Galaxy PW 2nd Gen

10-200 kVA 3:3 UPS

Installation

Latest updates are available on the Schneider Electric website

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www.se.com

Legal Information

Go to *https://www.productinfo.schneider-electric.com/galaxypw* for translations.
前往 *https://www.productinfo.schneider-electric.com/galaxypw* 查看译文。

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.

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.
- A disconnection device (e.g. disconnection circuit breaker or switch) must be installed to enable isolation of the system from upstream power sources in accordance with local regulations. The disconnection device must be easily accessible and visible.
- The UPS must be properly earthed/grounded and due to a high leakage current, the earthing/grounding conductor must be connected first.

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

⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

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

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

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

⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

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

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

⚠ CAUTION

RISK OF ELECTRICAL DISTURBANCE

This product can cause a DC current in the PE conductor. Where a residual current-operated protective device (RCD) is used for protection against electrical shock, only an RCD of Type B is allowed on the supply side of this product.

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

Battery Safety

⚠⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

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

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

⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

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

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

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

⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

When replacing batteries, always replace with the same type and number of batteries or battery packs.

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

⚠CAUTION

RISK OF EQUIPMENT DAMAGE

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

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

Symbols Used in the Product

	This is the earthing/ground symbol.
	This is the protective earth/equipment grounding conductor symbol.
	This is the direct current symbol. It is also referred to as DC.
	This is the alternating current symbol. It is also referred to as AC.
	This is the positive polarity symbol. It is used to identify the positive terminal(s) of equipment which is used with, or generates direct current.
	This is the negative polarity symbol. It is used to identify the negative terminal(s) of equipment which is used with, or generates direct current.
	This is the battery symbol.
	This is the static switch symbol. It is used to indicate switches that are designed to connect or disconnect the load to or from the supply respectively without the existence of moving parts.
	This is the AC/DC converter (rectifier) symbol. It is used to identify an AC/DC converter (rectifier) and, in case of plug-in devices, to identify the relevant receptacles.
	This is the DC/AC converter (inverter) symbol. It is used to identify an DC/AC converter (inverter) and, in case of plug-in devices, to identify the relevant receptacles.
	This is the fuse symbol. It is used to identify fuse boxes or their locations.
	This is the transformer symbol.
	This is the input symbol. It is used to identify an input terminal when it is necessary to distinguish between inputs and outputs.
	This is the output symbol. It is used to identify an output terminal when it is necessary to distinguish between inputs and outputs.
	This is the switch disconnector symbol. It is used to identify the disconnecting device in the form of switch that protects the equipment from short circuit or heavy load current. It opens the circuits once the current flow crosses its maximum limit.
	This is the circuit breaker symbol. It is used to identify the disconnecting device in the form of circuit breaker that protects the equipment from short circuit or heavy load current. It opens the circuits once the current flow crosses its maximum limit.

	This is the circuit breaker/switch symbol. It is used to identify the disconnecting device in the form of circuit breaker or switch that protects the equipment from short circuit or heavy load current. It opens the circuits once the current flow crosses its maximum limit.
N	This is the neutral symbol. It is used to identify the neutral conductors or their locations.
L	This is the phase conductor symbol. It is used to identify the phase conductors or their locations.

Specifications

Specifications for 10 kVA UPS 3:3

Input	Voltage (V)	380 V	400 V	415 V
	Connections	L1, L2, L3, PE[1]		
	Input voltage range (V)	304-456		
	Frequency (Hz)	45-55		
	Nominal input current (A)	17	16	15
	Maximum input current (A)	21	20	19
	Input current limitation (A)	60		
	Total harmonic distortion (THDI)[2]	6 pulses ≤15%		
	Input power factor[2]	≥0.9		
	Maximum short circuit rating	Icc=10 kA		
	Protection	Breaker		
	Ramp-in	15 seconds		
Bypass	Voltage (V)	380 V	400 V	415 V
	Connections	L1, L2, L3, N, PE		
	Overload capacity	≤110% continuous 125% for 10 minutes 150% for 1 minute		
	Bypass voltage range (V)	285-475		
	Frequency (Hz)	50		
	Nominal bypass current (A)	15	14	14
	Nominal neutral current (A)	26	25	25
	Maximum short circuit rating	Icc=10 kA		
Output	Voltage (V)	380 V	400 V	415 V
	Connections	L1, L2, L3, N, PE		
	Overload capacity	≤110% continuous 125% for 10 minutes 150% for 1 minute		
	Output voltage regulation	± 1%		
	Dynamic load response	20 milliseconds		
	Output power factor	0.8		
	Nominal output current (A)	15	14	14
	Total harmonic distortion (THDU)	<2% at 100% linear load <4% at 100% non-linear load		
	Output frequency (Hz)	50 ± 1%		
	Output short-circuit current at 60 ms (A)	45		
	Output performance classification (according to IEC/ EN62040-3)	VFI-SS-111		

1. TN, TT, and IT power distribution systems are supported. Corner (line) grounding is not supported.
2. With filter.

Battery	Battery blocks supported	29-32
	Charging current	The charging current is determined by the battery capacity. Default is 0.1 C.
	Maximum charging power (kW)	10.8
	Nominal battery voltage (VDC)	348-384
	Nominal float voltage (VDC)	391.5-432
	End of discharge voltage (full load) (VDC)	304
	Battery current at full load and nominal battery voltage (A)	23
	Battery current at full load and minimum battery voltage (A)	29
	Temperature compensation (per cell)	-3.3 mV per °C for T ≥ 25 °C, 0 mV per °C for T < 25 °C

Specifications for 20 kVA UPS 3:3

Input	Voltage (V)	380 V	400 V	415 V
	Connections	L1, L2, L3, PE[3]		
	Input voltage range (V)	304-456		
	Frequency (Hz)	45-55		
	Nominal input current (A)	33	32	31
	Maximum input current (A)	41	40	39
	Input current limitation (A)	60		
	Total harmonic distortion (THDI)[4]	6 pulses ≤15%		
	Input power factor[4]	≥0.9		
	Maximum short circuit rating	Icc=10 kA		
	Protection	Breaker		
	Ramp-in	15 seconds		
Bypass	Voltage (V)	380 V	400 V	415 V
	Connections	L1, L2, L3, N, PE		
	Overload capacity	≤110% continuous 125% for 10 minutes 150% for 1 minute		
	Bypass voltage range (V)	285-475		
	Frequency (Hz)	50		
	Nominal bypass current (A)	30	29	28
	Nominal neutral current (A)	53	50	49
	Maximum short circuit rating	Icc=10 kA		
Output	Voltage (V)	380 V	400 V	415 V
	Connections	L1, L2, L3, N, PE		
	Overload capacity	≤110% continuous 125% for 10 minutes 150% for 1 minute		
	Output voltage regulation	± 1%		
	Dynamic load response	20 milliseconds		
	Output power factor	0.8		
	Nominal output current (A)	30	29	28
	Total harmonic distortion (THDU)	<2% at 100% linear load <4% at 100% non-linear load		
	Output frequency (Hz)	50 ± 1%		
	Output short-circuit current at 60 ms (A)	90		
	Output performance classification (according to IEC/ EN62040-3)	VFI-SS-111		

3. TN, TT, and IT power distribution systems are supported. Corner (line) grounding is not supported.
4. With filter.

Battery	Battery blocks supported	29-32
	Charging current	The charging current is determined by the battery capacity. Default is 0.1 C.
	Maximum charging power (kW)	19.3
	Nominal battery voltage (VDC)	348-384
	Nominal float voltage (VDC)	391.5-432
	End of discharge voltage (full load) (VDC)	304
	Battery current at full load and nominal battery voltage (A)	45
	Battery current at full load and minimum battery voltage (A)	57
	Temperature compensation (per cell)	-3.3 mV per °C for T ≥ 25 °C, 0 mV per °C for T < 25 °C

Specifications for 30 kVA UPS 3:3

Input	Voltage (V)	380 V	400 V	415 V
	Connections	L1, L2, L3, PE[5]		
	Input voltage range (V)	304-456		
	Frequency (Hz)	45-55		
	Nominal input current (A)	50	48	46
	Maximum input current (A)	62	60	57
	Input current limitation (A)	100		
	Total harmonic distortion (THDI)[6]	6 pulses ≤15%		
	Input power factor[6]	≥0.9		
	Maximum short circuit rating	Icc=10 kA		
	Protection	Breaker		
	Ramp-in	15 seconds		
Bypass	Voltage (V)	380 V	400 V	415 V
	Connections	L1, L2, L3, N, PE		
	Overload capacity	≤110% continuous 125% for 10 minutes 150% for 1 minute		
	Bypass voltage range (V)	285-475		
	Frequency (Hz)	50		
	Nominal bypass current (A)	45	43	42
	Nominal neutral current (A)	79	75	73
	Maximum short circuit rating	Icc=10 kA		
Output	Voltage (V)	380 V	400 V	415 V
	Connections	L1, L2, L3, N, PE		
	Overload capacity	≤110% continuous 125% for 10 minutes 150% for 1 minute		
	Output voltage regulation	± 1%		
	Dynamic load response	20 milliseconds		
	Output power factor	0.8		
	Nominal output current (A)	46	43	42
	Total harmonic distortion (THDU)	<2% at 100% linear load <4% at 100% non-linear load		
	Output frequency (Hz)	50 ± 1%		
	Output short-circuit current at 60 ms (A)	138		
	Output performance classification (according to IEC/ EN62040-3)	VFI-SS-111		

5. TN, TT, and IT power distribution systems are supported. Corner (line) grounding is not supported.
6. With filter.

Battery	Battery blocks supported	29-32
	Charging current	The charging current is determined by the battery capacity. Default is 0.1 C.
	Maximum charging power (kW)	22.5
	Nominal battery voltage (VDC)	348-384
	Nominal float voltage (VDC)	391.5-432
	End of discharge voltage (full load) (VDC)	304
	Battery current at full load and nominal battery voltage (A)	68
	Battery current at full load and minimum battery voltage (A)	86
	Temperature compensation (per cell)	-3.3 mV per °C for T ≥ 25 °C, 0 mV per °C for T < 25 °C

Specifications for 40 kVA UPS 3:3

Input	Voltage (V)	380 V	400 V	415 V
	Connections	L1, L2, L3, PE[7]		
	Input voltage range (V)	304-456		
	Frequency (Hz)	45-55		
	Nominal input current (A)	67	63	61
	Maximum input current (A)	84	79	76
	Input current limitation (A)	125		
	Total harmonic distortion (THDI)[8]	6 pulses ≤15%		
	Input power factor[8]	≥0.9		
	Maximum short circuit rating	Icc=10 kA		
	Protection	Breaker		
	Ramp-in	15 seconds		
Bypass	Voltage (V)	380 V	400 V	415 V
	Connections	L1, L2, L3, N, PE		
	Overload capacity	≤110% continuous 125% for 10 minutes 150% for 1 minute		
	Bypass voltage range (V)	285-475		
	Frequency (Hz)	50		
	Nominal bypass current (A)	61	58	56
	Nominal neutral current (A)	106	100	97
	Maximum short circuit rating	Icc=10 kA		
Output	Voltage (V)	380 V	400 V	415 V
	Connections	L1, L2, L3, N, PE		
	Overload capacity	≤110% continuous 125% for 10 minutes 150% for 1 minute		
	Output voltage regulation	± 1%		
	Dynamic load response	20 milliseconds		
	Output power factor	0.8		
	Nominal output current (A)	61	58	56
	Total harmonic distortion (THDU)	<2% at 100% linear load <4% at 100% non-linear load		
	Output frequency (Hz)	50 ± 1%		
	Output short-circuit current at 60 ms (A)	183		
	Output performance classification (according to IEC/ EN62040-3)	VFI-SS-111		

7. TN, TT, and IT power distribution systems are supported. Corner (line) grounding is not supported.
8. With filter.

Battery	Battery blocks supported	29-32
	Charging current	The charging current is determined by the battery capacity. Default is 0.1 C.
	Maximum charging power (kW)	22.5
	Nominal battery voltage (VDC)	348-384
	Nominal float voltage (VDC)	391.5-432
	End of discharge voltage (full load) (VDC)	304
	Battery current at full load and nominal battery voltage (A)	91
	Battery current at full load and minimum battery voltage (A)	114
	Temperature compensation (per cell)	-3.3 mV per °C for T ≥ 25 °C, 0 mV per °C for T < 25 °C

Specifications for 60 kVA UPS 3:3

Input	Voltage (V)	380 V	400 V	415 V
	Connections	L1, L2, L3, PE[9]		
	Input voltage range (V)	304-456		
	Frequency (Hz)	45-55		
	Nominal input current (A)	100	95	92
	Maximum input current (A)	125	119	115
	Input current limitation (A)	160		
	Total harmonic distortion (THDI)[10]	6 pulses ≤15%		
	Input power factor[10]	≥0.9		
	Maximum short circuit rating	Icc=10 kA		
	Protection	Breaker		
	Ramp-in	15 seconds		
Bypass	Voltage (V)	380 V	400 V	415 V
	Connections	L1, L2, L3, N, PE		
	Overload capacity	≤110% continuous 125% for 10 minutes 150% for 1 minute		
	Bypass voltage range (V)	285-475		
	Frequency (Hz)	50		
	Nominal bypass current (A)	91	87	83
	Nominal neutral current (A)	158	152	145
	Maximum short circuit rating	Icc=10 kA		
Output	Voltage (V)	380 V	400 V	415 V
	Connections	L1, L2, L3, N, PE		
	Overload capacity	≤110% continuous 125% for 10 minutes 150% for 1 minute		
	Output voltage regulation	± 1%		
	Dynamic load response	20 milliseconds		
	Output power factor	0.8		
	Nominal output current (A)	91	87	83
	Total harmonic distortion (THDU)	<2% at 100% linear load <4% at 100% non-linear load		
	Output frequency (Hz)	50 ± 1%		
	Output short-circuit current at 60 ms (A)	273		
	Output performance classification (according to IEC/ EN62040-3)	VFI-SS-111		

