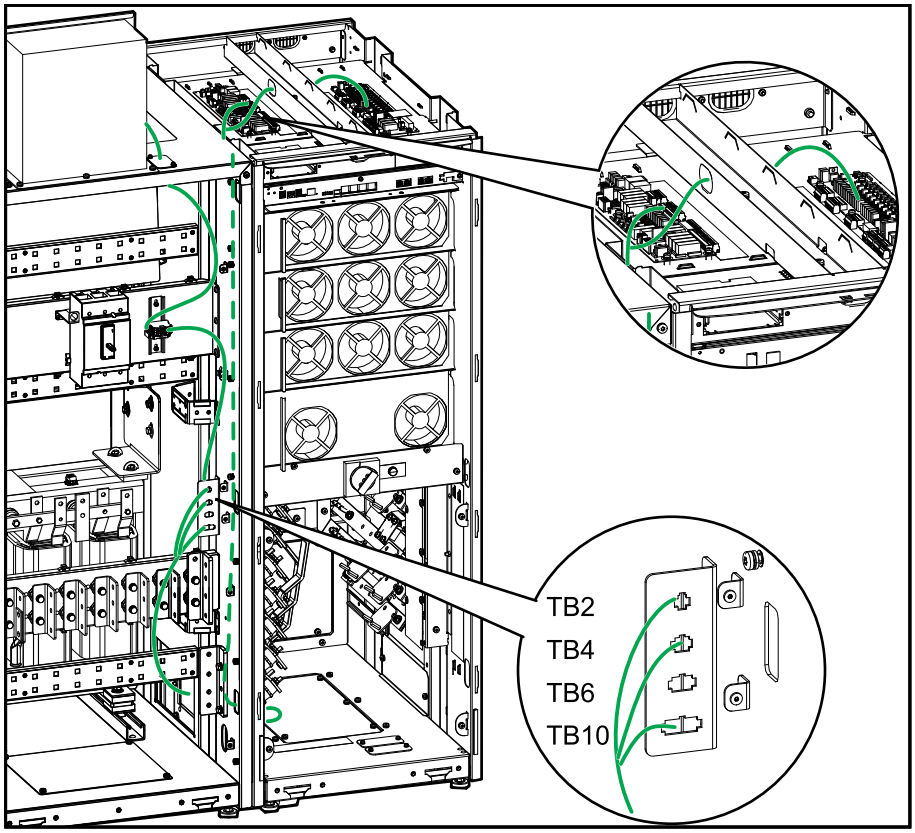


NOTE: The 0W13761 connection to J6616 pin 5 and 6 is for surge protection device (SPD) alarm signal. Configure input contact 5 and 6 with the function **User-defined 1** or **User-defined 2** when setting up the input contacts on the UPS display. If other inputs are needed for input contact 5 and 6, the surge protection device (SPD) alarm signal can be removed from J6616 pin 5 and 6.

2. Route the signal cables down through the cable channel in the left side of the UPS and into the input transformer cabinet through the cable entry opening.

   NOTE: Route the signal cables as far away from the power cables as possible to avoid EMC disturbance.

