

Galaxy PW 2nd Gen

10-120 kVA 3:1 and 10-200 kVA 3:3

Technical Specifications

Latest updates are available on the Schneider Electric website

11/2024



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Find the UPS Manuals, Submittal Drawings, and Other Documentation for Your Specific UPS Here:

From the main menu on the UPS display, tap **Digital experience** and scan the QR code,

OR

In your web browser, type in <https://www.go2se.com/ref=> and the commercial reference for your product.

Example: <https://www.go2se.com/ref=EPWUPS10KU6PTS>

Find the UPS Manuals, Relevant Auxiliary Product Manuals, and Option Manuals Here:

Scan the QR code to go to the Galaxy PW 2nd Gen online manual portal:



<https://www.productinfo.schneider-electric.com/galaxypw>

Here you can find your UPS installation manual, UPS operation manual, and UPS technical specifications, and you can also find installation manuals for your auxiliary products and options.

This online manual portal is available on all devices and offers digital pages, search functionality across the different documents in the portal, and PDF download for offline use.

Learn More About the Galaxy PW 2nd Gen Here:

Go to <https://www.se.com/ww/en/product-range/25982609> to learn more about this product.

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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.

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

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

Safety Precautions

⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

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.

DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

Do not make mechanical changes to the product (including removal of cabinet parts or drilling/cutting of holes) that are not described in the Installation Manual.

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

NOTICE**RISK OF OVERHEATING**

Respect the space requirements around the 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.

Overview

Model List

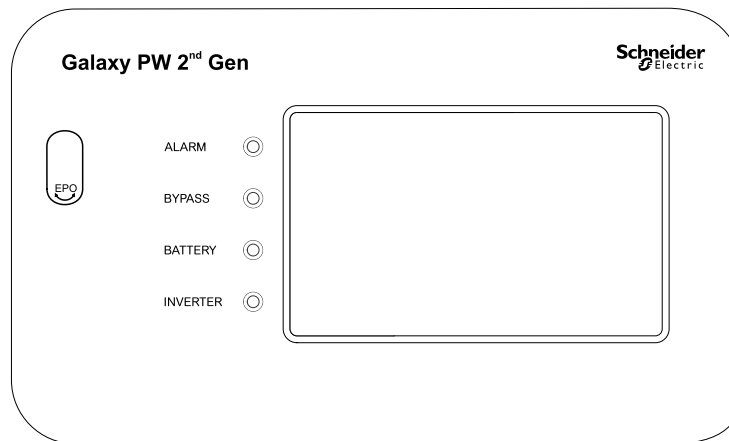
Galaxy PW 2nd Gen 10-120 kVA 3:1

- EPWUPS10KU6PTS: Galaxy PW 2nd Gen 10 kVA 3:1 UPS 220 VAC 6 Pulse 220 VDC with input transformer, Startup 5x8
- EPWUPS10KU12PTS: Galaxy PW 2nd Gen 10 kVA 3:1 UPS 220 VAC 12 Pulse 220 VDC with input transformer, Startup 5x8
- EPWUPS20KU6PTS: Galaxy PW 2nd Gen 20 kVA 3:1 UPS 220 VAC 6 Pulse 220 VDC with input transformer, Startup 5x8
- EPWUPS20KU12PTS: Galaxy PW 2nd Gen 20 kVA 3:1 UPS 220 VAC 12 Pulse 220 VDC with input transformer, Startup 5x8
- EPWUPS30KU6PTS: Galaxy PW 2nd Gen 30 kVA 3:1 UPS 220 VAC 6 Pulse 220 VDC with input transformer, Startup 5x8
- EPWUPS30KU12PTS: Galaxy PW 2nd Gen 30 kVA 3:1 UPS 220 VAC 12 Pulse 220 VDC with input transformer, Startup 5x8
- EPWUPS40KU12PTS: Galaxy PW 2nd Gen 40 kVA 3:1 UPS 220 VAC 12 Pulse 220 VDC with input transformer, Startup 5x8
- EPWUPS50KU12PTS: Galaxy PW 2nd Gen 50 kVA 3:1 UPS 220 VAC 12 Pulse 220 VDC with input transformer, Startup 5x8
- EPWUPS60KU12PTS: Galaxy PW 2nd Gen 60 kVA 3:1 UPS 220 VAC 12 Pulse 220 VDC with input transformer, Startup 5x8
- EPWUPS80KU12PTS: Galaxy PW 2nd Gen 80 kVA 3:1 UPS 220 VAC 12 Pulse 220 VDC with input transformer, Startup 5x8
- EPWUPS100KU12PTS: Galaxy PW 2nd Gen 100 kVA 3:1 UPS 220 VAC 12 Pulse 220 VDC with input transformer, Startup 5x8
- EPWUPS120KU12PTS: Galaxy PW 2nd Gen 120 kVA 3:1 UPS 220 VAC 12 Pulse 220 VDC with input transformer, Startup 5x8
- EPWUPS10KU6PS: Galaxy PW 2nd Gen 10 kVA 3:1 UPS 220 VAC 6 pulse 384 VDC, Startup 5x8
- EPWUPS20KU6PS: Galaxy PW 2nd Gen 20 kVA 3:1 UPS 220 VAC 6 pulse 384 VDC, Startup 5x8
- EPWUPS30KU6PS: Galaxy PW 2nd Gen 30 kVA 3:1 UPS 220 VAC 6 pulse 384 VDC, Startup 5x8
- EPWUPS40KU6PS: Galaxy PW 2nd Gen 40 kVA 3:1 UPS 220 VAC 6 pulse 384 VDC, Startup 5x8
- EPWUPS60KU6PS: Galaxy PW 2nd Gen 60 kVA 3:1 UPS 220 VAC 6 pulse 384 VDC, Startup 5x8
- EPWUPS80KU6PS: Galaxy PW 2nd Gen 80 kVA 3:1 UPS 220 VAC 6 pulse 384 VDC, Startup 5x8

Galaxy PW 2nd Gen 10-200 kVA 3:3

- EPWUPS10KH6PS: Galaxy PW 2nd Gen 10 kVA 3:3 UPS 380 VAC 6 Pulse 384 VDC, Startup 5x8
- EPWUPS20KH6PS: Galaxy PW 2nd Gen 20 kVA 3:3 UPS 380 VAC 6 Pulse 384 VDC, Startup 5x8
- EPWUPS30KH6PS: Galaxy PW 2nd Gen 30 kVA 3:3 UPS 380 VAC 6 Pulse 384 VDC, Startup 5x8
- EPWUPS40KH6PS: Galaxy PW 2nd Gen 40 kVA 3:3 UPS 380 VAC 6 Pulse 384 VDC, Startup 5x8
- EPWUPS60KH6PS: Galaxy PW 2nd Gen 60 kVA 3:3 UPS 380 VAC 6 Pulse 384 VDC, Startup 5x8
- EPWUPS80KH6PS: Galaxy PW 2nd Gen 80 kVA 3:3 UPS 380 VAC 6 Pulse 384 VDC, Startup 5x8
- EPWUPS100KH12PS: Galaxy PW 2nd Gen 100 kVA 3:3 UPS 380 VAC 12 Pulse 384 VDC, Startup 5x8
- EPWUPS120KH12PS: Galaxy PW 2nd Gen 120 kVA 3:3 UPS 380 VAC 12 Pulse 384 VDC, Startup 5x8
- EPWUPS160KH12PS: Galaxy PW 2nd Gen 160 kVA 3:3 UPS 380 VAC 12 Pulse 384 VDC, Startup 5x8
- EPWUPS200KH12PS: Galaxy PW 2nd Gen 200 kVA 3:3 UPS 380 VAC 12 Pulse 384 VDC, Startup 5x8

User Interface



EPO

Only use the EPO button in case of emergency.

When the EPO is activated, the UPS will:

- turn off the rectifier, inverter, charger, and static bypass and stop supplying the load immediately (default).

NOTE: When the EPO is activated, the load will drop for both single and parallel systems.

⚠️⚠️ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

The UPS control circuit will remain active after the EPO has been pushed if mains is available.

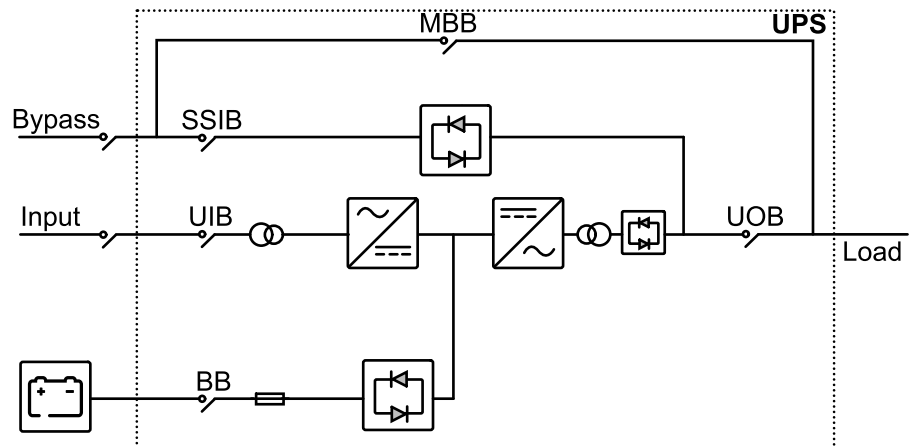
Failure to follow these instructions will result in death or serious injury.