9. TN, TT, and IT power distribution systems are supported. Corner (line) grounding is not supported.
10. With filter.

Battery	Battery blocks supported	29-32
	Charging current	The charging current is determined by the battery capacity. Default is 0.1 C.
	Maximum charging power (kW)	22.5
	Nominal battery voltage (VDC)	348-384
	Nominal float voltage (VDC)	391.5-432
	End of discharge voltage (full load) (VDC)	304
	Battery current at full load and nominal battery voltage (A)	136
	Battery current at full load and minimum battery voltage (A)	172
	Temperature compensation (per cell)	-3.3 mV per °C for T ≥ 25 °C, 0 mV per °C for T < 25 °C

Specifications for 80 kVA UPS 3:3

Input	Voltage (V)	380 V	400 V	415 V
	Connections	L1, L2, L3, PE[11]		
	Input voltage range (V)	304-456		
	Frequency (Hz)	45-55		
	Nominal input current (A)	134	127	122
	Maximum input current (A)	167	159	152
	Input current limitation (A)	200		
	Total harmonic distortion (THDI)[12]	6 pulses ≤15%		
	Input power factor[12]	≥0.9		
	Maximum short circuit rating	Icc=10 kA		
	Protection	Breaker		
	Ramp-in	15 seconds		
Bypass	Voltage (V)	380 V	400 V	415 V
	Connections	L1, L2, L3, N, PE		
	Overload capacity	≤110% continuous 125% for 10 minutes 150% for 1 minute		
	Bypass voltage range (V)	285-475		
	Frequency (Hz)	50		
	Nominal bypass current (A)	121	116	111
	Nominal neutral current (A)	211	200	193
	Maximum short circuit rating	Icc=10 kA		
Output	Voltage (V)	380 V	400 V	415 V
	Connections	L1, L2, L3, N, PE		
	Overload capacity	≤110% continuous 125% for 10 minutes 150% for 1 minute		
	Output voltage regulation	± 1%		
	Dynamic load response	20 milliseconds		
	Output power factor	0.8		
	Nominal output current (A)	121	116	111
	Total harmonic distortion (THDU)	<2% at 100% linear load <4% at 100% non-linear load		
	Output frequency (Hz)	50 ± 1%		
	Output short-circuit current at 60 ms (A)	363		
	Output performance classification (according to IEC/ EN62040-3)	VFI-SS-111		

11. TN, TT, and IT power distribution systems are supported. Corner (line) grounding is not supported.
12. With filter.

Battery	Battery blocks supported	29-32
	Charging current	The charging current is determined by the battery capacity. Default is 0.1 C.
	Maximum charging power (kW)	22.5
	Nominal battery voltage (VDC)	348-384
	Nominal float voltage (VDC)	391.5-432
	End of discharge voltage (full load) (VDC)	304
	Battery current at full load and nominal battery voltage (A)	181
	Battery current at full load and minimum battery voltage (A)	229
	Temperature compensation (per cell)	-3.3 mV per °C for T ≥ 25 °C, 0 mV per °C for T < 25 °C

Specifications for 100 kVA UPS 3:3

Input	Voltage (V)	380 V	400 V	415 V
	Connections	L1, L2, L3, PE[13]		
	Input voltage range (V)	304-456		
	Frequency (Hz)	45-55		
	Nominal input current (A)	167	159	153
	Maximum input current (A)	209	199	191
	Input current limitation (A)	250		
	Total harmonic distortion (THDI)[14]	12 pulses ≤10%		
	Input power factor[14]	≥0.9		
	Maximum short circuit rating	Icc=10 kA		
	Protection	Breaker		
	Ramp-in	15 seconds		
Bypass	Voltage (V)	380 V	400 V	415 V
	Connections	L1, L2, L3, N, PE		
	Overload capacity	≤110% continuous 125% for 10 minutes 150% for 1 minute		
	Bypass voltage range (V)	285-475		
	Frequency (Hz)	50		
	Nominal bypass current (A)	153	145	139
	Nominal neutral current (A)	250[15]	250	241
	Maximum short circuit rating	Icc=10 kA		
Output	Voltage (V)	380 V	400 V	415 V
	Connections	L1, L2, L3, N, PE		
	Overload capacity	≤110% continuous 125% for 10 minutes 150% for 1 minute		
	Output voltage regulation	± 1%		
	Dynamic load response	20 milliseconds		
	Output power factor	0.8		
	Nominal output current (A)	153	145	139
	Total harmonic distortion (THDU)	<2% at 100% linear load <4% at 100% non-linear load		
	Output frequency (Hz)	50 ± 1%		
	Output short-circuit current at 60 ms (A)	460		
	Output performance classification (according to IEC/ EN62040-3)	VFI-SS-111		

13. TN, TT, and IT power distribution systems are supported. Corner (line) grounding is not supported.
14. With filter.
15. At 380 V, the maximum neutral current capability is reached with a 95 kVA non-linear load.

Battery	Battery blocks supported	29-32
	Charging current	The charging current is determined by the battery capacity. Default is 0.1 C.
	Maximum charging power (kW)	19.2
	Nominal battery voltage (VDC)	348-384
	Nominal float voltage (VDC)	391.5-432
	End of discharge voltage (full load) (VDC)	304
	Battery current at full load and nominal battery voltage (A)	226
	Battery current at full load and minimum battery voltage (A)	288
	Temperature compensation (per cell)	-3.3 mV per °C for T ≥ 25 °C, 0 mV per °C for T < 25 °C

Specifications for 120 kVA UPS 3:3

Input	Voltage (V)	380 V	400 V	415 V
	Connections	L1, L2, L3, PE[16]		
	Input voltage range (V)	304-456		
	Frequency (Hz)	45-55		
	Nominal input current (A)	200	190	183
	Maximum input current (A)	250	237	229
	Input current limitation (A)	250		
	Total harmonic distortion (THDI)[17]	12 pulses ≤10%		
	Input power factor[17]	≥0.9		
	Maximum short circuit rating	Icc=10 kA		
	Protection	Breaker		
	Ramp-in	15 seconds		
Bypass	Voltage (V)	380 V	400 V	415 V
	Connections	L1, L2, L3, N, PE		
	Overload capacity	≤110% continuous 125% for 10 minutes 150% for 1 minute		
	Bypass voltage range (V)	285-475		
	Frequency (Hz)	50		
	Nominal bypass current (A)	183	174	167
	Nominal neutral current (A)	250[18]	250	241
	Maximum short circuit rating	Icc=10 kA		
Output	Voltage (V)	380 V	400 V	415 V
	Connections	L1, L2, L3, N, PE		
	Overload capacity	≤110% continuous 125% for 10 minutes 150% for 1 minute		
	Output voltage regulation	± 1%		
	Dynamic load response	20 milliseconds		
	Output power factor	0.8		
	Nominal output current (A)	183	174	167
	Total harmonic distortion (THDU)	<2% at 100% linear load <4% at 100% non-linear load		
	Output frequency (Hz)	50 ± 1%		
	Output short-circuit current at 60 ms (A)	550		
	Output performance classification (according to IEC/ EN62040-3)	VFI-SS-111		

16. TN, TT, and IT power distribution systems are supported. Corner (line) grounding is not supported.
17. With filter.
18. At 380 V, the maximum neutral current capability is reached with a 95 kVA non-linear load.

Battery	Battery blocks supported	29-32
	Charging current	The charging current is determined by the battery capacity. Default is 0.1 C.
	Maximum charging power (kW)	19.2
	Nominal battery voltage (VDC)	348-384
	Nominal float voltage (VDC)	391.5-432
	End of discharge voltage (full load) (VDC)	304
	Battery current at full load and nominal battery voltage (A)	272
	Battery current at full load and minimum battery voltage (A)	343
	Temperature compensation (per cell)	-3.3 mV per °C for T ≥ 25 °C, 0 mV per °C for T < 25 °C

Specifications for 160 kVA UPS 3:3

Input	Voltage (V)	380 V	400 V	415 V
	Connections	L1, L2, L3, PE[19]		
	Input voltage range (V)	304-456		
	Frequency (Hz)	45-55		
	Nominal input current (A)	267	254	245
	Maximum input current (A)	334	317	306
	Input current limitation (A)	400		
	Total harmonic distortion (THDI)[20]	12 pulses ≤10%		
	Input power factor[20]	≥0.9		
	Maximum short circuit rating	Icc=10 kA		
	Protection	Breaker		
	Ramp-in	15 seconds		
Bypass	Voltage (V)	380 V	400 V	415 V
	Connections	L1, L2, L3, N, PE		
	Overload capacity	≤110% continuous 125% for 10 minutes 150% for 1 minute		
	Bypass voltage range (V)	285-475		
	Frequency (Hz)	50		
	Nominal bypass current (A)	245	232	222
	Nominal neutral current (A)	263	250	241
	Maximum short circuit rating	Icc=10 kA		
Output	Voltage (V)	380 V	400 V	415 V
	Connections	L1, L2, L3, N, PE		
	Overload capacity	≤110% continuous 125% for 10 minutes 150% for 1 minute		
	Output voltage regulation	± 1%		
	Dynamic load response	20 milliseconds		
	Output power factor	0.8		
	Nominal output current (A)	245	232	222
	Total harmonic distortion (THDU)	<2% at 100% linear load <4% at 100% non-linear load		
	Output frequency (Hz)	50 ± 1%		
	Output short-circuit current at 60 ms (A)	735		
	Output performance classification (according to IEC/ EN62040-3)	VFI-SS-111		

19. TN, TT, and IT power distribution systems are supported. Corner (line) grounding is not supported.
20. With filter.

Battery	Battery blocks supported	29-32
	Charging current	The charging current is determined by the battery capacity. Default is 0.1 C.
	Maximum charging power (kW)	19.2
	Nominal battery voltage (VDC)	348-384
	Nominal float voltage (VDC)	391.5-432
	End of discharge voltage (full load) (VDC)	304
	Battery current at full load and nominal battery voltage (A)	362
	Battery current at full load and minimum battery voltage (A)	458
	Temperature compensation (per cell)	-3.3 mV per °C for T ≥ 25 °C, 0 mV per °C for T < 25 °C

Specifications for 200 kVA UPS 3:3

Input	Voltage (V)	380 V	400 V	415 V
	Connections	L1, L2, L3, PE[21]		
	Input voltage range (V)	304-456		
	Frequency (Hz)	45-55		
	Nominal input current (A)	334	317	306
	Maximum input current (A)	417	396	382
	Input current limitation (A)	630		
	Total harmonic distortion (THDI)[22]	12 pulses ≤10%		
	Input power factor[22]	≥0.9		
	Maximum short circuit rating	Icc=10 kA		
	Protection	Breaker		
	Ramp-in	15 seconds		
Bypass	Voltage (V)	380 V	400 V	415 V
	Connections	L1, L2, L3, N, PE		
	Overload capacity	≤110% continuous 125% for 10 minutes 150% for 1 minute		
	Bypass voltage range (V)	285-475		
	Frequency (Hz)	50		
	Nominal bypass current (A)	306	290	278
	Nominal neutral current (A)	306	290	278
	Maximum short circuit rating	Icc=10 kA		
Output	Voltage (V)	380 V	400 V	415 V
	Connections	L1, L2, L3, N, PE		
	Overload capacity	≤110% continuous 125% for 10 minutes 150% for 1 minute		
	Output voltage regulation	± 1%		
	Dynamic load response	20 milliseconds		
	Output power factor	0.8		
	Nominal output current (A)	306	290	278
	Total harmonic distortion (THDU)	<2% at 100% linear load <4% at 100% non-linear load		
	Output frequency (Hz)	50 ± 1%		
	Output short-circuit current at 60 ms (A)	909		
	Output performance classification (according to IEC/ EN62040-3)	VFI-SS-111		

21. TN, TT, and IT power distribution systems are supported. Corner (line) grounding is not supported.
22. With filter.

Battery	Battery blocks supported	29-32
	Charging current	The charging current is determined by the battery capacity. Default is 0.1 C.
	Maximum charging power (kW)	19.2
	Nominal battery voltage (VDC)	348-384
	Nominal float voltage (VDC)	391.5-432
	End of discharge voltage (full load) (VDC)	304
	Battery current at full load and nominal battery voltage (A)	453
	Battery current at full load and minimum battery voltage (A)	572
	Temperature compensation (per cell)	-3.3 mV per °C for T ≥ 25 °C, 0 mV per °C for T < 25 °C