Front View of the Input Transformer Cabinet and the UPS



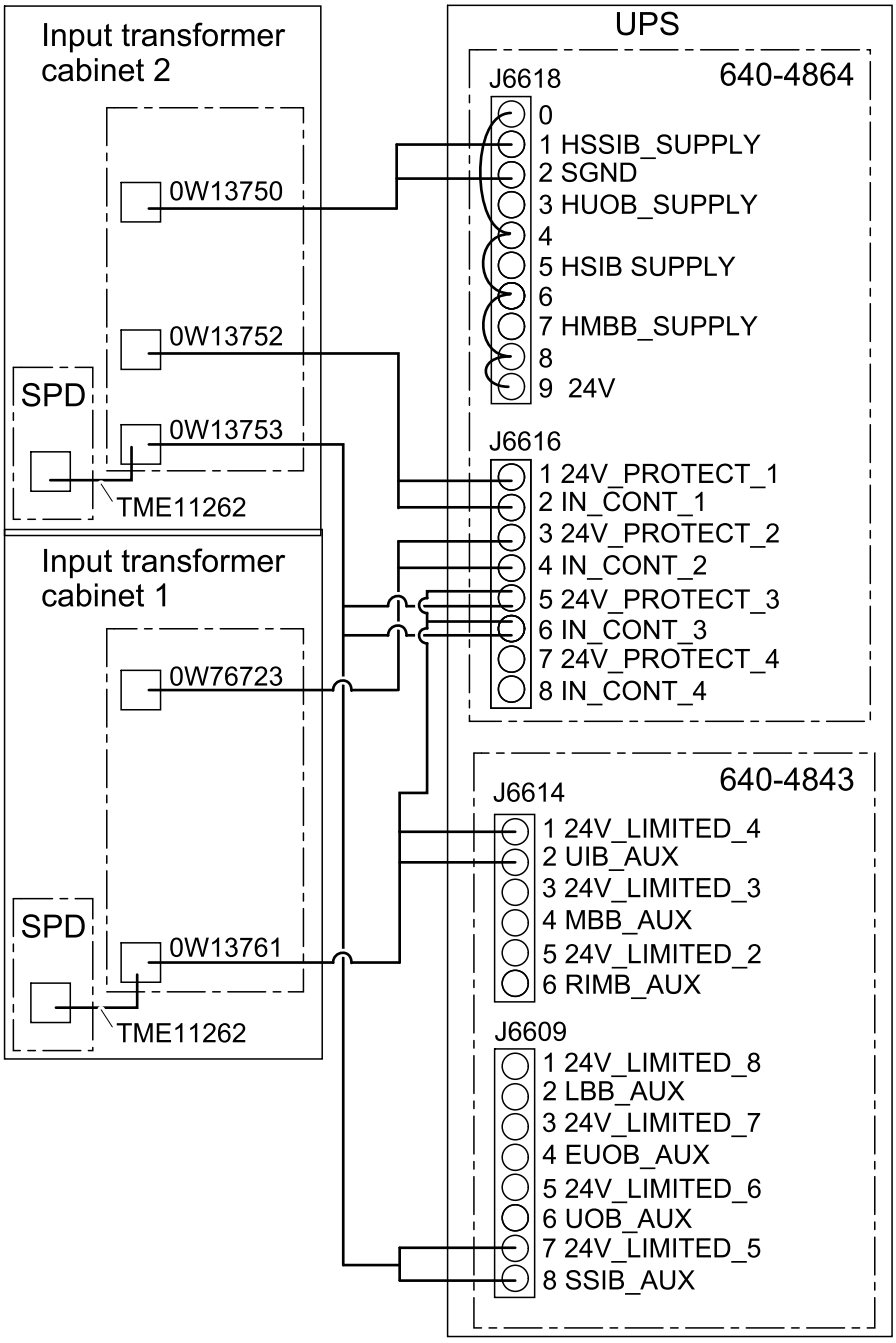
3. Reconnect the signal cables at the cable connection point in the input transformer cabinet.

Connect the Signal Cables in a Dual Mains System

NOTE: Use the signal cables provided in the Galaxy VS cable kit single mains UIB GVSOPT041 and the Galaxy VS cable kit dual mains SSIB GVSOPT042.

NOTE: Connections to 640-4864 are considered Class 2/SELV. Connections to 640-4843 are considered non-Class 2/non-SELV.

1. Connect the signal cable 0W13750 (breaker indicator lights), the signal cables 0W76723 and 0W13752 (transformer thermal sensor), the signal cables 0W13761 (breaker AUX switches and surge protection device (SPD) alarm signal), and the signal cable 0W13753 (breaker AUX switches and surge protection device (SPD) alarm signal) to the UPS as shown.