Status LEDs

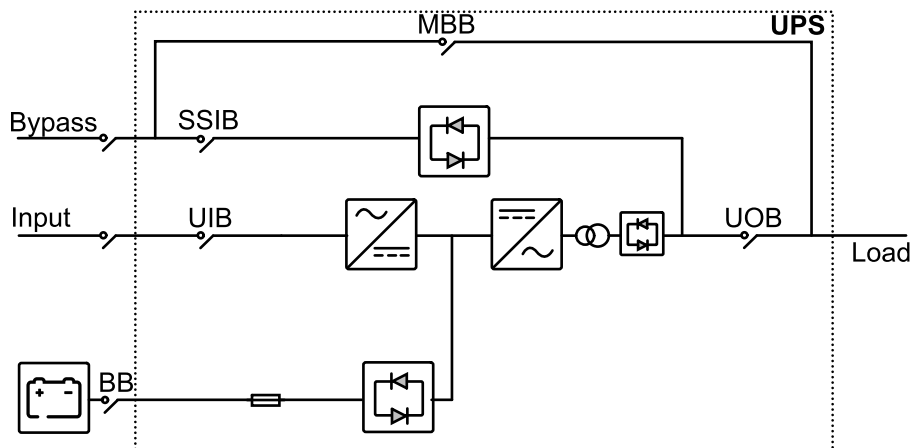
LED	State	Description
ALARM	Steady red	Critical alarm
	Flashing red	Warning alarm
	Off	No alarm condition
BYPASS	Steady yellow	The load is supplied by the bypass source
	Flashing yellow	There is an alarm condition on the bypass source
	Off	The load is not supplied by the bypass source
BATTERY	Steady yellow	The load is supplied by the battery source
	Flashing yellow	The battery source is unavailable
	Off	The load is not supplied by the battery source
INVERTER	Steady green	Inverter on
	Off	Inverter off