Recommended Upstream Protection for 3:3 UPS

UPS rating	10 kVA		20 kVA		30 kVA	
	Input	Bypass	Input	Bypass	Input	Bypass
Breaker type	NSX100F TM32D 3P3D (C10F3TM032)	NSX100F TM25D 3P3D (C10F3TM25)	NSX100F TM63D 3P3D (C10F3TM063)	NSX100F TM50D 3P3D (C10F3TM050)	NSX100F TM80D 3P3D (C10F3TM080)	NSX100F TM63D 3P3D (C10F3TM063)
In setting	32	25	63	50	80	63
Ir setting	22	20	44	35	70	51
Im setting	190 (fixed)	190 (fixed)	500 (fixed)	500 (fixed)	800 (fixed)	500 (fixed)

UPS rating	40 kVA		60 kVA		80 kVA	
	Input	Bypass	Input	Bypass	Input	Bypass
Breaker type	NSX100F TM100D 3P3D (C10F3TM100)	NSX100F TM80D 3P3D (C10F3TM080)	NSX160F TM160D 3P3D (C16F3TM160)	NSX160F TM125D 3P3D (C16F3TM125)	NSX250F TM200D 3P3D (C25F3TM200)	NSX160F TM160D 3P3D (C16F3TM160)
In setting	100	80	160	125	200	160
Ir setting	90	64	144	100	180	144
Im setting	800 (fixed)	800 (fixed)	1250 (fixed)	1250 (fixed)	5 to 10xIn	1250 (fixed)

UPS rating	100 kVA		120 kVA		160 kVA		200 kVA	
	Input	Bypass	Input	Bypass	Input	Bypass	Input	Bypass
Breaker type	NSX250F TM250D 3P3D (C25F3T-M250)	NSX160F TM160D 3P3D (C16F3T-M160)	NSX250F TM250D 3P3D (C25F3T-M250)	NSX250F TM200D 3P3D (C25F3T-M200)	NSX400F Mic2.3 400A 3P3D (C40F32-D400)	NSX250F TM250D 3P3D (C25F3T-M250)	NSX630F Mic2.3 630A 3P3D (C63F32-D630)	NSX400F Mic2.3 400A 3P3D (C40F32-D400)
In setting	250	160	250	200	Io=400	250	Io=500	Io=320
Ir setting	225	160	250	200	Ir=0.95	250	Ir=0.95	Ir=1
Im setting	6 to 10xIn	1250 (fixed)	7 to 10xIn	5 to 10xIn	Isd=10	5 to 10xIn	Isd=10	Isd=10

Recommended Cable Sizes for 3:3 UPS

⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

All wiring must comply with all applicable national and/or electrical codes. The maximum allowable cable size is 95 mm^2.

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

NOTE: Overcurrent protection to be provided by others.

Cable sizes in this manual are based on table B.52.12 of IEC 60364-5-52 with the following assertions:

- 90 °C conductors
- An ambient temperature of 30 °C
- Use of copper conductors
- Installation method F
- For AC cables: Maximum length 50 m with a line voltage drop <3%
- For DC cables: Maximum length 15 m with a line voltage drop <1%

PE cable size is based on table 54.2 of IEC 60364-4-54.

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

UPS rating	10 kVA	20 kVA	30 kVA	40 kVA	60 kVA	80 kVA	100 kVA	120 kVA	160 kVA	200 kVA
Input phases (mm^2)	16	16	16	25	35	50	70	70	2x50	2x70
Input PE (mm^2)	16	16	16	16	16	25	35	35	50	70
Bypass/output phases (mm^2)	16	16	16	16	25	35	50	50	70	2x50
Bypass PE/output PE (mm^2)	16	16	16	16	16	16	25	25	35	50
Neutral (mm^2)	16	16	25	35	50	50	70	70	70	2x50
DC+/DC- (mm^2)	16	16	25	35	50	70	70	2x50	2x70	2x95
DC PE (mm^2)	16	16	16	16	25	35	35	50	70	95

Recommended Bolt and Lug Sizes

Cable Size (mm^2)	Bolt Size	Cable Lug Type
10	M8x25 mm	TLK-10-8
16	M8x25 mm	TLK-16-8
25	M8x25 mm	TLK-25-8
35	M8x25 mm	TLK-35-8
50	M8x25 mm	TLK-50-8
70	M8x25 mm	TLL-70-8
95	M8x25 mm	TLL-95-8

Torque Specifications

Bolt Size	Torque
M6	5 Nm
M8	17.5 Nm
M10	30 Nm

Weights and Dimensions for 3:3 UPS

NOTE: The weight below is without the IP31 kit.

NOTE: The height below is without the IP31 kit installed. The height with IP31 kit is 2100 mm.

UPS rating	Weight kg	Height mm	Width mm	Depth mm
10 kVA	386	1800	800	800
20 kVA	386	1800	800	800
30 kVA	390	1800	800	800
40 kVA	470	1800	800	800
60 kVA	575	1800	800	800

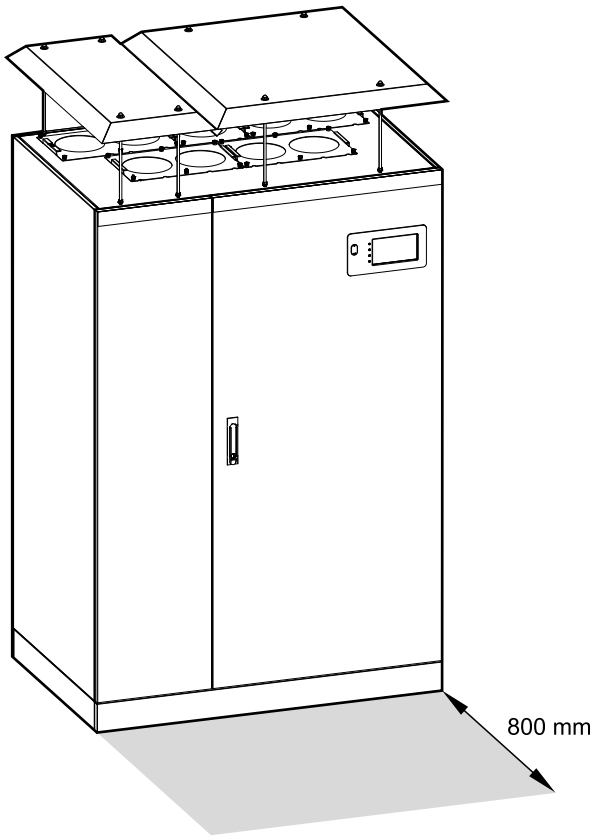
UPS rating	Weight kg	Height mm	Width mm	Depth mm
80 kVA	634	1800	800	800
100 kVA	1063	1800	1200	800
120 kVA	1136	1800	1200	800
160 kVA	1456	1800	1600	800
200 kVA	1676	1800	1600	800

Shipping Weights and Dimensions for 3:3 UPS

UPS rating	Weight kg	Height mm	Width mm	Depth mm
10 kVA	456	2085	928	928
20 kVA	456	2085	928	928
30 kVA	460	2085	928	928
40 kVA	540	2085	928	928
60 kVA	645	2085	928	928
80 kVA	704	2085	928	928
100 kVA	1150	2085	1328	928
120 kVA	1223	2085	1328	928
160 kVA	1550	2085	1728	928
200 kVA	1770	2085	1728	928

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

	Operating	Transportation and storage
Temperature	0 °C to 40 °C	-25 °C to 55 °C
Relative humidity	0-95% non-condensing	
Elevation	Designed for operation in 0-2000 m elevation. Derating required from 1000-2000 m: Up to 1000 m: 1.000 Up to 1500 m : 0.975 Up to 2000 m: 0.950	0-10000 m
Audible noise one meter from unit	≤ 70 dB at full load	
Protection class	IP31	
Color	RAL 7035	

Heat Dissipation for 3:3 UPS

UPS rating	10 kVA	20 kVA	30 kVA	40 kVA	60 kVA	80 kVA	100 kVA	120 kVA	160 kVA	200 kVA
Normal operation (W)	870	1630	2290	2880	3920	5260	7160	8720	9060	11920
Battery operation (W)	794	1241	1893	2470	3475	4179	5368	6259	8217	10800
ECO mode (W)	506	606	813	873	1310	1593	2736	2995	3699	3696

Compliance

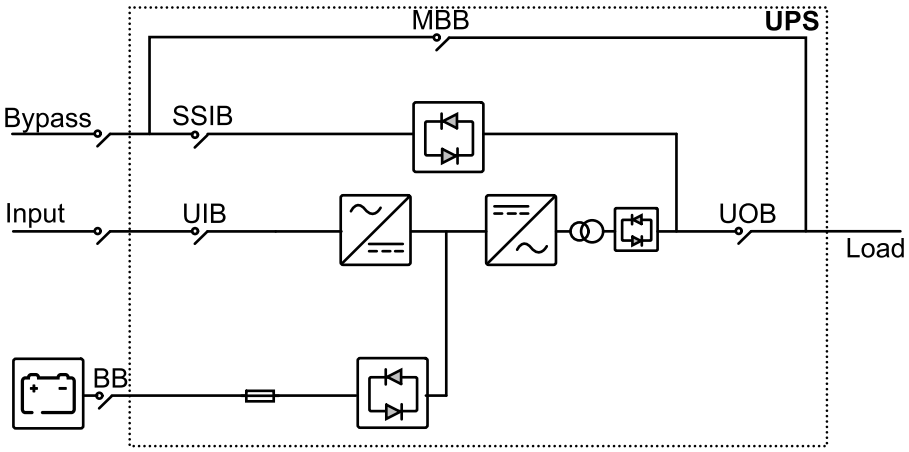
Safety	IEC 62040-1:2017, Edition 2.0, Uninterruptible power systems (UPS) – Part 1: Safety requirements IEC 62040-1:2013-01, 1st edition amendment 1
EMC	IEC 62040-2:2016, Edition 3.0, Uninterruptible power systems (UPS) – Part 2: Electromagnetic compatibility (EMC) requirements. IEC 62040-2:2005-10, Edition 2.0, Uninterruptible Power Systems (UPS) – Part 2: Electromagnetic compatibility (EMC) requirements
Performance	IEC 62040-3: 2011-03, 2nd edition Uninterruptible Power Systems (UPS) - Part 3: Method of specifying the performance and test requirements
Environmental	IEC 62040-4: 2013-04, 1st edition Uninterruptible Power Systems (UPS) - Part 4: Environmental aspects – Requirements and reporting
Transportation	ISTA 2B
Pollution degree	2
Overvoltage category	III
Earthing system	TN-S, TN-C, TT, or IT
Protective class	I

Overview of Configurations

UIB	Unit input breaker
SSIB	Static switch input breaker
BB	Battery breaker
MBB	Maintenance bypass breaker
UOB	Unit output breaker