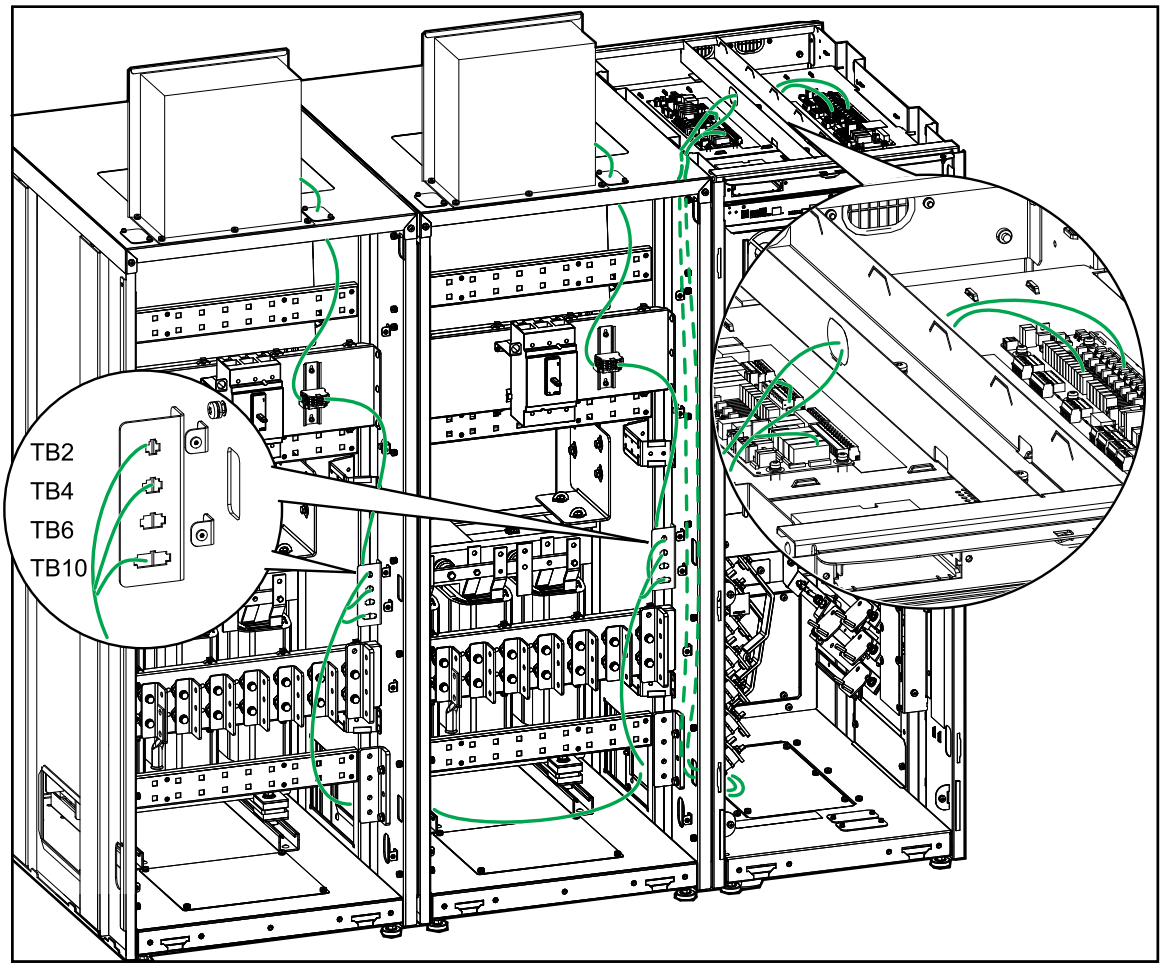


NOTE: The 0W13761 and 0W13753 connection to J6616 pin 5 and 6 is for surge protection device (SPD) alarm signal. Configure input contact 5 and 6 with the function **User-defined 1** or **User-defined 2** when setting up the input contacts on the UPS display. If other inputs are needed for input contact 5 and 6, the surge protection device (SPD) alarm signal can be removed from J6616 pin 5 and 6.

2. Route the signal cables down through the cable channel in the left side of the UPS and into input transformer cabinet 1 through the cable entry opening.