Overview of Single UPS

3:1 220 VDC UPS

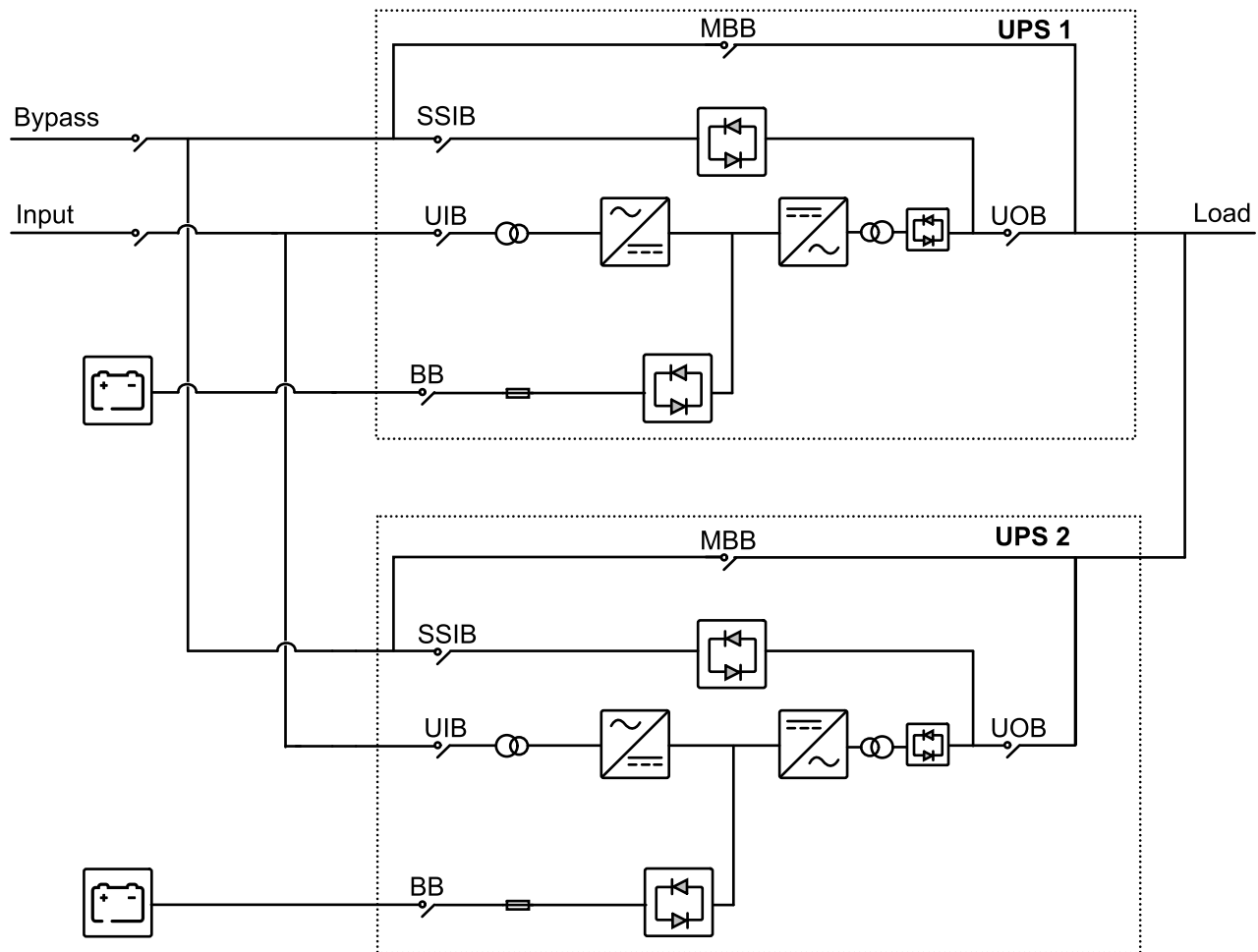


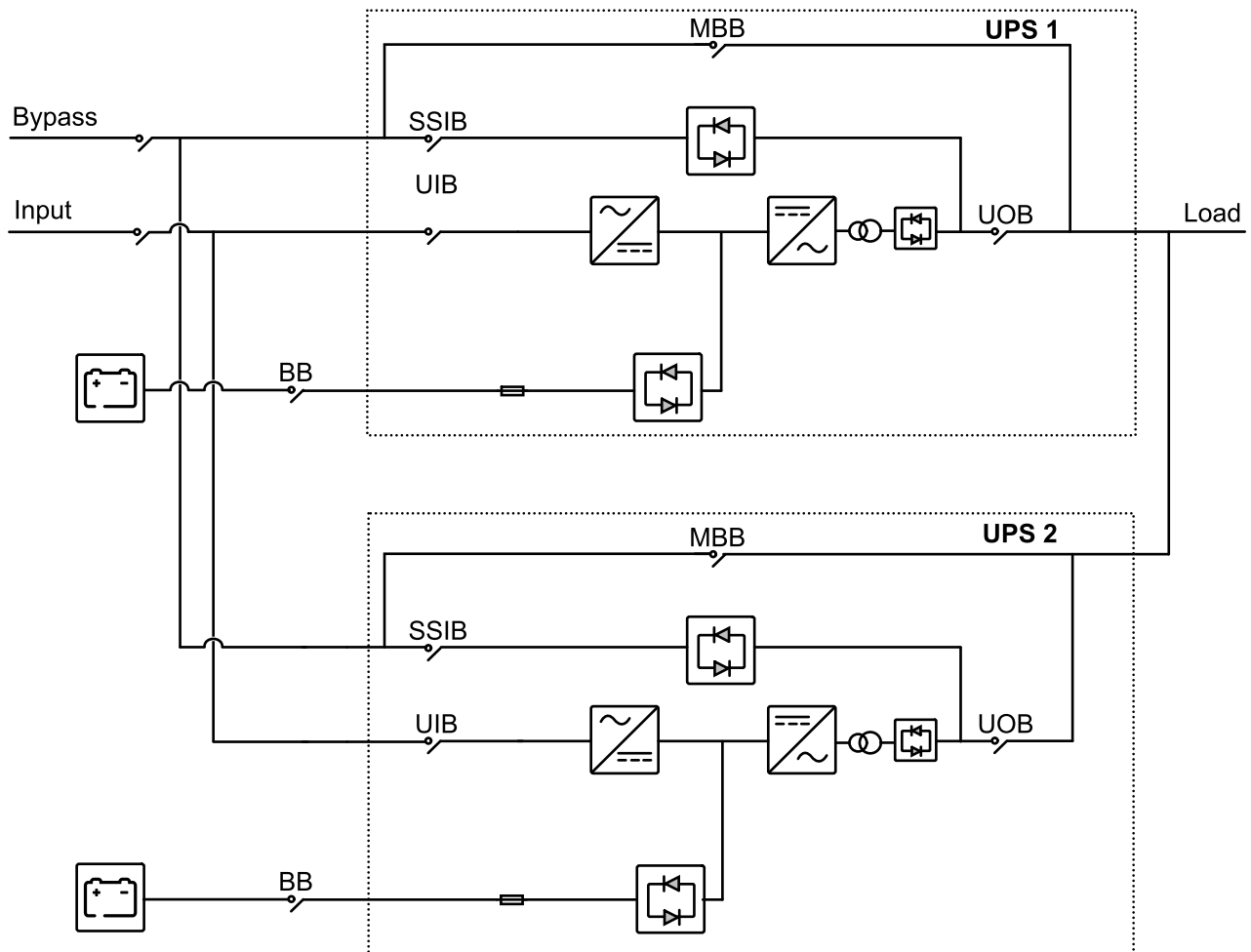
3:1 384 VDC UPS 3:3 384 VDC UPS



Overview of 1+1 Redundant Parallel System

3:1 220 VDC UPS

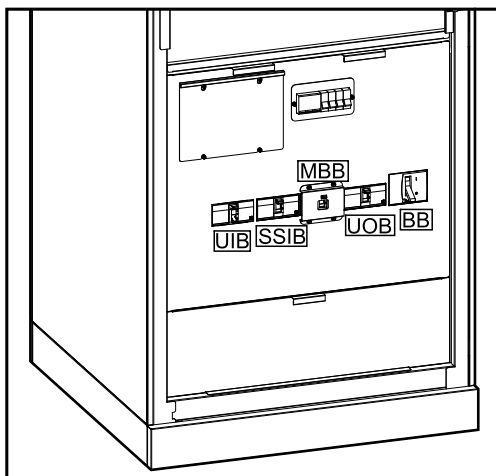


3:1 384 VDC UPS
3:3 384 VDC UPS

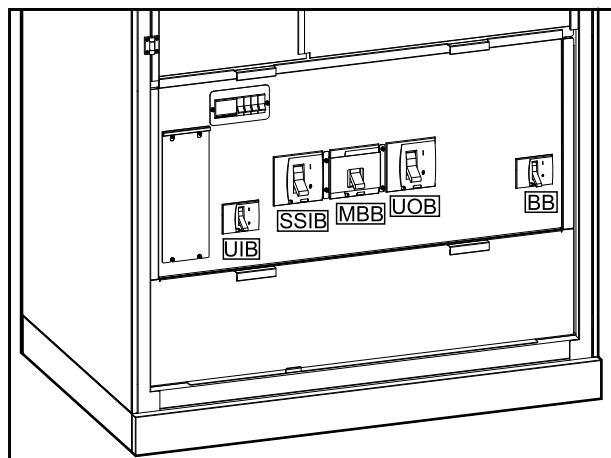
Location of Breakers

Locations of Breakers on the 3:1 UPSs

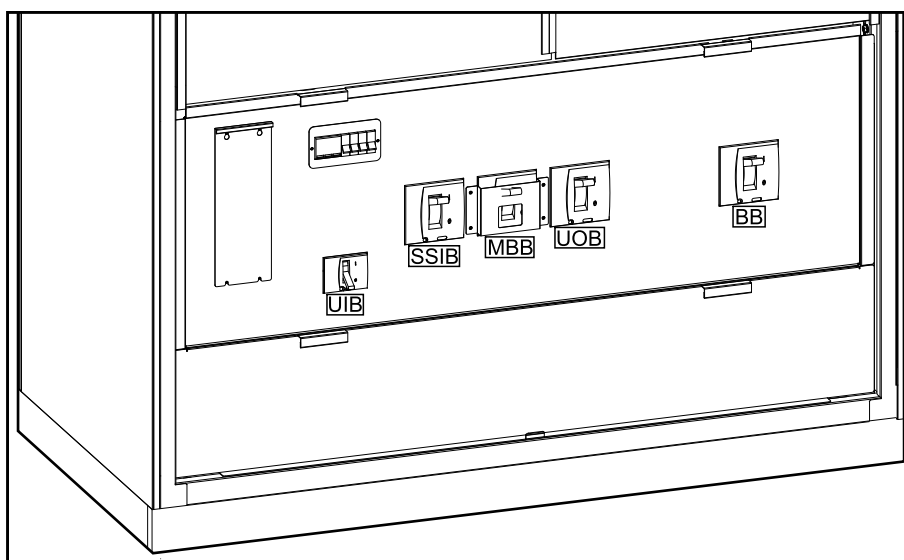
10-40 kVA 3:1 220 VDC UPS

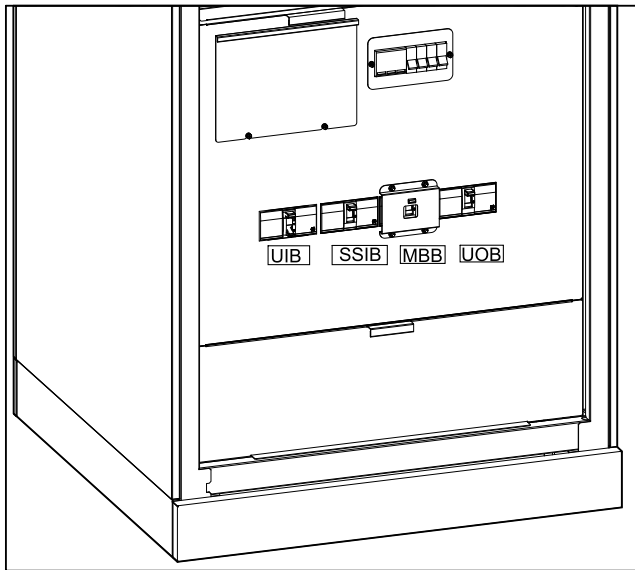
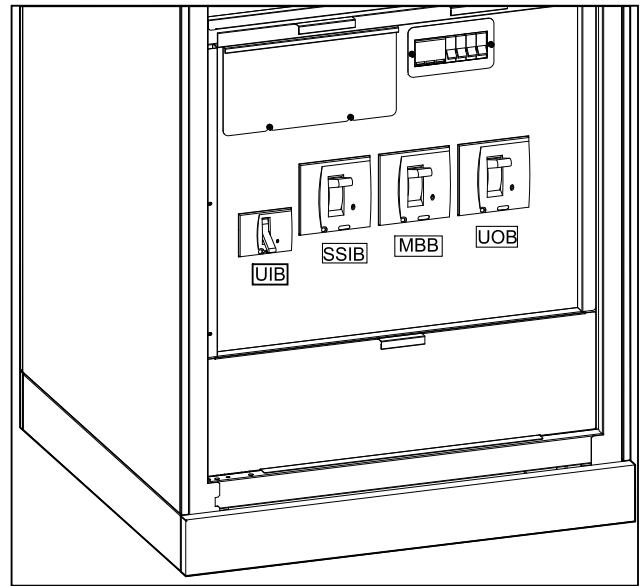
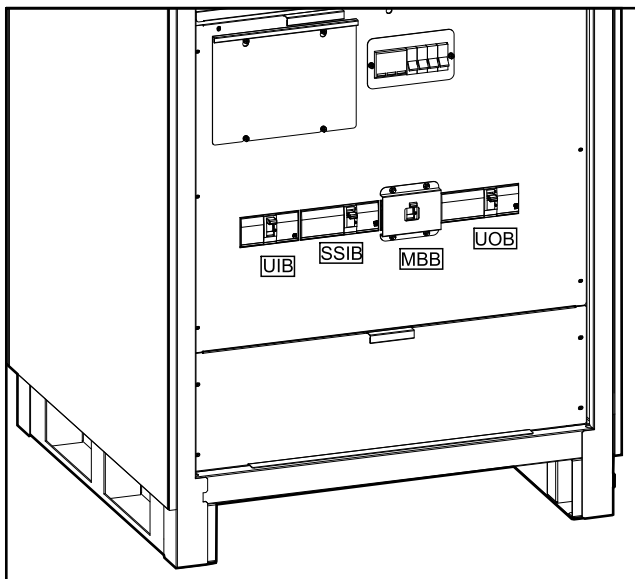
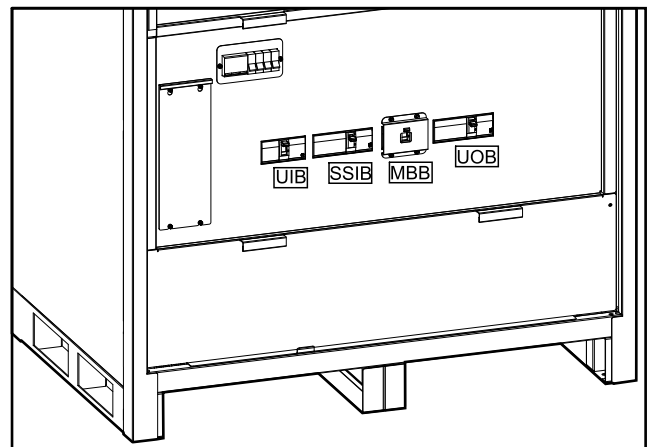
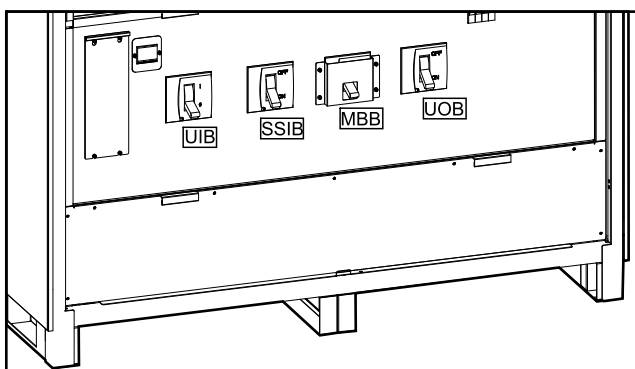