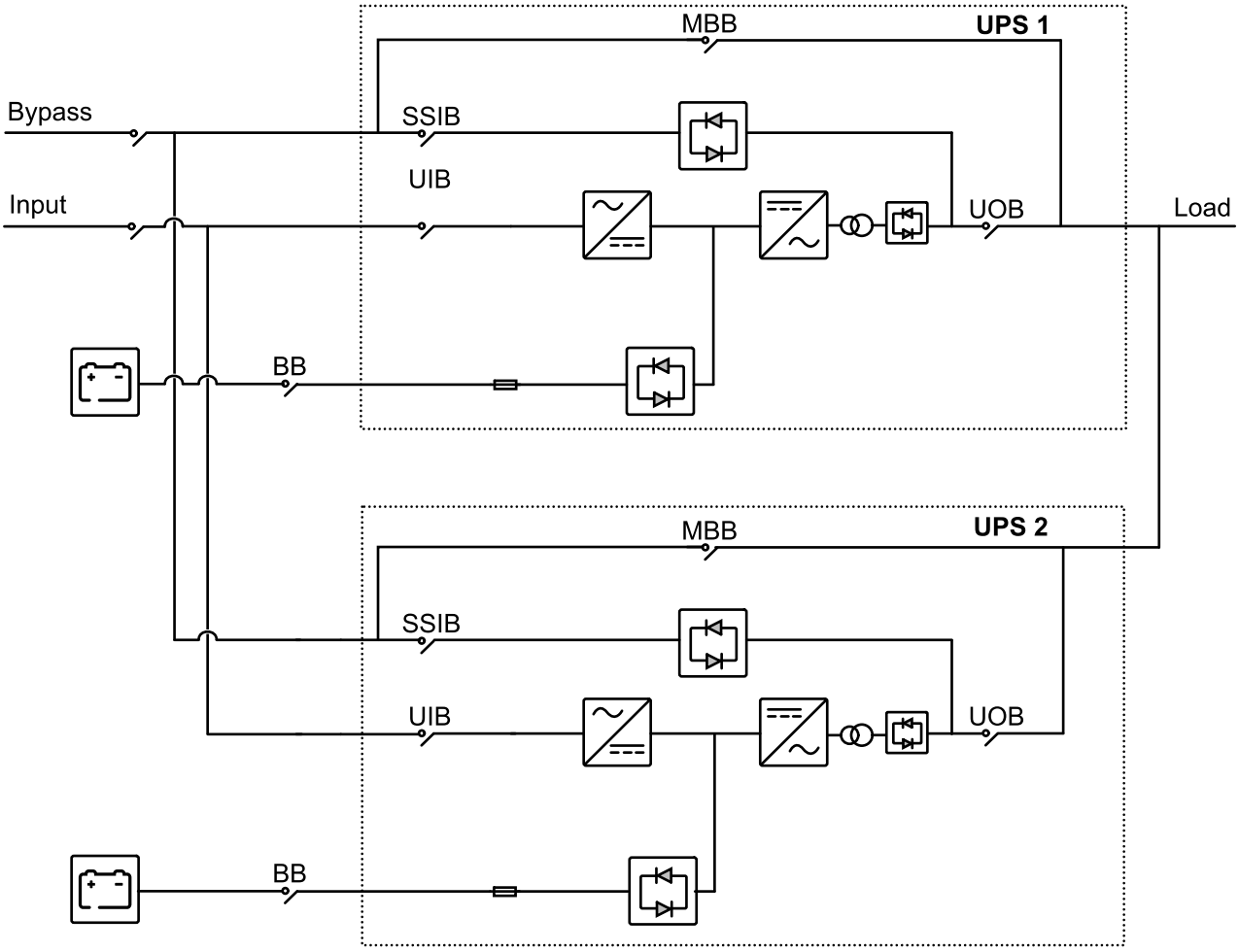
Overview of Single UPS

3:3 384 VDC UPS



Overview of 1+1 Redundant Parallel System

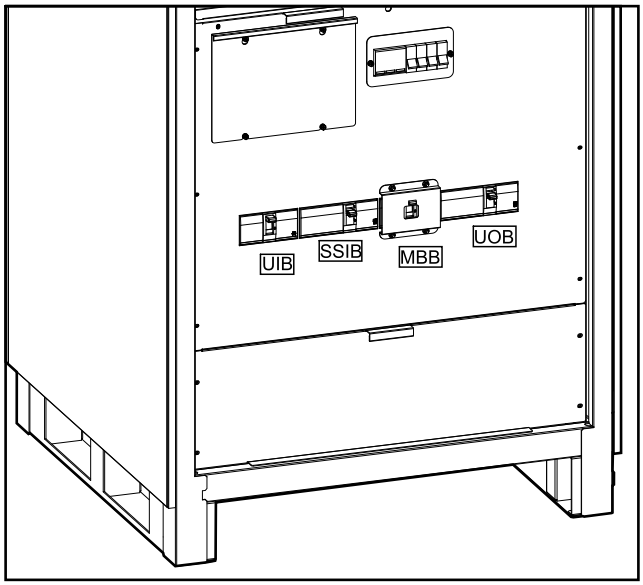
3:3 384 VDC UPS



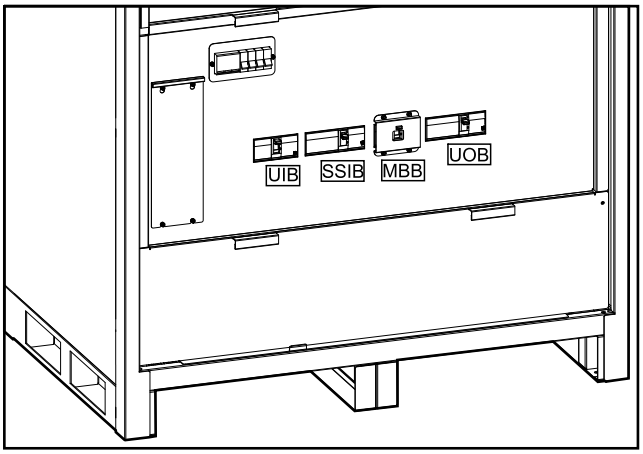
Location of Breakers

Locations of Breakers on the 3:3 UPSs

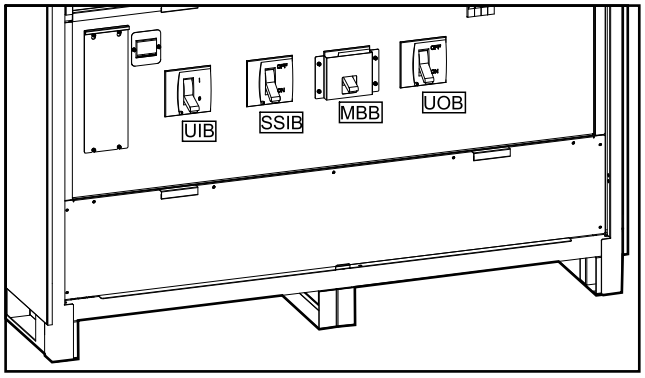
10-80 kVA 3:3 384 VDC UPS



100-120 kVA 3:3 384 VDC UPS



160-200 kVA 3:3 384 VDC UPS

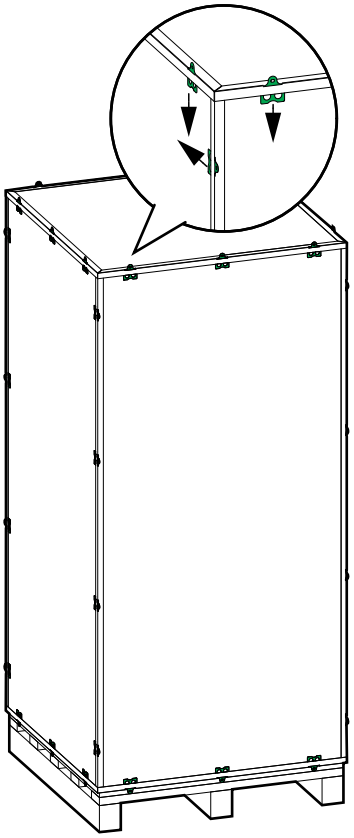


Installation Procedure

1. Remove the UPS from the Pallet, page 42.
2. Install the IP31 Kit, page 44.
3. Connect the power cables. Follow one of the procedures:
   - Connect the Power Cables in a 10-80 kVA 3:3 UPS, page 46.
   - Connect the Power Cables in a 100-120 kVA 3:3 UPS, page 48.
   - Connect the Power Cables in a 160-200 kVA 3:3 UPS, page 49.
4. Connect the Signal Cables, page 50.
5. Connect the Parallel Cables in a Parallel System, page 56.
6. Reinstall the Kick Plates, page 60.

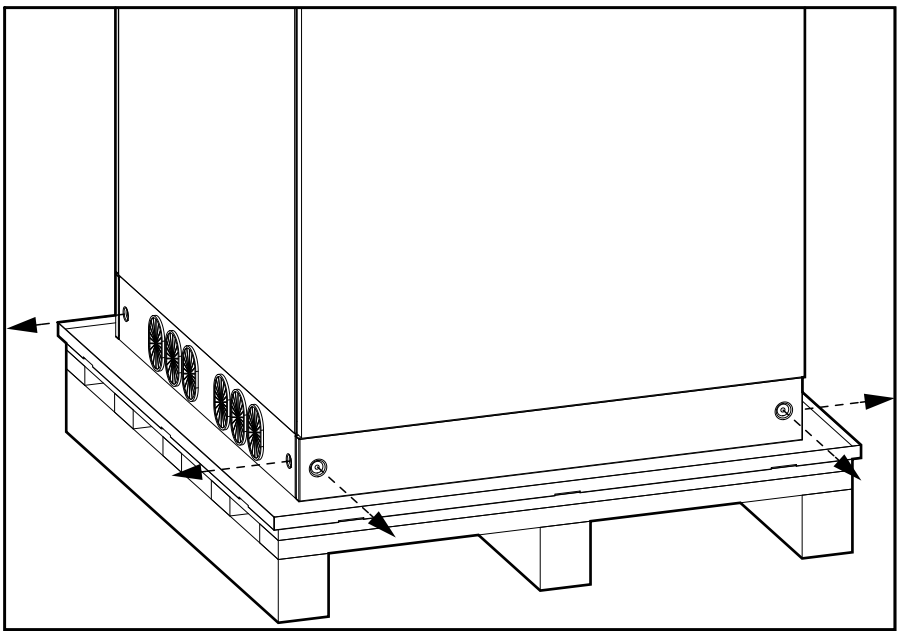
Remove the UPS from the Pallet

1. Move the UPS to the final installation area using a forklift.
2. Remove the fasteners.



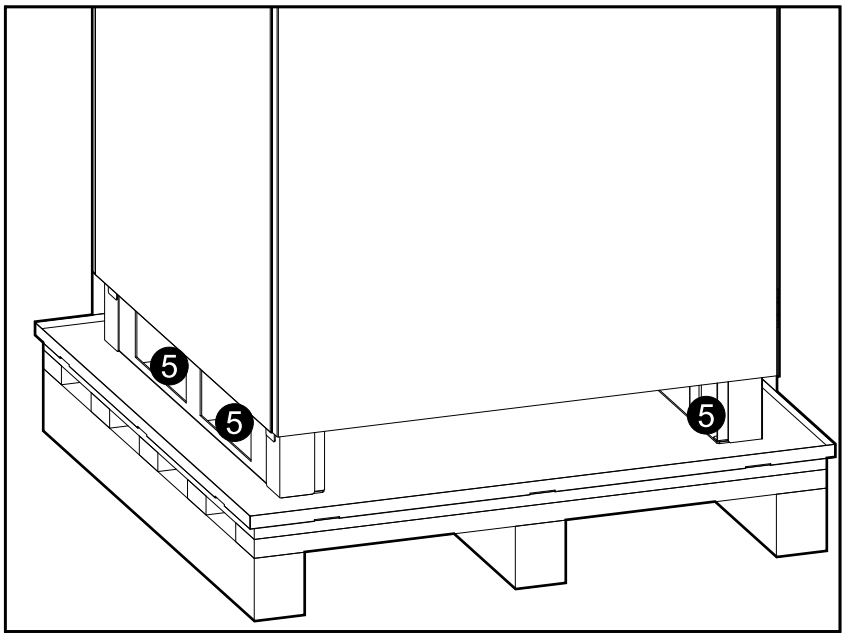
3. Remove the packaging.
4. Remove the kick plates.

   NOTE: Save the kick plates.



5. Remove the screws connecting the UPS to the pallet.

   NOTE: If the parallel kit has been ordered, the parallel kit will be placed under the UPS on the pallet. Save the parallel kit.

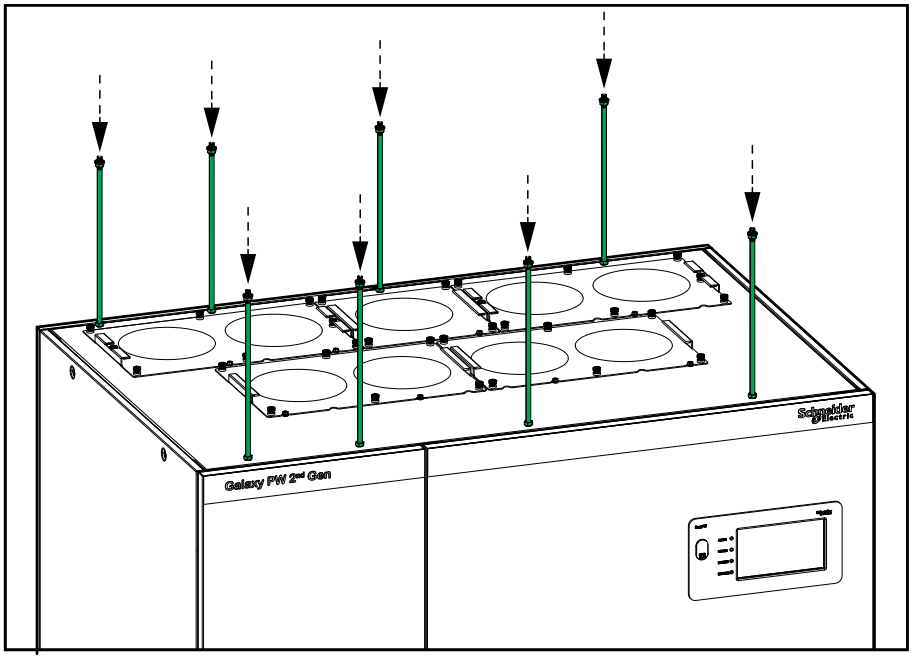


6. Use a forklift to remove the UPS from the pallet and place it in the final installation location.

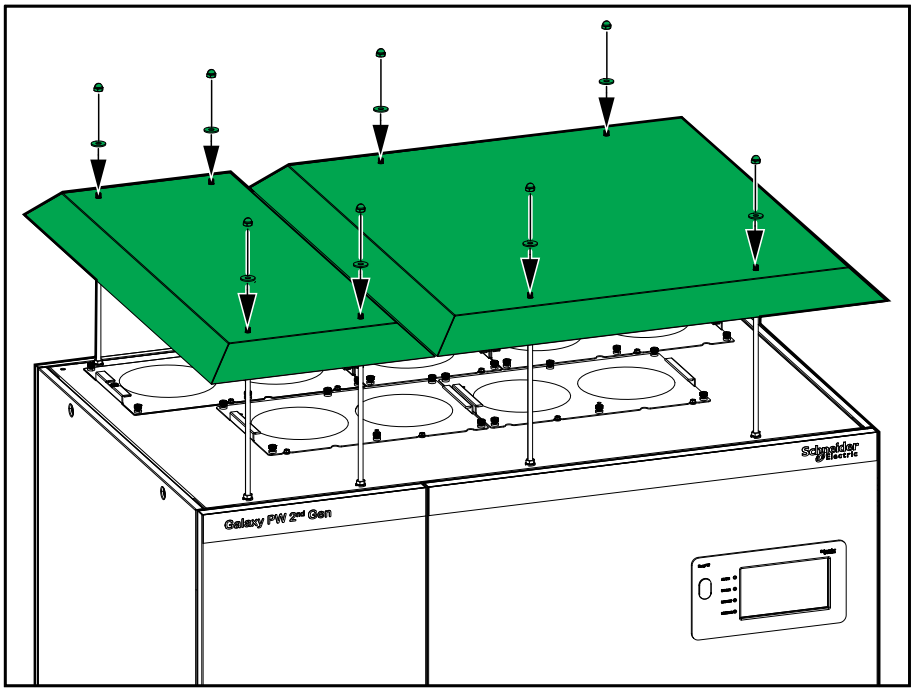
Install the IP31 Kit

The images below show the installation of the IP31 kit on a 100-120 kVA UPS. The procedure is similar for the other UPS models.