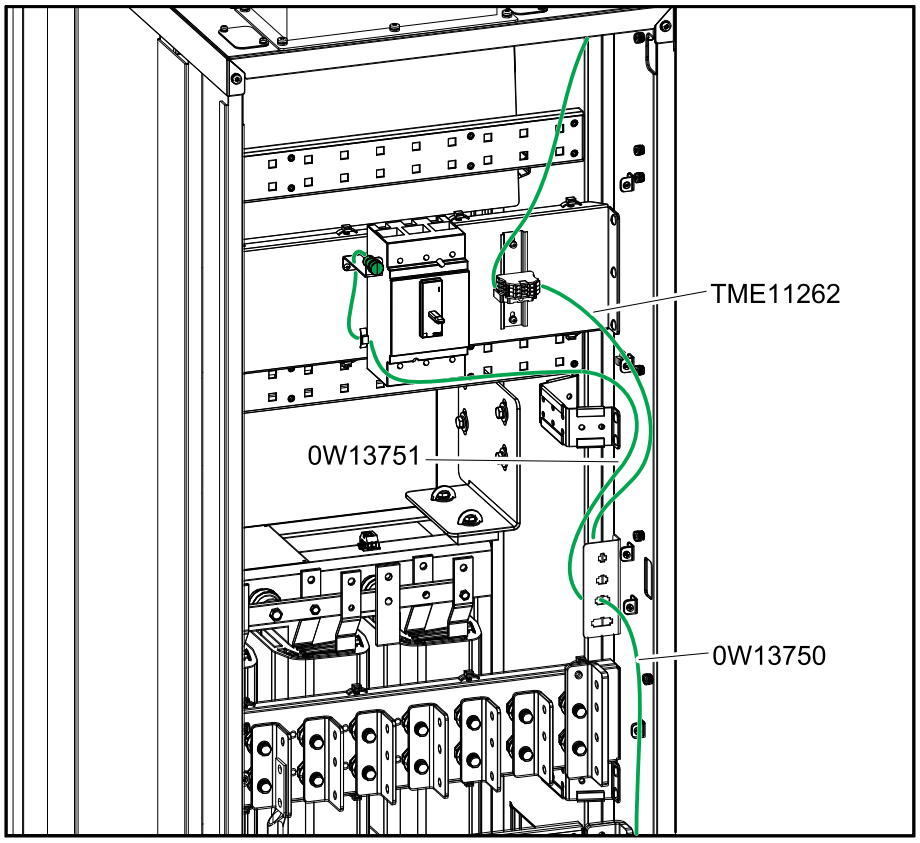
   NOTE: Route the signal cables as far away from the power cables as possible to avoid EMC disturbance.

3. Reconnect the signal cables for input transformer cabinet 1 at the cable connection point in input transformer cabinet 1.
4. Route the signal cables for input transformer cabinet 2 into input transformer cabinet 2 through the cable entry opening.
5. Reconnect the signal cables at the cable connection point in input transformer cabinet 2.



6. Install the SSIB breaker indicator light in input transformer cabinet 2 (the parts are provided in the Galaxy VS cable kit dual mains SSIB GVSOPT042):
   a. Install the SSIB breaker indicator light in the bracket next to the breaker in input transformer cabinet 2.
   b. Connect the signal cable 0W13751 (HSSIB+ and HSSIB-) to the SSIB breaker indicator light (+ and -).
   c. Connect the signal cable 0W13751 from the SSIB breaker indicator light to signal cable 0W13750 at the cable connection point in input transformer cabinet 2.