50-80 kVA 3:1 220 VDC UPS



100-120 kVA 3:1 220 VDC UPS



Locations of Breakers on the 3:1 UPSs (Continued)**10-40 kVA 3:1 384 VDC UPS****60-80 kVA 3:1 384 VDC UPS****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**

Technical Data for 10-120 kVA 3:1

Efficiency

Efficiency in Battery Mode (3:1 220 VDC UPS)

UPS rating	10 kVA		20 kVA		30 kVA	
	6 pulses	12 pulses	6 pulses	12 pulses	6 pulses	12 pulses
25% load	78.8%	75.8%	82.2%	86.66%	88.2%	80.73%
50% load	86.0%	84.29%	87.1%	89.60%	90.7%	86.72%
75% load	88.3%	87.27%	88.4%	89.97%	90.1%	88.34%
100% load	89.3%	88.73%	88.5%	89.80%	89.8%	88.58%

UPS rating	40 kVA	50 kVA	60 kVA	80 kVA	100 kVA	120 kVA
25% load	88.7%	88.7%	89.6%	89.4%	89.7%	88.5%
50% load	91.0%	91.1%	91.4%	91.2%	91.7%	90.5%
75% load	90.3%	90.8%	90.8%	90.6%	91.3%	90.2%
100% load	89.8%	90.5%	90.3%	90.0%	90.9%	89.7%

Efficiency in Battery Mode (3:1 384 VDC UPS)

UPS rating	10 kVA	20 kVA	30 kVA	40 kVA	60 kVA	80 kVA
25% load	78.82%	87.04%	88.25%	90.83%	90.71%	89.35%
50% load	86.62%	90.74%	91.43%	92.86%	92.77%	92.07%
75% load	89.38%	91.43%	92.12%	93.03%	93.00%	92.43%
100% load	90.57%	91.35%	92.06%	92.67%	92.76%	92.31%

Efficiency in ECO Mode (3:1 220 VDC UPS)

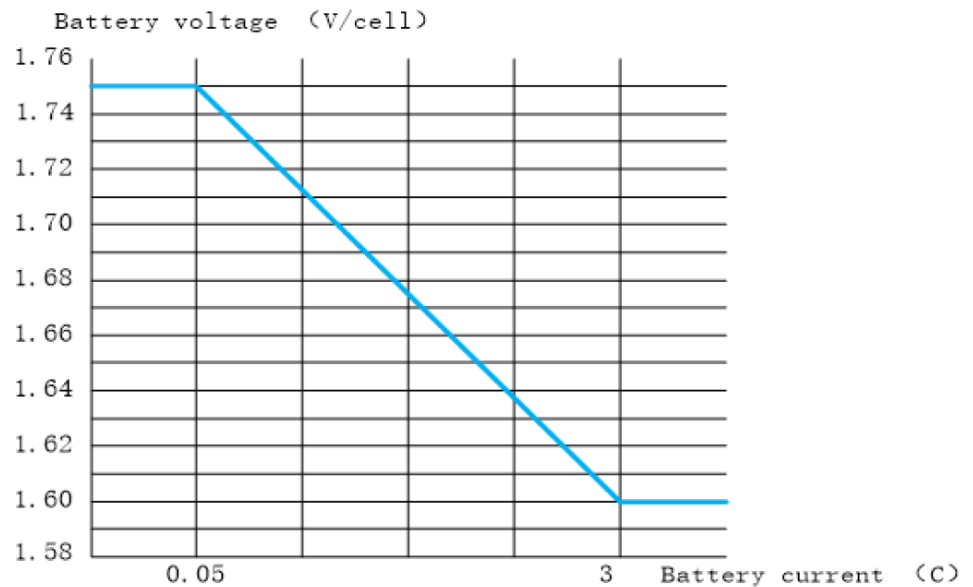
UPS rating	10 kVA		20 kVA		30 kVA	
	6 pulses	12 pulses	6 pulses	12 pulses	6 pulses	12 pulses
25% load	72.4%	69.52%	84.0%	81.38%	86.1%	90.20%
50% load	84.0%	82.38%	90.7%	89.58%	91.9%	94.50%
75% load	88.6%	86.99%	93.7%	92.27%	93.2%	95.85%
100% load	90.7%	90.05%	94.8%	94.06%	95.4%	96.75%

UPS rating	40 kVA	50 kVA	60 kVA	80 kVA	100 kVA	120 kVA
25% load	86.6%	85.0%	86.9%	88.2%	88.2%	88.0%
50% load	92.6%	91.5%	92.6%	93.6%	93.2%	93.4%
75% load	94.7%	93.9%	94.8%	95.6%	95.1%	95.2%
100% load	95.6%	95.2%	95.2%	96.1%	95.9%	96.0%

Efficiency in ECO Mode (3:1 384 VDC UPS)

UPS rating	10 kVA	20 kVA	30 kVA	40 kVA	60 kVA	80 kVA
25% load	79.59%	88.21%	89.42%	92.10%	91.87%	93.11%
50% load	88.50%	93.04%	94.07%	95.64%	95.08%	96.10%
75% load	91.49%	94.84%	95.55%	96.66%	96.38%	97.05%
100% load	93.49%	96.04%	96.54%	97.34%	97.24%	97.69%

End of Discharge Voltage



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

Communication and Management

- User interface with status LEDs and display
- RS232 port
- RS485 ports
- SNMP (options)
- Dry contacts
- USB port

Technical Data for 10-200 kVA 3:3

Efficiency

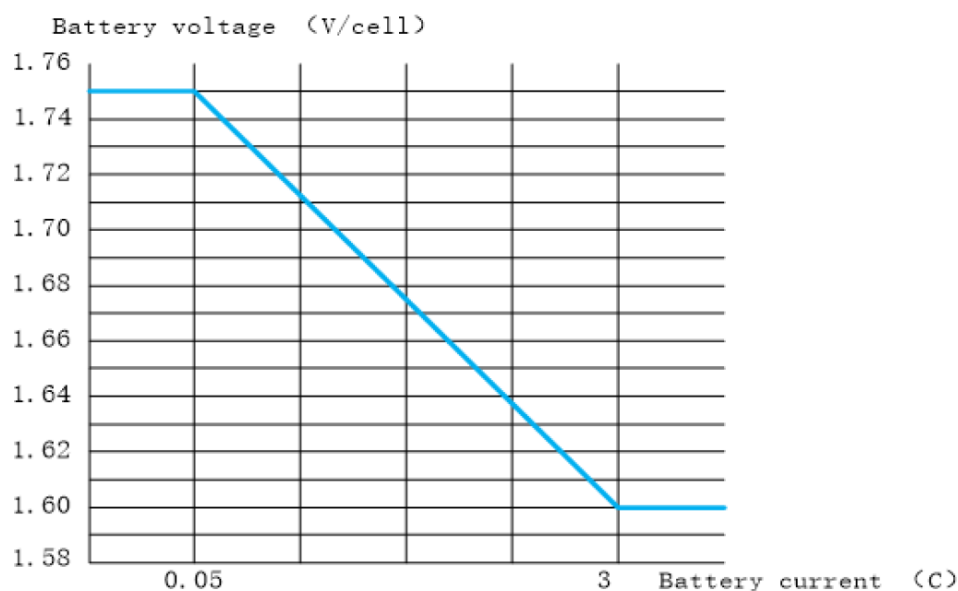
Efficiency in Battery Mode

UPS rating	10 kVA	20 kVA	30 kVA	40 kVA	60 kVA	80 kVA	100 kVA	120 kVA	160 kVA	200 kVA
25% load	77.58	90.49	89.13	88.73	89.63	91.16	89.86	90.38	91.47	91.51
50% load	85.91	92.64	91.91	91.55	92.39	93.42	92.89	93.07	93.48	93.53
75% load	88.74	92.33	92.32	92.23	92.87	93.67	93.34	93.53	93.65	93.68
100% load	90.07	92.24	92.11	92.28	92.76	93.47	93.29	93.48	93.58	93.25