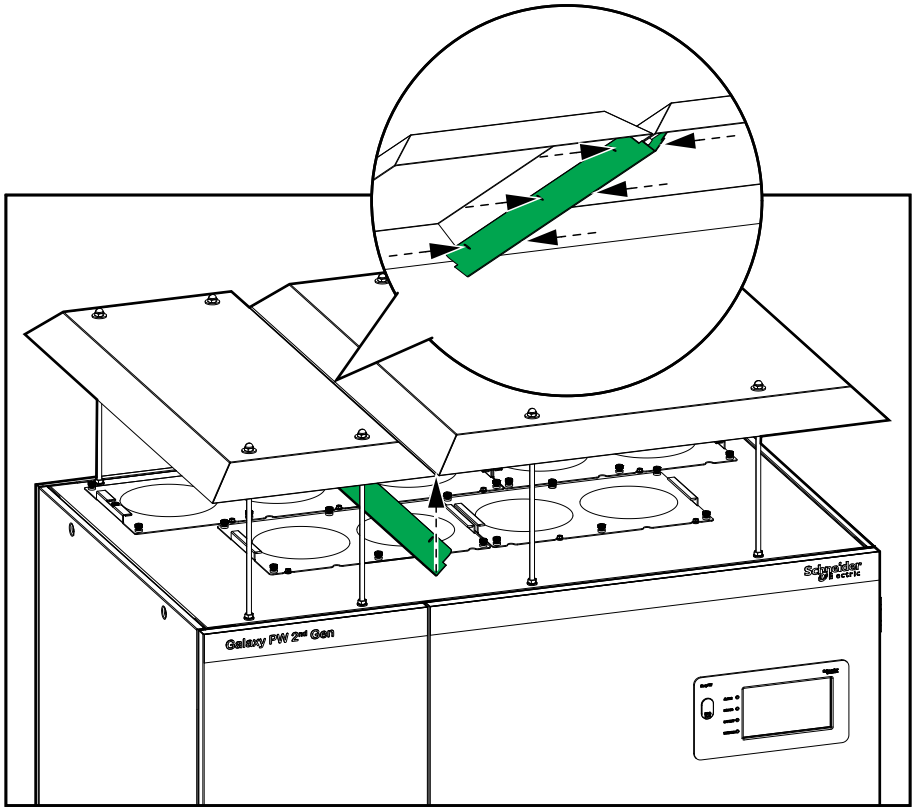
1. Install the provided rods in the top plate of the UPS.



2. Install the top cover(s) and fasten with the provided washers and nuts.



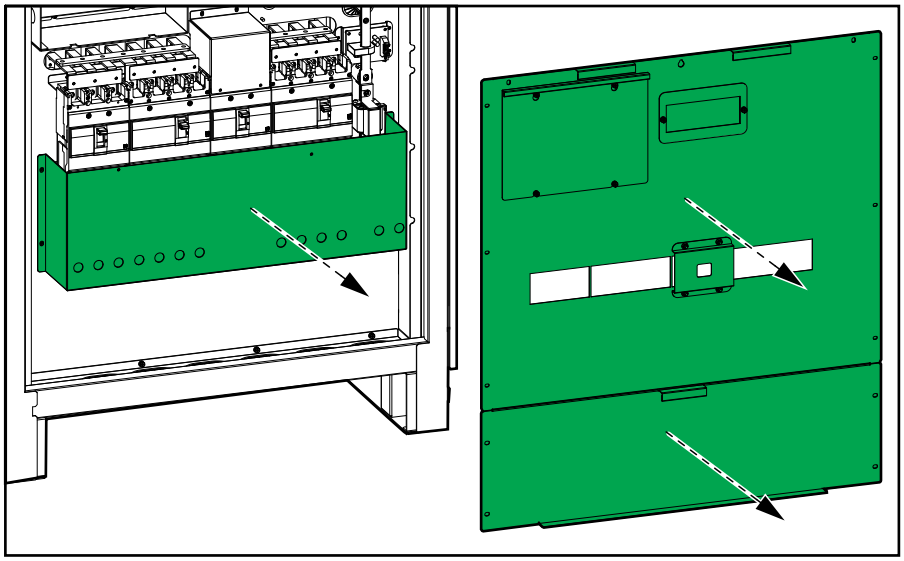
3. Install the gutter between two top covers and fasten with the provided screws.



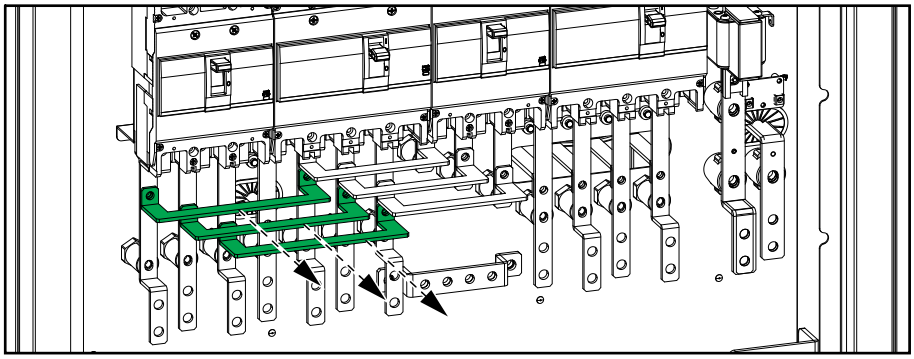
Connect the Power Cables

Connect the Power Cables in a 10-80 kVA 3:3 UPS

1. Ensure that all breakers are in the OFF (open) position.
2. Open the front door of the UPS.
3. Remove the indicated covers.

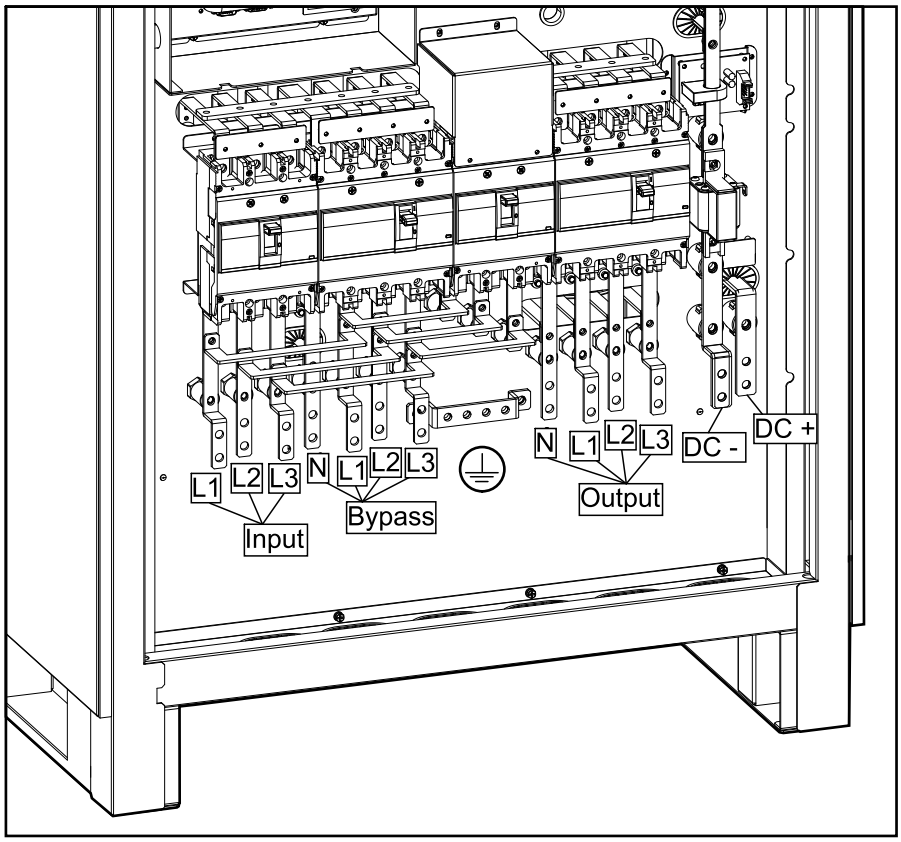


4. **Only for dual mains system**: Remove the single mains jumper busbars.



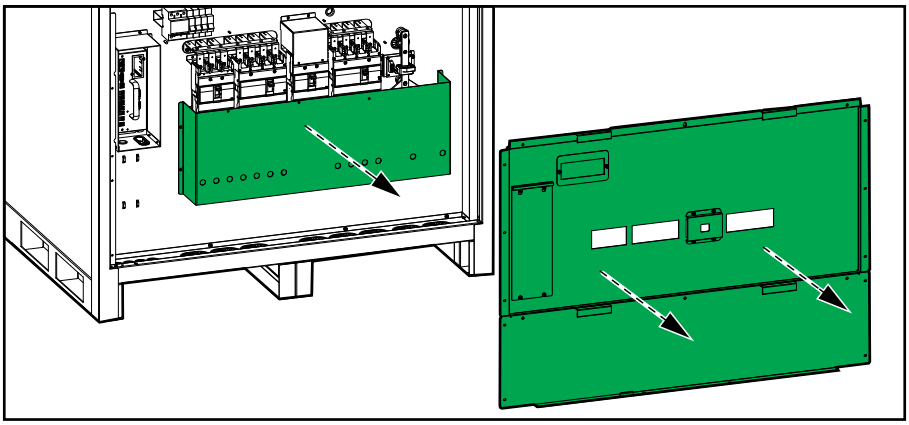
5. Route the power cables through the bottom of the UPS.
6. Connect the equipment earthing conductor/PE to the PE busbar.

7. Connect the input cables (L1, L2, L3), bypass cables (L1, L2, L3, N), output cables (L1, L2, L3, N), and DC cables (DC+, DC-).

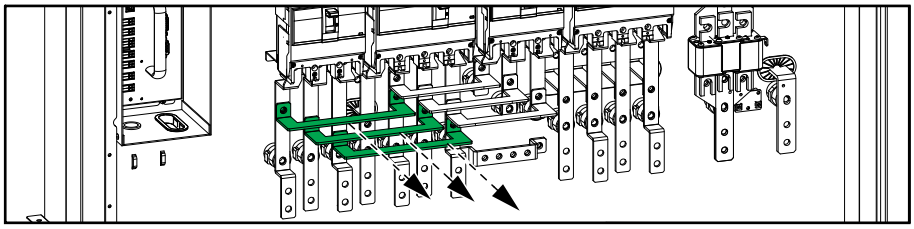


Connect the Power Cables in a 100-120 kVA 3:3 UPS

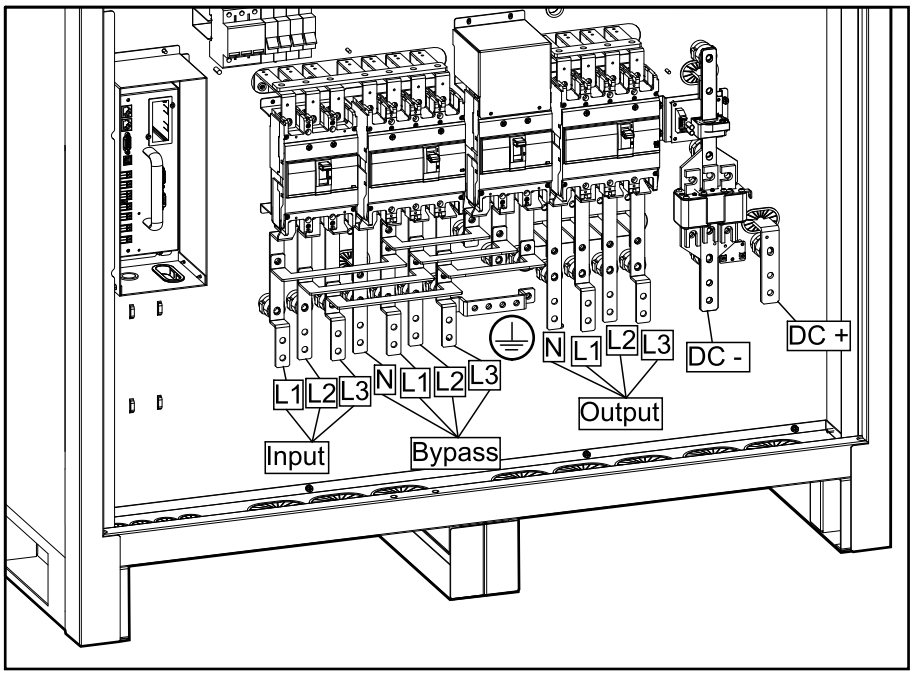
1. Ensure that all breakers are in the OFF (open) position.
2. Open the front door of the UPS.
3. Remove the indicated covers.



4. **Only for dual mains system**: Remove the single mains jumper busbars.