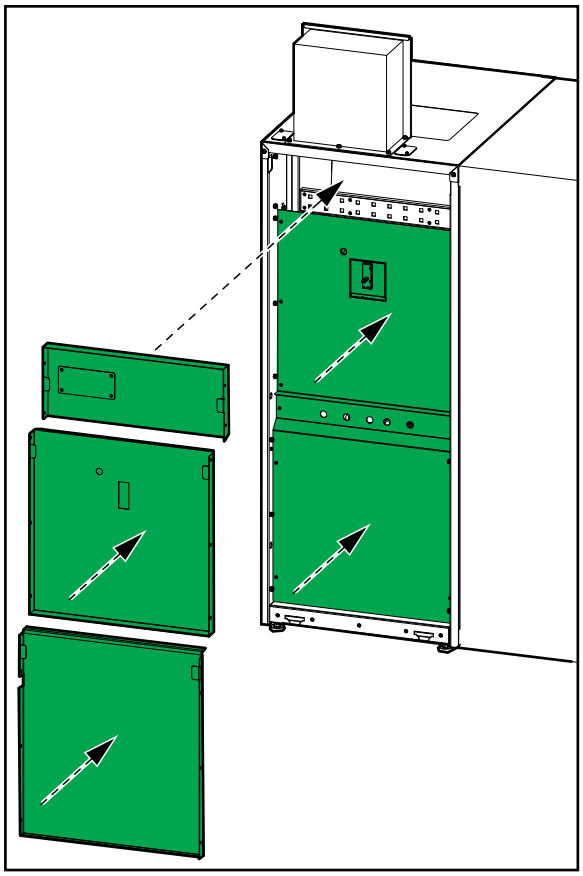
Input Transformer Cabinet 2



Final Installation

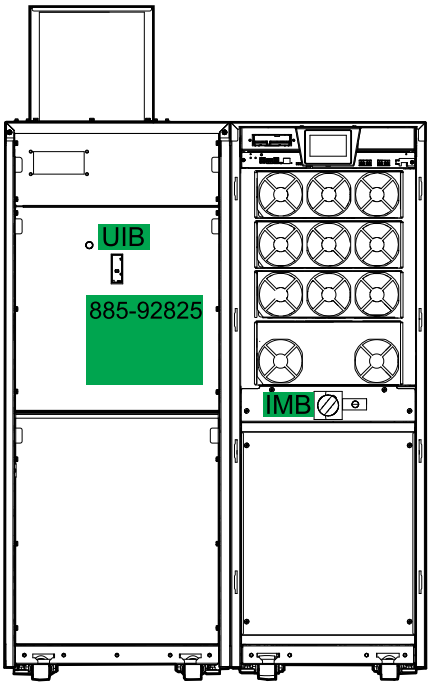
1. Reinstall the transparent plates and the front plates on the input transformer cabinet.

Front View of the Input Transformer Cabinet

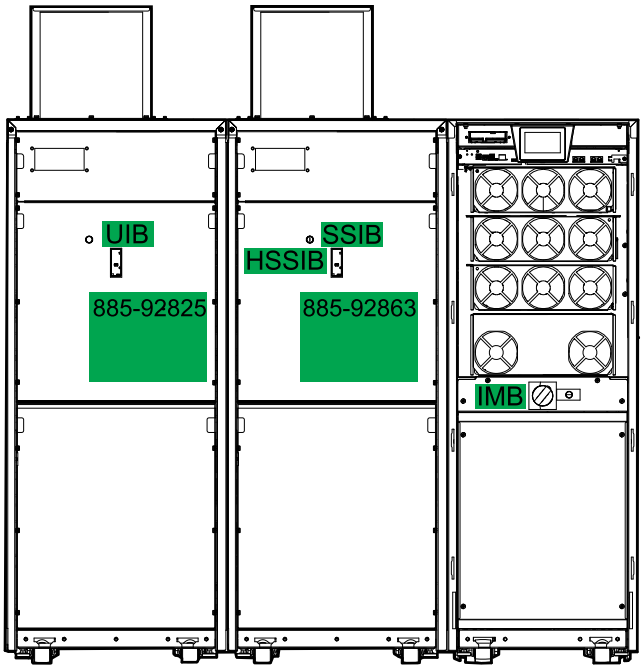


2. **Only for dual mains system**: On input transformer cabinet 2, replace the UIB label with the SSIB label, add the indicator light label HSSIB, and replace the diagram label 885-92825 with the diagram label 883-92863. The labels are provided with the Galaxy VS cable kit dual mains SSIB GVSOPT042.

Single Mains System



Dual Mains System

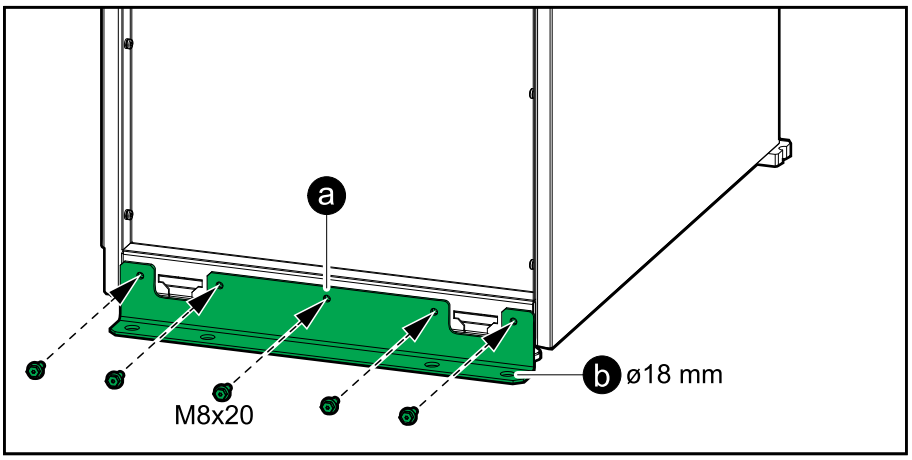


3. **Only for seismic anchoring**:

   a. Install the seismic front anchoring bracket on the input transformer cabinet(s) with the provided M8 bolts.