Efficiency in ECO Mode

UPS rating	10 kVA	20 kVA	30 kVA	40 kVA	60 kVA	80 kVA	100 kVA	120 kVA	160 kVA	200 kVA
25% load	80.4	87.53	88.96	91.48	91.79	92.02	89.25	90.09	91.13	91.39
50% load	88.73	92.81	94.08	94.95	95.05	95.51	94.05	94.56	95.07	96.67
75% load	91.21	95.43	95.75	96.53	96.58	96.94	95.74	96.15	96.55	97.05
100% load	93.67	96.21	96.61	97.27	97.27	97.51	96.58	96.88	97.11	97.69

End of Discharge Voltage



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

Communication and Management

- User interface with status LEDs and display
- RS232 port
- RS485 ports
- SNMP (options)
- Dry contacts
- USB port

Facility Planning for 10-120 kVA 3:1

Specifications

Specifications for 10 kVA 3:1 220 VDC UPS

Input		6 pulses			12 pulses		
	Voltage (V)	380 V	400 V	415 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)	22	20	20	22	20	20
	Maximum input current (A)	27	26	25	27	25	25
	Input current limitation (A)	60					
	Total harmonic distortion (THDI) ²	6 pulses ≤15%			12 pulses ≤10%		
	Input power factor ²	≥0.9					
	Maximum short circuit rating	Icc=10 kA					
	Protection	Breaker					
	Ramp-in	15 seconds					
Bypass	Voltage (V)	220 V	230 V	240 V	220 V	230 V	240 V
	Overload capacity	≤110% continuous; 125% for 10 minutes; 150% for 1 minute					
	Connections	L, N, PE					
	Bypass voltage range (V)	165-275					
	Frequency (Hz)	50					
	Nominal bypass current (A)	45	43	42	45	43	42
	Nominal neutral current (A)	45	43	42	45	43	42
	Maximum short circuit rating	Icc=10 kA					
Output	Voltage (V)	220 V	230 V	240 V	220 V	230 V	240 V
	Connections	L, 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)	45	43	42	45	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)	136					
	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	16-20
	Charging current	The charging current is determined by the battery capacity. Default is 0.1 C.
	Maximum charging power (kW)	8
	Nominal battery voltage (VDC)	192-240
	Nominal float voltage (VDC)	216-270
	End of discharge voltage (full load) (VDC)	153.6-192
	Battery current at full load and nominal battery voltage (A)	40
	Battery current at full load and minimum battery voltage (A)	56
	Temperature compensation (per cell)	-3.3 mV per °C for $T \geq 25\text{ °C}$, 0 mV per °C for $T < 25\text{ °C}$

Specifications for 20 kVA 3:1 220 VDC UPS

Input		6 pulses			12 pulses		
	Voltage (V)	380 V	400 V	415 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)	40	38	37	41	39	37
	Maximum input current (A)	50	48	46	51	48	46
	Input current limitation (A)	60					
	Total harmonic distortion (THDI) ⁴	6 pulses ≤15%			12 pulses ≤10%		
	Input power factor ⁴	≥0.9					
	Maximum short circuit rating	Icc=10 kA					
	Protection	Breaker					
	Ramp-in	15 seconds					
Bypass	Voltage (V)	220 V	230 V	240 V	220 V	230 V	240 V
	Connections	L, N, PE					
	Overload capacity	110% continuous; 125% for 10 minutes; 150% for 1 minute					
	Bypass voltage range (V)	165-275					
	Frequency (Hz)	50					
	Nominal bypass current (A)	91	87	83	91	87	83
	Nominal neutral current (A)	91	87	83	91	87	83
Output	Maximum short circuit rating	Icc=10 kA					
	Voltage (V)	220 V	230 V	240 V	220 V	230 V	240 V
	Connections	L, 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	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)	272					
	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	16-20
	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)	192-240
	Nominal float voltage (VDC)	216-270
	End of discharge voltage (full load) (VDC)	153.6-192
	Battery current at full load and nominal battery voltage (A)	80
	Battery current at full load and minimum battery voltage (A)	112
	Temperature compensation (per cell)	-3.3 mV per °C for $T \geq 25\text{ °C}$, 0 mV per °C for $T < 25\text{ °C}$

Specifications for 30 kVA 3:1 220 VDC UPS

Input		6 pulses			12 pulses		
	Voltage (V)	380 V	400 V	415 V	380 V	400 V	415 V
	Connections	L 1, L2, L3, PE ⁵					
	Input voltage range (V)	304-456					
	Frequency (Hz)	45-55					
	Nominal input current (A)	58	55	53	59	56	54
	Maximum input current (A)	73	69	67	73	70	67
	Input current limitation (A)	100					
	Total harmonic distortion (THDI) ⁶	6 pulses ≤15%			12 pulses ≤10%		
	Input power factor ⁶	≥0.9					
	Maximum short circuit rating	Icc=10 kA					
	Protection	Breaker					
	Ramp-in	15 seconds					
	Bypass	Voltage (V)	220 V	230 V	240 V	220 V	230 V
Connections		L, N, PE					
Overload capacity		110% continuous; 125% for 10 minutes; 150% for 1 minute					
Bypass voltage range (V)		165-275					
Frequency (Hz)		50					
Nominal bypass current (A)		136	130	125	136	130	125
Nominal neutral current (A)		136	130	125	136	130	125
Output	Maximum short circuit rating	Icc=10 kA					
	Voltage (V)	220 V	230 V	240 V	220 V	230 V	240 V
	Connections	L, 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)	136	130	125	136	130	125
	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)	408					
	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	16-20
	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)	192-240
	Nominal float voltage (VDC)	216-270
	End of discharge voltage (full load) (VDC)	153.6-192
	Battery current at full load and nominal battery voltage (A)	119
	Battery current at full load and minimum battery voltage (A)	168
	Temperature compensation (per cell)	-3.3 mV per °C for $T \geq 25\text{ °C}$, 0 mV per °C for $T < 25\text{ °C}$

Specifications for 40 kVA 3:1 220 VDC UPS

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)	75	71	69
	Maximum input current (A)	94	89	86
	Total harmonic distortion (THDI) ⁸	12 pulses ≤10%		
	Input power factor ⁸	≥0.9		
	Maximum short circuit rating	I _{cc} =10 kA		
	Protection	Breaker		
	Ramp-in	15 seconds		
Bypass	Voltage (V)	220 V	230 V	240 V
	Connections	L, N, PE		
	Overload capacity	110% continuous; 125% for 10 minutes; 150% for 1 minute		
	Bypass voltage range (V)	165-275		
	Frequency (Hz)	50		
	Nominal bypass current (A)	182	174	167
	Maximum short circuit rating	I _{cc} =10 kA		
Output	Voltage (V)	220 V	230 V	240 V
	Connections	L, 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)	182	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)	546		
	Output performance classification (according to IEC/ EN62040-3)	VFI-SS-111		
Battery	Battery blocks supported	16-20		
	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)	192-240		
	Nominal float voltage (VDC)	216-270		
	End of discharge voltage (full load) (VDC)	153.6-192		
	Battery current at full load and nominal battery voltage (A)	159		
	Battery current at full load and minimum battery voltage (A)	224		
	Temperature compensation (per cell)	-3.3 mV per °C for T ≥ 25 °C, 0 mV per °C for T < 25 °C		

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

8. With filter.

Specifications for 50 kVA 3:1 220 VDC UPS

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)	94	89	86
	Maximum input current (A)	118	112	108
	Total harmonic distortion (THDI) ¹⁰	12 pulses ≤10%		
	Input power factor ¹⁰	≥0.9		
	Maximum short circuit rating	I _{cc} =10 kA		
	Protection	Breaker		
	Ramp-in	15 seconds		
Bypass	Voltage (V)	220 V	230 V	240 V
	Connections	L, N, PE		
	Overload capacity	110% continuous; 125% for 10 minutes; 150% for 1 minute		
	Bypass voltage range (V)	165-275		
	Frequency (Hz)	50		
	Nominal bypass current (A)	227	217	208
	Maximum short circuit rating	I _{cc} =10 kA		
Output	Voltage (V)	220 V	230 V	240 V
	Connections	L, 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)	227	217	208
	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)	681		
	Output performance classification (according to IEC/ EN62040-3)	VFI-SS-111		
Battery	Battery blocks supported	16-20		
	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)	192-240		
	Nominal float voltage (VDC)	216-270		
	End of discharge voltage (full load) (VDC)	153.6-192		
	Battery current at full load and nominal battery voltage (A)	199		
	Battery current at full load and minimum battery voltage (A)	280		
	Temperature compensation (per cell)	-3.3 mV per °C for T ≥ 25 °C, 0 mV per °C for T < 25 °C		