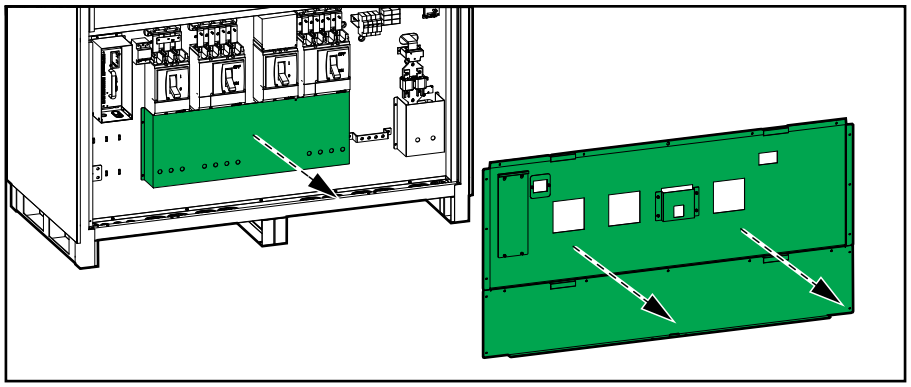


5. Route the power cables through the bottom of the UPS.
6. Connect the equipment earthing conductor/PE to the PE busbar.
7. Connect the input cables (L1, L2, L3), bypass cables (L1, L2, L3, N), output cables (L1, L2, L3, N), and DC cables (DC+, DC-).

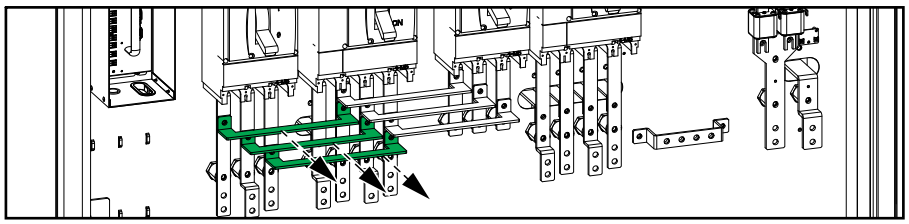


Connect the Power Cables in a 160-200 kVA 3:3 UPS

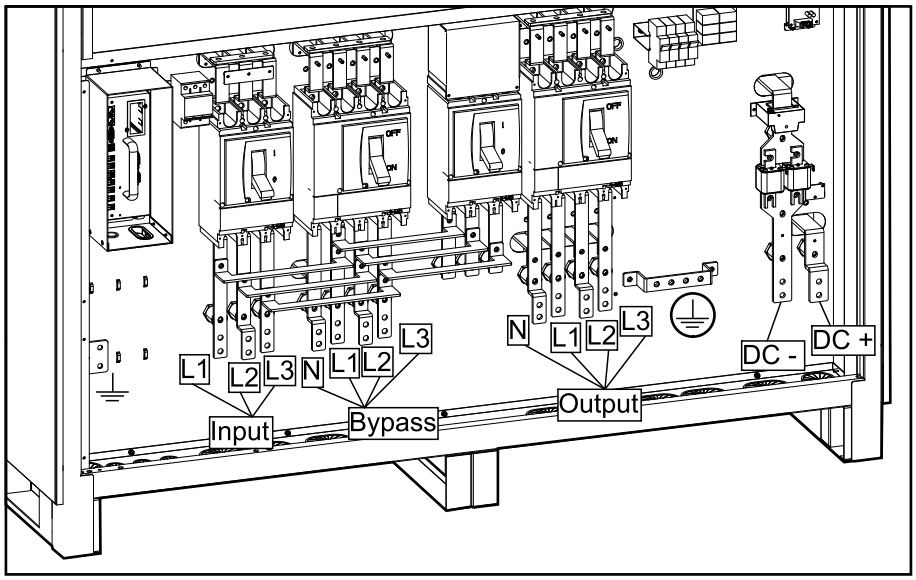
1. Ensure that all breakers are in the OFF (open) position.
2. Open the front door of the UPS.
3. Remove the indicated covers.



4. **Only for dual mains system**: Remove the single mains jumper busbars.

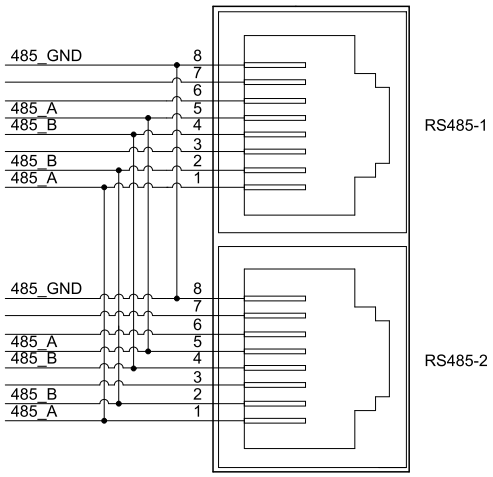


5. Route the power cables through the bottom of the UPS.
6. Connect the equipment earthing conductor/PE to the PE busbar.
7. Connect the input cables (L1, L2, L3), bypass cables (L1, L2, L3, N), output cables (L1, L2, L3, N), and DC cables (DC+, DC-).

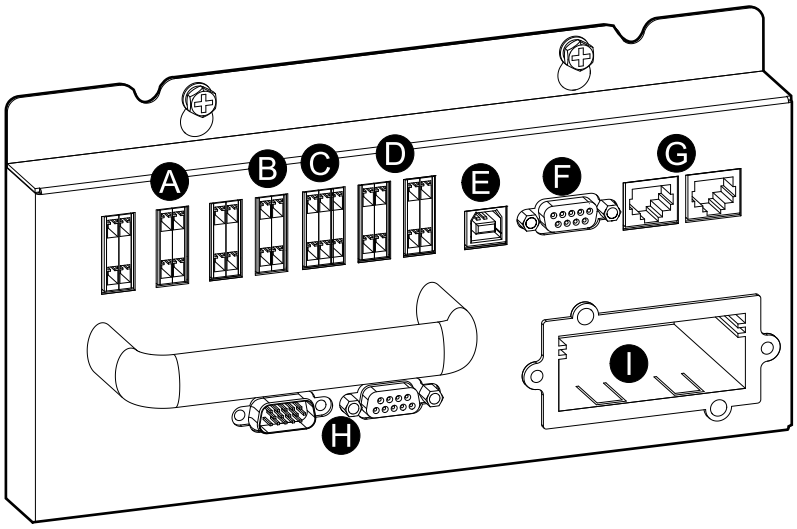


Connect the Signal Cables

A. Output dry contacts (230 VAC)
B. External battery temperature input contact (Non-SELV)
C. BB trip output contact (SELV)
D. Input dry contacts (SELV)
E. USB port (SELV)
F. RS232 port (SELV)
G. RS485 ports (SELV)



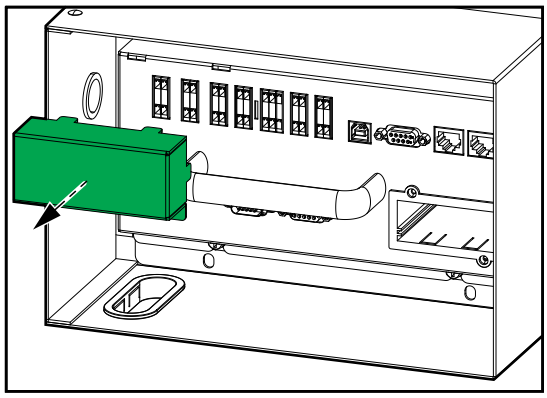
H. Parallel ports (SELV)
I. Intelligent slot for SNMP card (SELV)



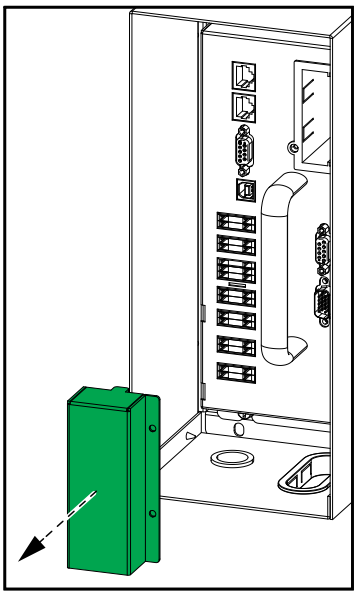
1. Ensure that all breakers are in the OFF (open) position.