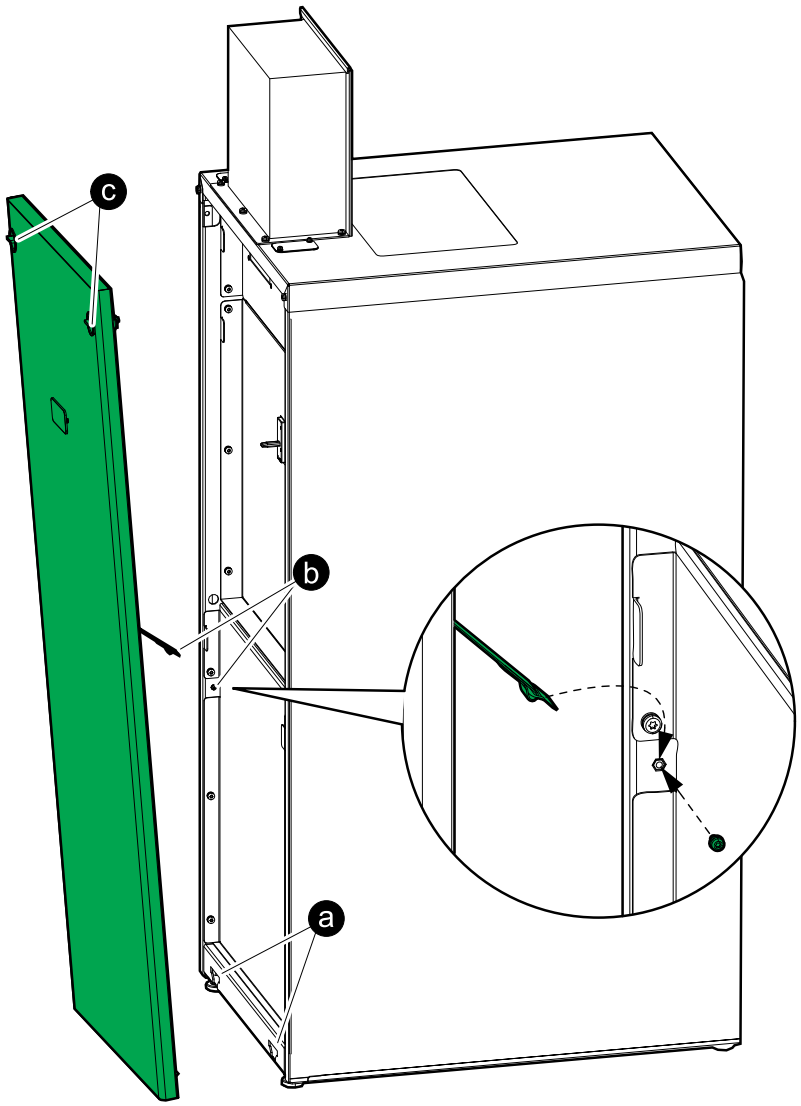
   b. Mount the seismic front anchoring bracket on the input transformer cabinet(s) to the floor. Use appropriate hardware for the floor type – the hole diameter in the front anchoring bracket is ø18 mm.

Front View of the Input Transformer Cabinet



4. Reinstall the front panel on the input transformer cabinet:
   a. Insert the two tabs in the bottom of the front panel in the input transformer cabinet at a tilted angle.
   b. Reconnect the front panel strap to the input transformer cabinet.
   c. Close the front panel and lock with the two locking knobs.

Front Right View of the Input Transformer Cabinet



5. Follow the UPS installation manual to connect the power cables from the input transformer cabinet in the UPS and to complete the rest of the UPS installation.

Schneider Electric
35 rue Joseph Monier
92500 Rueil Malmaison
France

+ 33 (0) 1 41 29 70 00

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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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