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

10. With filter.

Specifications for 60 kVA 3:1 220 VDC UPS

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)	113	107	103
	Maximum input current (A)	141	134	129
	Total harmonic distortion (THDI) ¹²	12 pulses ≤10%		
	Input power factor ¹²	≥0.9		
	Maximum short circuit rating	I _{cc} =10 kA		
	Protection	Breaker		
	Ramp-in	15 seconds		
Bypass	Voltage (V)	220 V	230 V	240 V
	Connections	L, N, PE		
	Overload capacity	110% continuous; 125% for 10 minutes; 150% for 1 minute		
	Bypass voltage range (V)	165-275		
	Frequency (Hz)	50		
	Nominal bypass current (A)	273	261	250
	Maximum short circuit rating	I _{cc} =10 kA		
Output	Voltage (V)	220 V	230 V	240 V
	Connections	L, 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)	273	261	250
	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)	819		
	Output performance classification (according to IEC/ EN62040-3)	VFI-SS-111		
Battery	Battery blocks supported	16-20		
	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)	192-240		
	Nominal float voltage (VDC)	216-270		
	End of discharge voltage (full load) (VDC)	153.6-192		
	Battery current at full load and nominal battery voltage (A)	239		
	Battery current at full load and minimum battery voltage (A)	336		
	Temperature compensation (per cell)	-3.3 mV per °C for T ≥ 25 °C, 0 mV per °C for T < 25 °C		

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

12. With filter.

Specifications for 80 kVA 3:1 220 VDC UPS

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)	149	142	137
	Maximum input current (A)	186	177	171
	Total harmonic distortion (THDI) ¹⁴	12 pulses ≤10%		
	Input power factor ¹⁴	≥0.9		
	Maximum short circuit rating	I _{cc} =10 kA		
	Protection	Breaker		
	Ramp-in	15 seconds		
Bypass	Voltage (V)	220 V	230 V	240 V
	Connections	L, N, PE		
	Overload capacity	110% continuous; 125% for 10 minutes; 150% for 1 minute		
	Bypass voltage range (V)	165-275		
	Frequency (Hz)	50		
	Nominal bypass current (A)	364	348	333
	Maximum short circuit rating	I _{cc} =10 kA		
Output	Voltage (V)	220 V	230 V	240 V
	Connections	L, 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)	364	348	333
	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)	1000		
	Output performance classification (according to IEC/ EN62040-3)	VFI-SS-111		
Battery	Battery blocks supported	16-20		
	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)	192-240		
	Nominal float voltage (VDC)	216-270		
	End of discharge voltage (full load) (VDC)	153.6-192		
	Battery current at full load and nominal battery voltage (A)	319		
	Battery current at full load and minimum battery voltage (A)	448		
	Temperature compensation (per cell)	-3.3 mV per °C for T ≥ 25 °C, 0 mV per °C for T < 25 °C		

13. TN, TT, and IT power distribution systems are supported. Corner (line) grounding is not supported.

14. With filter.

Specifications for 100 kVA 3:1 220 VDC UPS

Input	Voltage (V)	380 V	400 V	415 V
	Connections	L1, L2, L3, PE ¹⁵		
	Input voltage range (V)	304-456		
	Frequency (Hz)	45-55		
	Nominal input current (A)	186	177	171
	Maximum input current (A)	233	221	213
	Total harmonic distortion (THDI) ¹⁶	12 pulses ≤10%		
	Input power factor ¹⁶	≥0.9		
	Maximum short circuit rating	I _{cc} =10 kA		
	Protection	Breaker		
	Ramp-in	15 seconds		
Bypass	Voltage (V)	220 V	230 V	240 V
	Connections	L, N, PE		
	Overload capacity	110% continuous; 125% for 10 minutes; 150% for 1 minute		
	Bypass voltage range (V)	165-275		
	Frequency (Hz)	50		
	Nominal bypass current (A)	455	435	417
	Maximum short circuit rating	I _{cc} =10 kA		
Output	Voltage (V)	220 V	230 V	240 V
	Connections	L, 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)	455	435	417
	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)	1100		
	Output performance classification (according to IEC/ EN62040-3)	VFI-SS-111		
Battery	Battery blocks supported	16-20		
	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)	192-240		
	Nominal float voltage (VDC)	216-270		
	End of discharge voltage (full load) (VDC)	153.6-192		
	Battery current at full load and nominal battery voltage (A)	398		
	Battery current at full load and minimum battery voltage (A)	560		
	Temperature compensation (per cell)	-3.3 mV per °C for T ≥ 25 °C, 0 mV per °C for T < 25 °C		

15. TN, TT, and IT power distribution systems are supported. Corner (line) grounding is not supported.

16. With filter.

Specifications for 120 kVA 3:1 220 VDC UPS

Input	Voltage (V)	380 V	400 V	415 V
	Connections	L1, L2, L3, PE ¹⁷		
	Input voltage range (V)	304-456		
	Frequency (Hz)	45-55		
	Nominal input current (A)	243	231	223
	Maximum input current (A)	304	289	278
	Total harmonic distortion (THDI) ¹⁸	12 pulses ≤10%		
	Input power factor ¹⁸	≥0.9		
	Maximum short circuit rating	I _{cc} =16 kA		
	Protection	Breaker		
	Ramp-in	15 seconds		
Bypass	Voltage (V)	220 V	230 V	240 V
	Connections	L, N, PE		
	Overload capacity	110% continuous; 125% for 10 minutes; 150% for 1 minute		
	Bypass voltage range (V)	165-275		
	Frequency (Hz)	50		
	Nominal bypass current (A)	545	522	500
	Maximum short circuit rating	I _{cc} =16 kA		
Output	Voltage (V)	220 V	230 V	240 V
	Connections	L, 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)	545	522	500
	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)	1500		
	Output performance classification (according to IEC/ EN62040-3)	VFI-SS-111		
Battery	Battery blocks supported	16-20		
	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)	192-240		
	Nominal float voltage (VDC)	216-270		
	End of discharge voltage (full load) (VDC)	153.6-192		
	Battery current at full load and nominal battery voltage (A)	478		
	Battery current at full load and minimum battery voltage (A)	672		
	Temperature compensation (per cell)	-3.3 mV per °C for T ≥ 25 °C, 0 mV per °C for T < 25 °C		

17. TN, TT, and IT power distribution systems are supported. Corner (line) grounding is not supported.

18. With filter.

Specifications for 10 kVA 3:1 384 VDC UPS

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)	24	23	22
	Maximum input current (A)	30	28	27
	Input current limitation (A)	60		
	Total harmonic distortion (THDI) ²⁰	6 pulses ≤15%		
	Input power factor ²⁰	≥ 0.9		
	Maximum short circuit rating	I _{cc} =10 kA		
	Protection	Breaker		
	Ramp-in	15 seconds		
Bypass	Voltage (V)	220 V	230 V	240 V
	Connections	L, N, PE		
	Overload capacity	≤110% continuous; 125% for 10 minutes; 150% for 1 minute		
	Bypass voltage range (V)	165-275		
	Frequency (Hz)	50		
	Nominal bypass current (A)	45	43	42
	Nominal neutral current (A)	45	43	42
	Maximum short circuit rating	I _{cc} =10 kA		
Output	Voltage (V)	220 V	230 V	240 V
	Connections	L, 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)	45	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)	136		
	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)	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)	25
	Battery current at full load and minimum battery voltage (A)	29
	Temperature compensation (per cell)	-3.3 mV per °C for $T \geq 25\text{ °C}$, 0 mV per °C for $T < 25\text{ °C}$

Specifications for 20 kVA 3:1 384 VDC UPS

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)	42	40	39
	Maximum input current (A)	52	50	48
	Input current limitation (A)	60		
	Total harmonic distortion (THDI) ²²	6 pulses ≤15%		
	Input power factor ²²	≥ 0.9		
	Maximum short circuit rating	Icc=10 kA		
	Protection	Breaker		
	Ramp-in	15 seconds		
Bypass	Voltage (V)	220 V	230 V	240 V
	Connections	L, N, PE		
	Overload capacity	110% continuous; 125% for 10 minutes; 150% for 1 minute		
	Bypass voltage range (V)	165-275		
	Frequency (Hz)	50		
	Nominal bypass current (A)	91	87	83
	Nominal neutral current (A)	91	87	83
	Maximum short circuit rating	Icc=10 kA		
Output	Voltage (V)	220 V	230 V	240 V
	Connections	L, 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)	272		
	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)	16
	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)	49
	Battery current at full load and minimum battery voltage (A)	57
	Temperature compensation (per cell)	-3.3 mV per °C for $T \geq 25\text{ °C}$, 0 mV per °C for $T < 25\text{ °C}$