2. Remove the indicated cover.

10-80 kVA 3:3 UPS

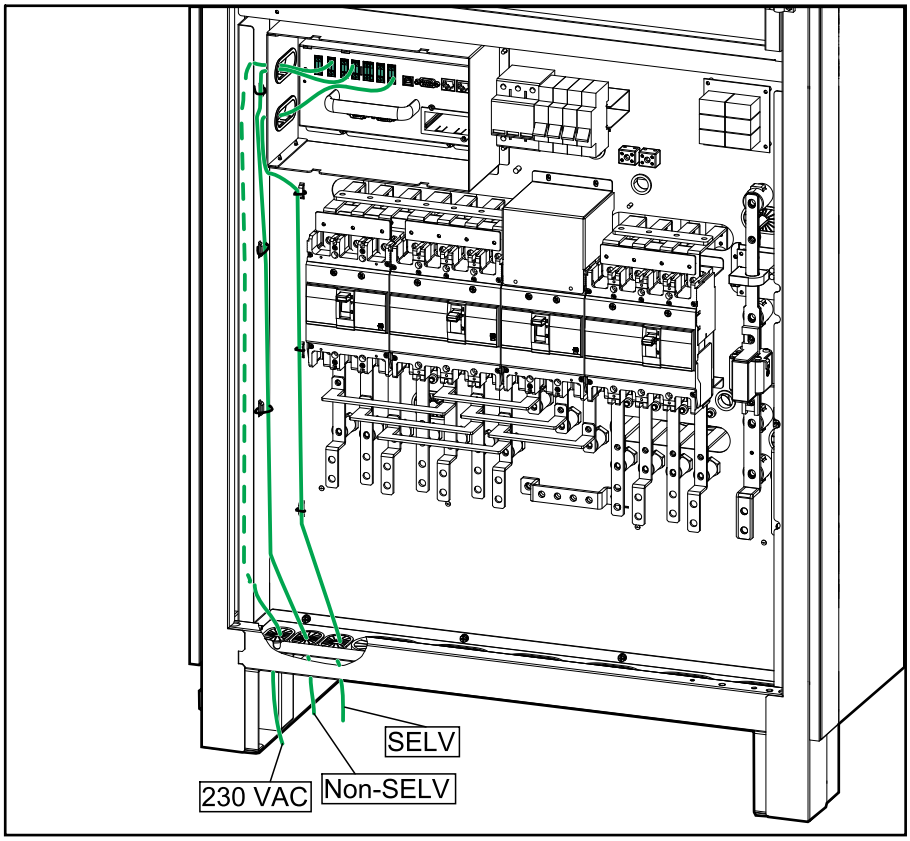


100-200 kVA 3:3 UPS

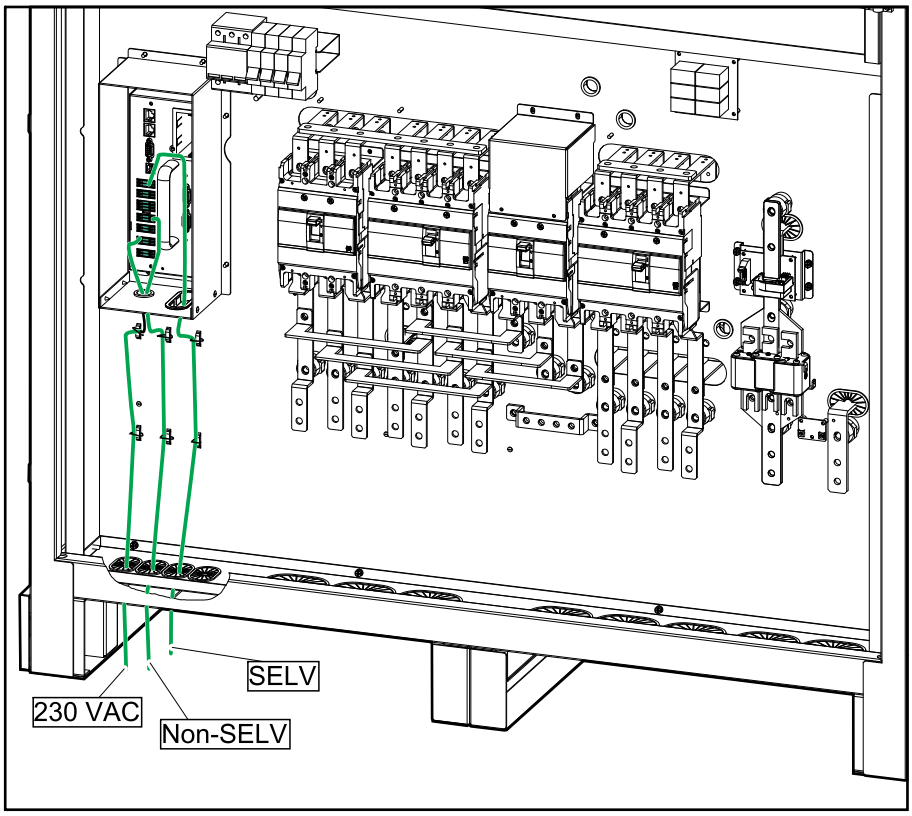


3. Route the signal cables through the bottom of the UPS as shown below and fasten the signal cables with cables ties.

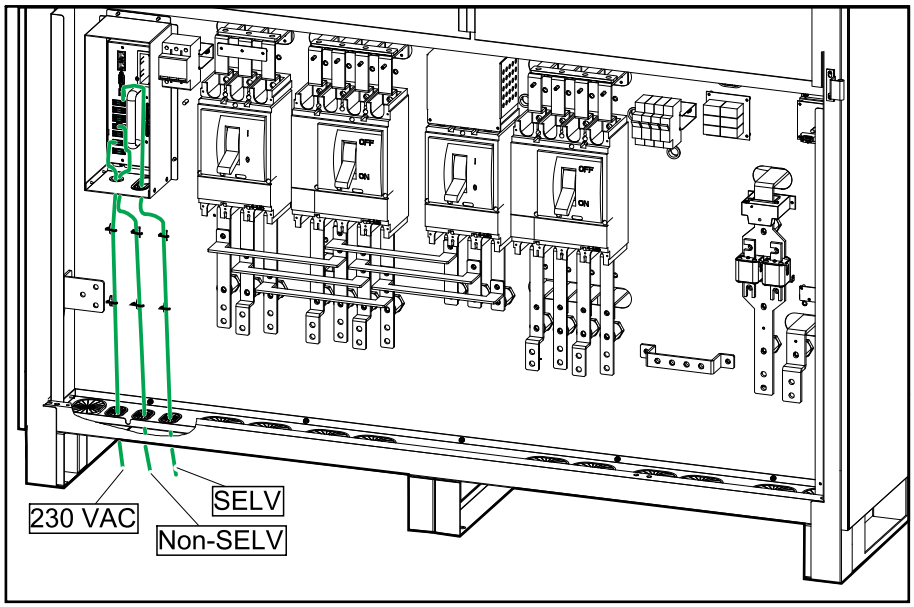
10-80 kVA 3:3 UPS



100-120 kVA 3:3 UPS



160-200 kVA 3:3 UPS

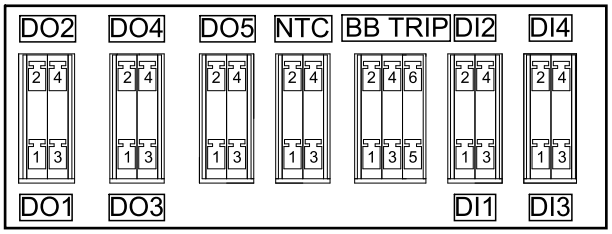


4. Reinstall all covers.

Overview of Input Contacts and Output Relays

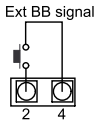
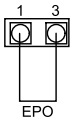
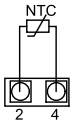
Specifications

	Parameter	Typical	Maximum
Input	Voltage (V)	NA	5
	Current (mA)	NA	15
Output	Voltage	24 VDC	230 VAC
	Current (A)	NA	3



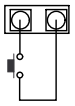
- Input dry contacts:
  - DI2: Normally Closed (NC) input dry contact for the battery breaker on the battery cabinet.
  - DI3: Normally Closed (NC) emergency power off input dry contact. When activated (opened), the UPS shuts down immediately.
  - NTC: Input dry contact for external battery temperature sensor.
  - DI1 and DI4: Configurable input dry contacts.
- Output dry contacts:
  - BB Trip: The output dry contact provides 24 V supply to the auxiliary switch of the battery breaker for trip protection.
  - DO1 to DO5: Configurable output dry contacts.

Fixed Input Dry Contacts

Terminals	Function	Default	Application
DI2	Ext BB contact signal	Fixed	
DI3	Emergency power off (EPO)	Fixed	
NTC	External battery temperature	Fixed	

Configurable Input Dry Contacts

The input dry contacts provide active signals and it is not necessary to connect an external power supply to trigger the function.

Terminals	Function	Default	Application
DI1	0: OFF 1: UPS ON 2: UPS OFF 3: Battery fault 4: Genset enable 5: Custom alarm 1 6: Custom alarm 2 7: Disable ECO 8: Force inverter off	0	
DI4		0	

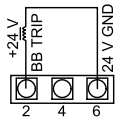
Fixed Output Dry contacts

NOTICE

RISK OF EQUIPMENT DAMAGE

The battery breaker contact drive can provide a maximum of +24 VDC 250 mA to the shunt trip release coil. If the value is exceeded, it can damage the UPS.

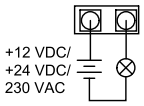
Failure to follow these instructions can result in equipment damage.

Terminals	Function	Default	Application
BB TRIP	Battery breaker trip	Fixed	

Configurable Output Dry Contacts

NOTE: Maximum 5 A/250 VAC, 3 A/30 VDC must be connected to the output contacts. The recommended cable size is 0.5-1 mm².

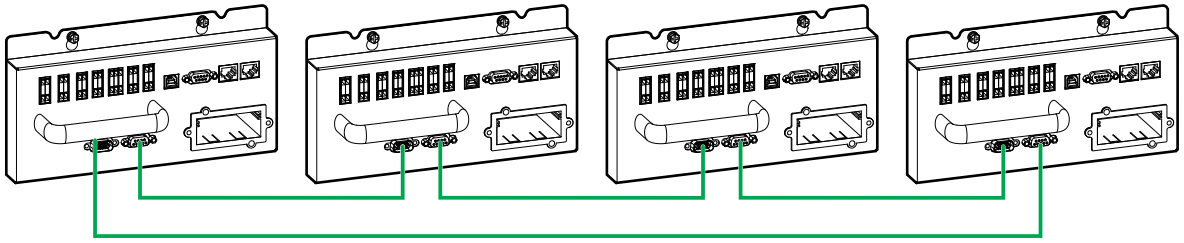
The output dry contacts provide two passive statuses: Short and open. The output contacts must be connected to an external power supply to trigger the function.

Terminals	Function	Default	Application
DO1	0: OFF 1: Common alarm 2: Normal operation 3: Battery operation 4: Static bypass 5: Output overload 6: Fan inoperable 7: Battery fault 8: Battery disconnected 9: Batter voltage low 10: Input out of tolerance 11: Bypass out of tolerance 12: EPO activated 13: Maintenance mode 14: Backfeed on input 15: Backfeed on bypass	0	
DO2		0	
DO3		0	
DO4		0	
DO5		0	

NOTE: For single mains system: Configure one of the output dry contacts for backfeed on input.
For dual mains system: Configure two of the output dry contacts for backfeed on bypass and backfeed on input.

Connect the Parallel Cables in a Parallel System

1. Connect the parallel cables between all UPSs in the parallel system.

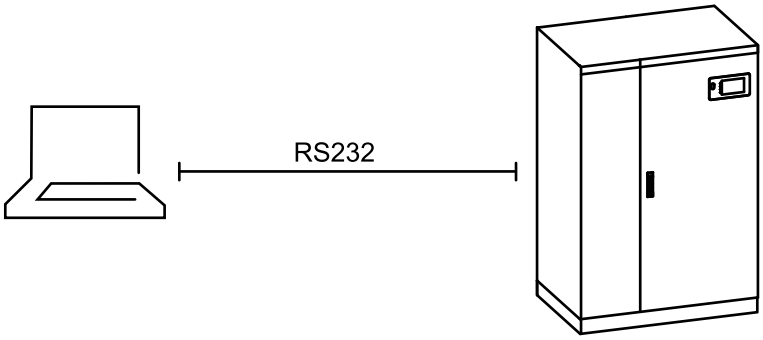


Connections for Remote Monitoring

RS232 Connection

The PC is connected directly to the UPS with a RS232 cable. This is a one to one connection between the UPS and the PC. Monitoring software (provided) must also be installed.

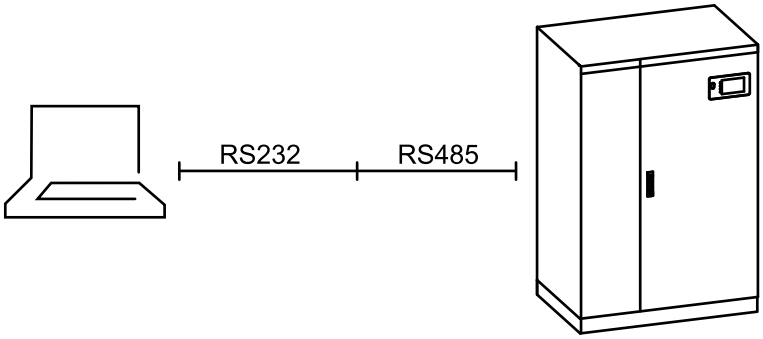
NOTE: The maximum distance between the UPS and the PC is 10-30 meter.



RS485 Connection

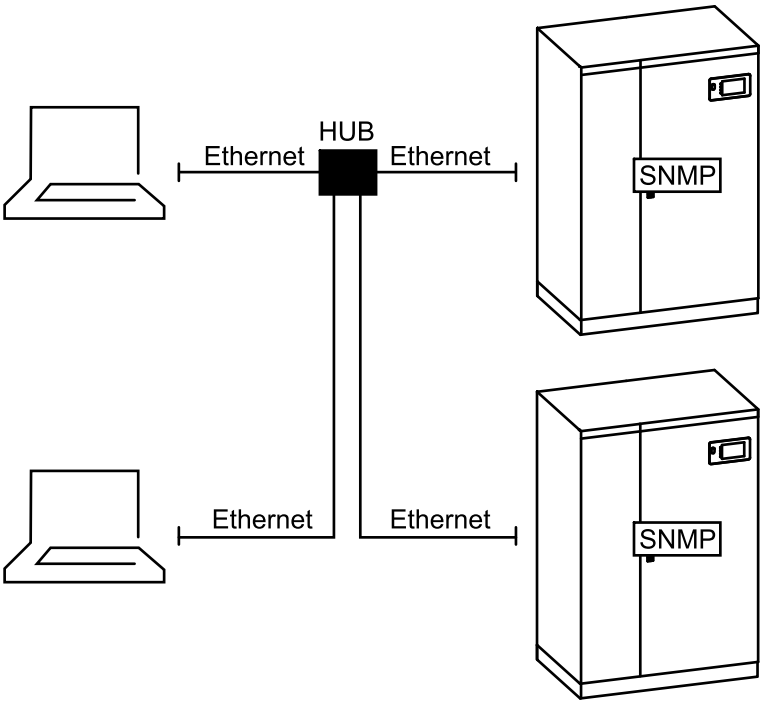
The PC is connected to the UPS through a RS232 cable + RS232 to RS485 adaptor + RS485 cable. This is a one to one connection between the UPS and the PC. Monitoring software (provided) must also be installed.

NOTE: The maximum distance between the UPS and the PC is 1000 meter.



SNMP Card

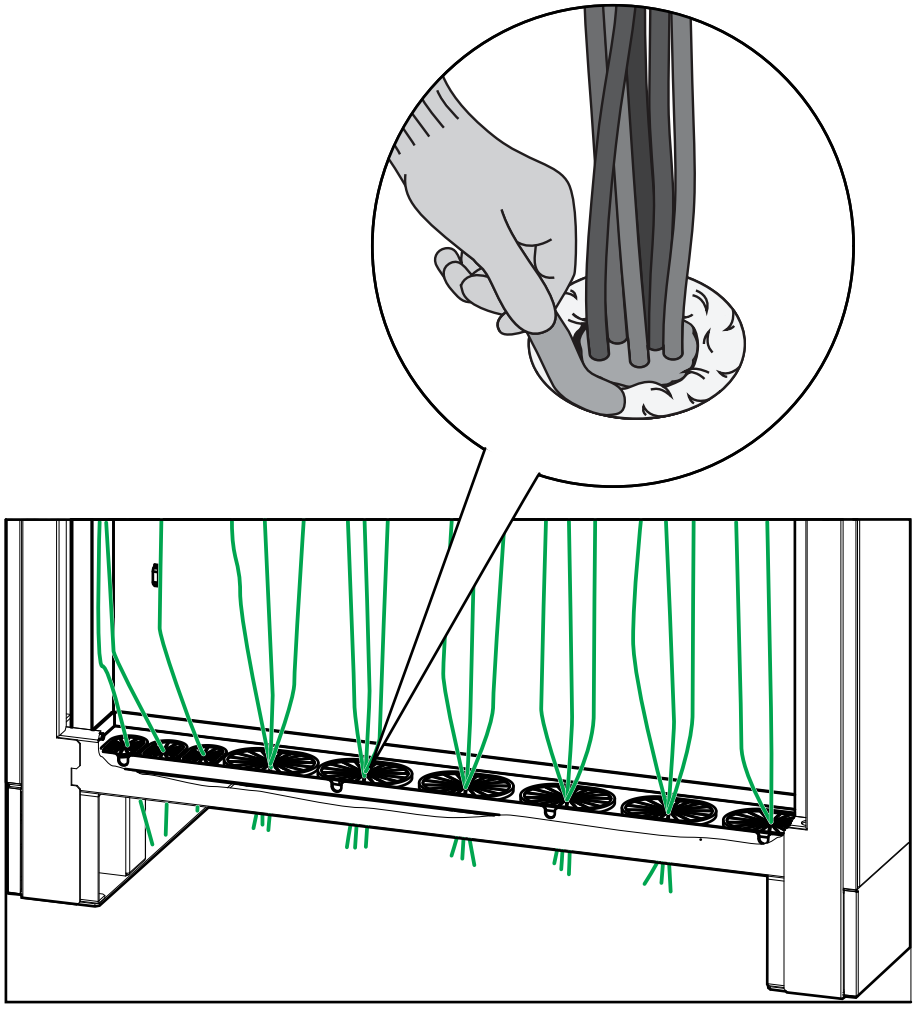
An SNMP card enables remote connection to the UPS. Remote monitoring data can be accessed by one or more PCs.


HUB
Ethernet
Ethernet
SNMP
Ethernet
Ethernet
SNMP

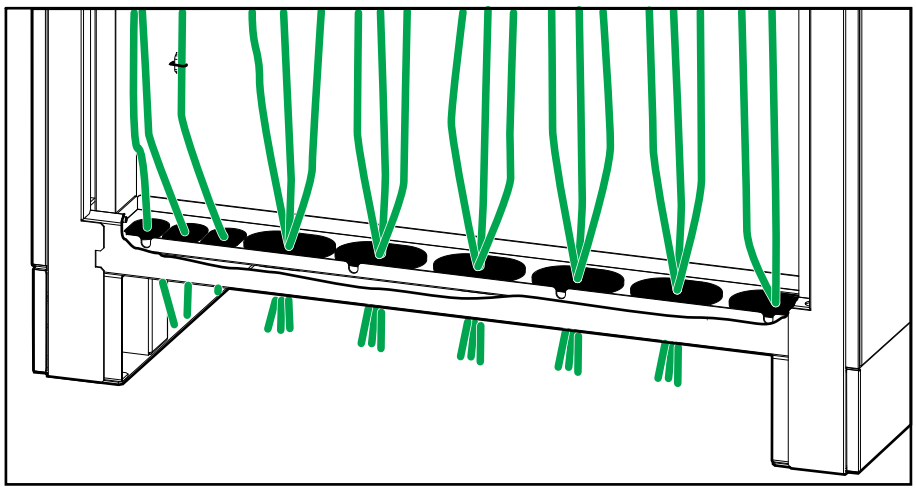
Seal the Cable Openings with Fire-proof Putty for IP31 Compliance

NOTE: After connecting all the cables, it is mandatory to seal all the cable openings with the provided fire-proof putty for IP31 compliance.

1. Follow the manufacturer's instructions to soften the provided fire-proof putty. Apply sufficient putty around all the cable openings in the bottom of the UPS.



2. Make sure that all the gaps around the cables are completely sealed. The finished cable openings should look like this.

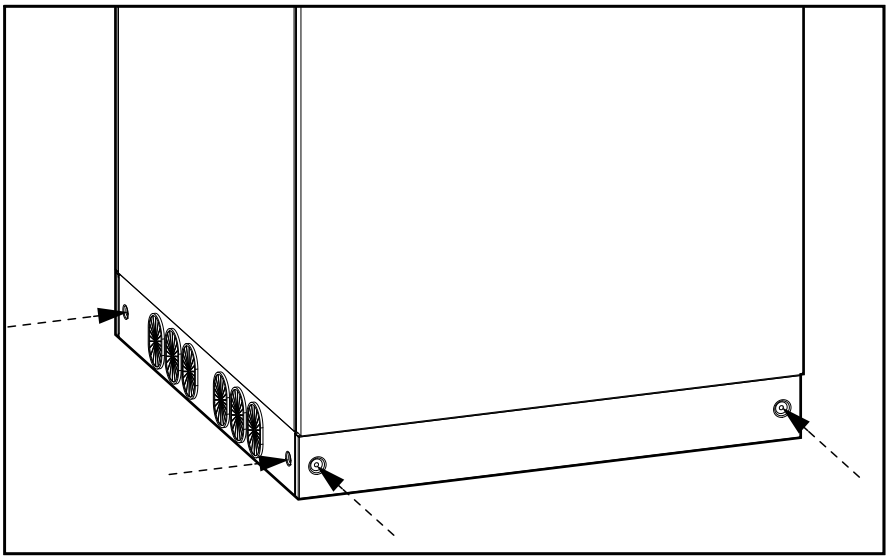


3. Reinstall all the covers.

Reinstall the Kick Plates

1. Reinstall the kick plates.

10-80 kVA UPS



Backfeed Protection

⚠⚠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) 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.

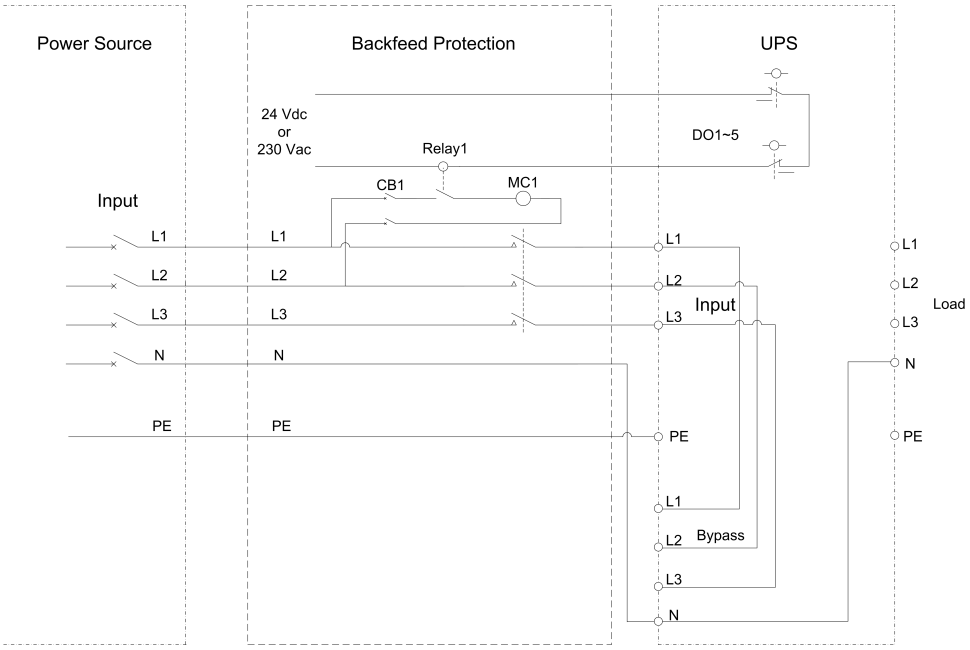
Failure to follow these instructions will result in death or serious injury.

An additional external isolation device must be installed in the UPS system. A contactor can be used for this purpose. In the shown examples, the isolation device is a contactor (marked with a **MC1** for single mains systems and marked with a **MC1** and **MC2** for dual mains systems).

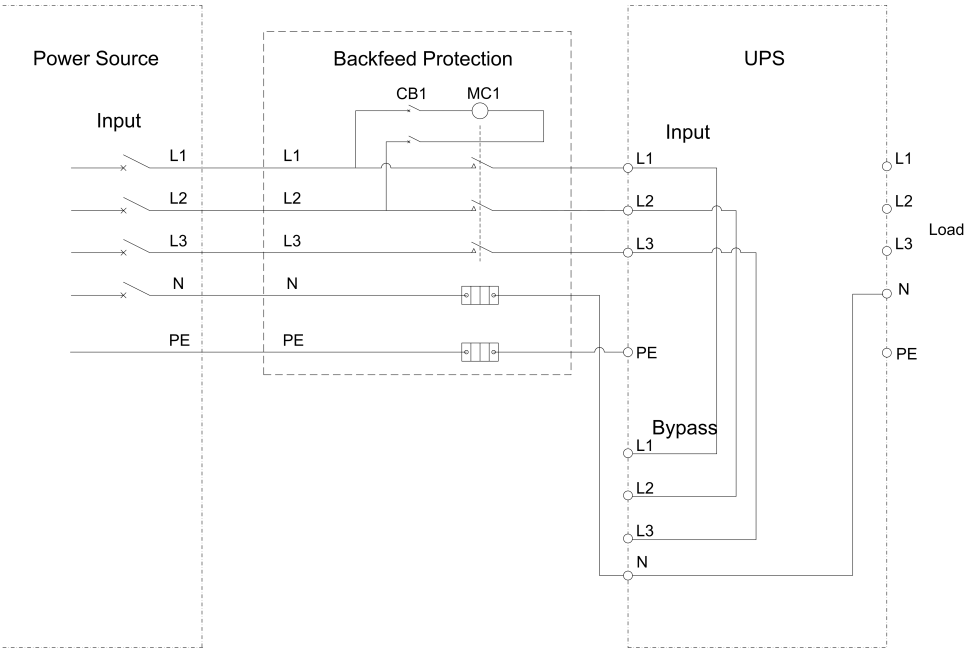
The isolation device must be able to withstand the electrical characteristics as described in Specifications, page 13.

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

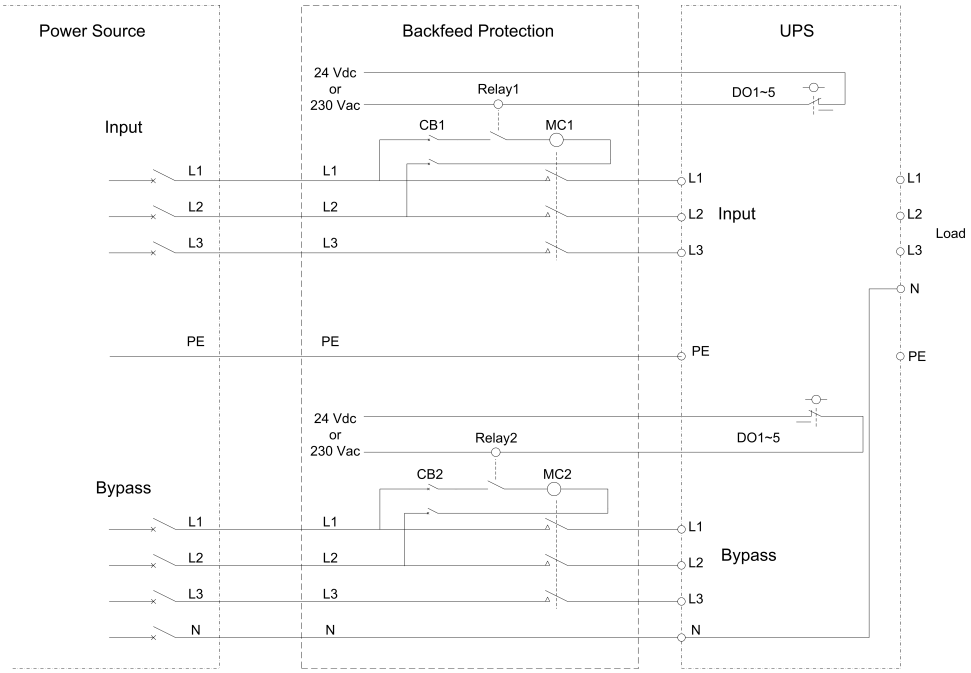
Single Mains 3:3 UPS and External Isolation Device



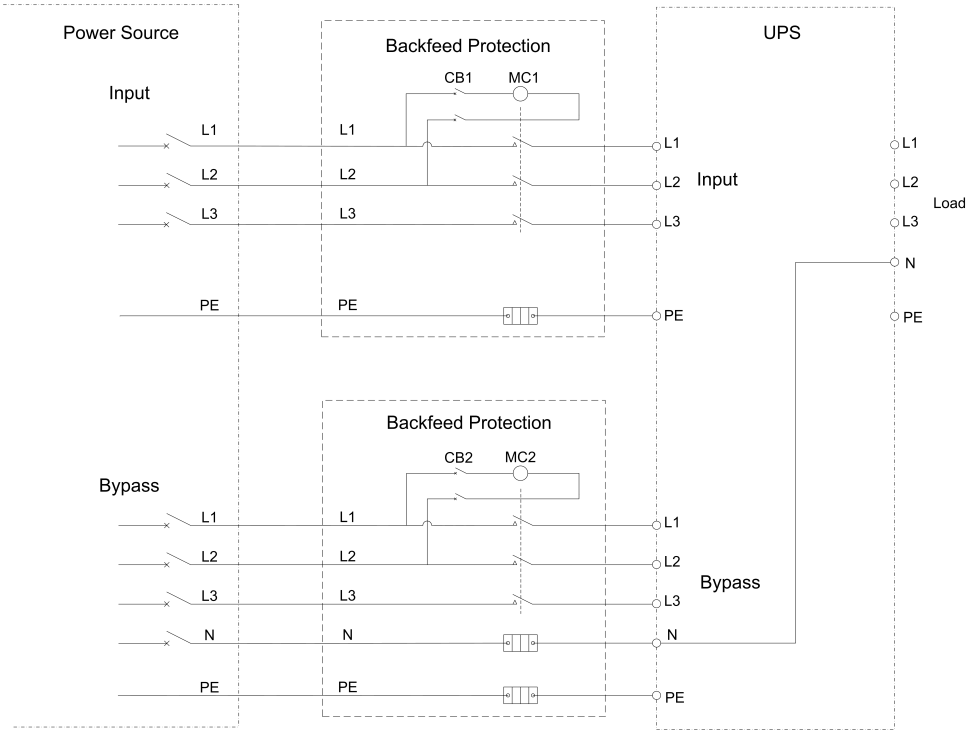
Single Mains 3:3 UPS with Backfeed Box



Dual Mains 3:3 UPS and External Isolation Device



Dual Mains 3:3 UPS with Backfeed Box



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990-6470B-001

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

990-6470B-001