Specifications for 30 kVA 3:1 384 VDC UPS

Input	Voltage (V)	380 V	400 V	415 V
	Connections	L1, L2, L3, PE ²³		
	Input voltage range (V)	304-456		
	Frequency (Hz)	45-55		
	Nominal input current (A)	62	59	57
	Maximum input current (A)	77	73	71
	Input current limitation (A)	100		
	Total harmonic distortion (THDI) ²⁴	6 pulses ≤15%		
	Input power factor ²⁴	≥ 0.9		
	Maximum short circuit rating	I _{cc} =10 kA		
	Protection	Breaker		
	Ramp-in	15 seconds		
Bypass	Voltage (V)	220 V	230 V	240 V
	Connections	L, N, PE		
	Overload capacity	≤110% continuous; 125% for 10 minutes; 150% for 1 minute		
	Bypass voltage range (V)	165-275		
	Frequency (Hz)	50		
	Nominal bypass current (A)	136	130	125
	Nominal neutral current (A)	136	130	125
	Maximum short circuit rating	I _{cc} =10 kA		
Output	Voltage (V)	220 V	230 V	240 V
	Connections	L, 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)	136	130	125
	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)	409		
	Output performance classification (according to IEC/ EN62040-3)	VFI-SS-111		

23. TN, TT, and IT power distribution systems are supported. Corner (line) grounding is not supported.

24. 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)	74
	Battery current at full load and minimum battery voltage (A)	86
	Temperature compensation (per cell)	-3.3 mV per °C for $T \geq 25\text{ °C}$, 0 mV per °C for $T < 25\text{ °C}$

Specifications for 40 kVA 3:1 384 VDC UPS

Input	Voltage (V)	380 V	400 V	415 V
	Connections	L1, L2, L3, PE ²⁵		
	Input voltage range (V)	304-456		
	Frequency (Hz)	45-55		
	Nominal input current (A)	78	74	72
	Maximum input current (A)	97	92	90
	Input current limitation (A)	125		
	Total harmonic distortion (THDI) ²⁶	6 pulses ≤15%		
	Input power factor ²⁶	≥ 0.9		
	Maximum short circuit rating	I _{cc} =10 kA		
	Protection	Breaker		
	Ramp-in	15 seconds		
Bypass	Voltage (V)	220 V	230 V	240 V
	Connections	L, N, PE		
	Overload capacity	≤110% continuous; 125% for 10 minutes; 150% for 1 minute		
	Bypass voltage range (V)	165-275		
	Frequency (Hz)	50		
	Nominal bypass current (A)	182	174	167
	Nominal neutral current (A)	182	174	167
	Maximum short circuit rating	I _{cc} =10 kA		
Output	Voltage (V)	220 V	230 V	240 V
	Connections	L, 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)	182	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)	545		
	Output performance classification (according to IEC/ EN62040-3)	VFI-SS-111		

25. TN, TT, and IT power distribution systems are supported. Corner (line) grounding is not supported.

26. 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)	99
	Battery current at full load and minimum battery voltage (A)	114
	Temperature compensation (per cell)	-3.3 mV per °C for $T \geq 25\text{ °C}$, 0 mV per °C for $T < 25\text{ °C}$

Specifications for 60 kVA 3:1 384 VDC UPS

Input	Voltage (V)	380 V	400 V	415 V
	Connections	L1, L2, L3, PE ²⁷		
	Input voltage range (V)	304-456		
	Frequency (Hz)	45-55		
	Nominal input current (A)	120	114	111
	Maximum input current (A)	150	142	138
	Input current limitation (A)	160		
	Total harmonic distortion (THDI) ²⁸	6 pulses ≤15%		
	Input power factor ²⁸	≥ 0.9		
	Maximum short circuit rating	I _{cc} =10 kA		
	Protection	Breaker		
	Ramp-in	15 seconds		
Bypass	Voltage (V)	220 V	230 V	240 V
	Connections	L, N, PE		
	Overload capacity	≤110% continuous; 125% for 10 minutes; 150% for 1 minute		
	Bypass voltage range (V)	165-275		
	Frequency (Hz)	50		
	Nominal bypass current (A)	273	261	250
	Nominal neutral current (A)	273	261	250
	Maximum short circuit rating	I _{cc} =10 kA		
Output	Voltage (V)	220 V	230 V	240 V
	Connections	L, 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)	273	261	250
	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)	818		
	Output performance classification (according to IEC/ EN62040-3)	VFI-SS-111		

27. TN, TT, and IT power distribution systems are supported. Corner (line) grounding is not supported.

28. 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)	148
	Battery current at full load and minimum battery voltage (A)	172
	Temperature compensation (per cell)	-3.3 mV per °C for $T \geq 25\text{ °C}$, 0 mV per °C for $T < 25\text{ °C}$

Specifications for 80 kVA 3:1 384 VDC UPS

Input	Voltage (V)	380 V	400 V	415 V
	Connections	L1, L2, L3, PE ²⁹		
	Input voltage range (V)	304-456		
	Frequency (Hz)	45-55		
	Nominal input current (A)	155	148	143
	Maximum input current (A)	193	185	178
	Input current limitation (A)	200		
	Total harmonic distortion (THDI) ³⁰	6 pulses ≤15%		
	Input power factor ³⁰	≥ 0.9		
	Maximum short circuit rating	I _{cc} =10 kA		
	Protection	Breaker		
	Ramp-in	15 seconds		
Bypass	Voltage (V)	220 V	230 V	240 V
	Connections	L, N, PE		
	Overload capacity	≤110% continuous; 125% for 10 minutes; 150% for 1 minute		
	Bypass voltage range (V)	165-275		
	Frequency (Hz)	50		
	Nominal bypass current (A)	364	348	333
	Nominal neutral current (A)	364	348	333
	Maximum short circuit rating	I _{cc} =10 kA		
Output	Voltage (V)	220 V	230 V	240 V
	Connections	L, 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)	364	348	333
	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)	1090		
	Output performance classification (according to IEC/ EN62040-3)	VFI-SS-111		

29. TN, TT, and IT power distribution systems are supported. Corner (line) grounding is not supported.

30. 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)	198
	Battery current at full load and minimum battery voltage (A)	229
	Temperature compensation (per cell)	-3.3 mV per °C for $T \geq 25\text{ °C}$, 0 mV per °C for $T < 25\text{ °C}$

Recommended Upstream Protection and Cable Sizes for 3:1 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 mm².

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.

Recommended Upstream Protection for 3:1 UPS

UPS rating	10 kVA		20 kVA		30 kVA	
	Input	Bypass	Input	Bypass	Input	Bypass
Breaker type	NSX100F TM63D 3P3D (C10F3TM063)	NSX100F TM50D 2P2D (C10F2TM050)	NSX100F TM63D 3P3D (C10F3TM063)	NSX100F TM100D 2P2D (C10F2TM100)	NSX100F TM100D 3P3D (C10F3TM100)	NSX160F TM160D 2P2D (C16F2TM160)
In setting	63	50	63	100	100	160
Ir setting	44	50	50	100	80	160
Im setting	500 (fixed)	500 (fixed)	500 (fixed)	800 (fixed)	800 (fixed)	1250 (fixed)

UPS rating	40 kVA		50 kVA		60 kVA	
	Input	Bypass	Input	Bypass	Input	Bypass
Breaker type	NSX250F TM200D 3P3D (C25F3TM200)	NSX250F TM200D 3P3D (C25F3TM200)	NSX250F TM200D 3P3D (C25F3TM200)	NSX400F Mic2.3 400A 3P3D (C40F32D400)	NSX250F TM200D 3P3D (C25F3TM200)	NSX400F Mic2.3 400A 3P3D (C40F32D400)
In setting	200	200	200	I _o =230	200	I _o =280
Ir setting	140	200	140	I _r =1	160	I _r =1
Im setting	8 to 10xI _n	5 to 10xI _n	8 to 10xI _n	I _{sd} =10	8 to 10xI _n	I _{sd} =10

UPS rating	80 kVA		100 kVA		120 kVA	
	Input	Bypass	Input	Bypass	Input	Bypass
Breaker type	NSX250F TM250D 3P3D (C25F3TM250)	NSX400F Mic2.3 400A 3P3D (C40F32D400)	NSX400F Mic2.3 400A 3P3D (C40F32D400)	NSX630F Mic2.3 630A 3P3D (C63F32D630)	NSX400F Mic2.3 400A 3P3D (C40F32D400)	NSX630F Mic2.3 630A 3P3D (C63F32D630)
In setting	250	Io=400	Io=320	Io=500	Io=360	Io=570
Ir setting	200	Ir=0.95	Ir=0.9	Ir=0.95	Ir=0.95	Ir=0.98
Im setting	10xIn	Isd=10	Isd=10	Isd=10	Isd=10	Isd=10

Input, Bypass, and Output Cable Sizes for 3:1 UPS

UPS rating	10 kVA	20 kVA	30 kVA	40 kVA	50 kVA	60 kVA	80 kVA	100 kVA	120 kVA
Input (mm ²)	16	16	16	25	25	35	50	70	2x50
Input PE (mm ²)	16	16	16	16	16	16	16	35	50
Bypass/output (mm ²)	16	25	35	50	70	95	2x70	2x95	2x95
Bypass PE/output PE (mm ²)	16	16	16	25	35	50	70	95	95

Battery Cable Sizes for 3:1 UPS

3:1 220 VDC UPS

UPS rating	10 kVA	20 kVA	30 kVA	40 kVA	50 kVA	60 kVA	80 kVA	100 kVA	120 kVA
DC+/DC- (mm ²)	16	25	35	50	70	95	2x70	2x95	2x95
DC PE (mm ²)	16	16	16	25	35	50	70	95	95

3:1 384 VDC UPS

UPS rating	10 kVA	20 kVA	30 kVA	40 kVA	60 kVA	80 kVA
DC+/DC- (mm ²)	16	16	25	35	50	70
DC PE (mm ²)	16	16	16	16	25	35

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 3:1 UPS

3:1 220 VDC UPS

UPS rating		Weight kg	Height mm	Width mm	Depth mm
10 kVA	6 pulses	480	1800	800	800
	12 pulses	570	1800	800	800
20 kVA	6 pulses	480	1800	800	800
	12 pulses	570	1800	800	800
30 kVA	6 pulses	564	1800	800	800
	12 pulses	600	1800	800	800
40 kVA	12 pulses	686	1800	800	800
50 kVA	12 pulses	953	1800	1200	800
60 kVA	12 pulses	953	1800	1200	800
80 kVA	12 pulses	1083	1800	1200	800
100 kVA	12 pulses	1331	1800	1600	800
120 kVA	12 pulses	1419	1800	1600	800

3:1 384 VDC UPS

UPS rating	Weight kg	Height mm	Width mm	Depth mm
10 kVA	338	1800	800	800
20 kVA	338	1800	800	800
30 kVA	376	1800	800	800
40 kVA	472	1800	800	800
60 kVA	570	1800	800	800
80 kVA	635	1800	800	800

Shipping Weights and Dimensions for 3:1 UPS

3:1 220 VDC UPS

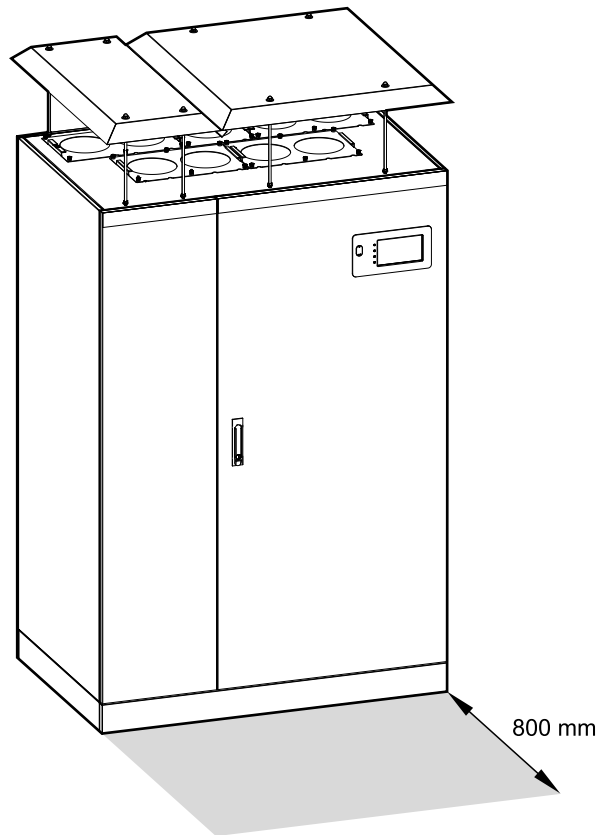
UPS rating		Weight kg	Height mm	Width mm	Depth mm
10 kVA	6 pulses	550	2085	928	928
	12 pulses	640	2085	928	928
20 kVA	6 pulses	550	2085	928	928
	12 pulses	640	2085	928	928
30 kVA	6 pulses	634	2085	928	928
	12 pulses	670	2085	928	928
40 kVA	12 pulses	756	2085	928	928
50 kVA	12 pulses	1040	2085	1328	928
60 kVA	12 pulses	1040	2085	1328	928
80 kVA	12 pulses	1170	2085	1328	928
100 kVA	12 pulses	1425	2085	1728	928
120 kVA	12 pulses	1513	2085	1728	928

3:1 384 VDC UPS

UPS rating	Weight kg	Height mm	Width mm	Depth mm
10 kVA	408	2085	928	928
20 kVA	408	2085	928	928
30 kVA	446	2085	928	928
40 kVA	542	2085	928	928
60 kVA	640	2085	928	928
80 kVA	705	2085	928	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 3:1 UPS

3:1 220 VDC UPS

UPS rating	10 kVA		20 kVA		30 kVA	
	6 pulses	12 pulses	6 pulses	12 pulses	6 pulses	12 pulses
Normal operation (W)	1206	1275	2602	2508	3674	3720
Battery operation (W)	754	901	1614	1632	2390	2741
ECO mode (W)	738	796	822	951	1085	1283

3:1 220 VDC UPS

UPS rating	40 kVA	50 kVA	60 kVA	80 kVA	100 kVA	120 kVA
Normal operation (W)	4387	5764	6744	9549	10888	13517
Battery operation (W)	3162	3664	4522	6170	7152	9802
ECO mode (W)	1379	1968	2107	2704	3248	3773

3:1 384 VDC UPS

UPS rating	10 kVA	20 kVA	30 kVA	40 kVA	60 kVA	80 kVA
Normal operation (W)	820	1594	2186	2694	4142	5512
Battery operation (W)	754	1384	1906	2346	3475	4920
ECO mode (W)	521	634	830	851	1325	1482

Facility Planning for 10-200 kVA 3:3

Specifications

Specifications for 10 kVA UPS 3:3

Input	Voltage (V)	380 V	400 V	415 V
	Connections	L1, L2, L3, PE ³¹		
	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) ³²	6 pulses ≤15%		
	Input power factor ³²	≥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		

31. TN, TT, and IT power distribution systems are supported. Corner (line) grounding is not supported.

32. 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 $T \geq 25\text{ °C}$, 0 mV per °C for $T < 25\text{ °C}$

Specifications for 20 kVA UPS 3:3

Input	Voltage (V)	380 V	400 V	415 V
	Connections	L1, L2, L3, PE ³³		
	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) ³⁴	6 pulses ≤15%		
	Input power factor ³⁴	≥0.9		
	Maximum short circuit rating	I _{cc} =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	I _{cc} =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		

33. TN, TT, and IT power distribution systems are supported. Corner (line) grounding is not supported.

34. 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 $T \geq 25\text{ °C}$, 0 mV per °C for $T < 25\text{ °C}$

Specifications for 30 kVA UPS 3:3

Input	Voltage (V)	380 V	400 V	415 V
	Connections	L1, L2, L3, PE ³⁵		
	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) ³⁶	6 pulses ≤15%		
	Input power factor ³⁶	≥0.9		
	Maximum short circuit rating	I _{cc} =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	I _{cc} =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		

35. TN, TT, and IT power distribution systems are supported. Corner (line) grounding is not supported.

36. 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 $T \geq 25\text{ °C}$, 0 mV per °C for $T < 25\text{ °C}$

Specifications for 40 kVA UPS 3:3

Input	Voltage (V)	380 V	400 V	415 V
	Connections	L1, L2, L3, PE ³⁷		
	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) ³⁸	6 pulses ≤15%		
	Input power factor ³⁸	≥0.9		
	Maximum short circuit rating	I _{cc} =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	I _{cc} =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		

37. TN, TT, and IT power distribution systems are supported. Corner (line) grounding is not supported.

38. 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 $T \geq 25\text{ °C}$, 0 mV per °C for $T < 25\text{ °C}$

Specifications for 60 kVA UPS 3:3

Input	Voltage (V)	380 V	400 V	415 V
	Connections	L1, L2, L3, PE ³⁹		
	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) ⁴⁰	6 pulses ≤15%		
	Input power factor ⁴⁰	≥0.9		
	Maximum short circuit rating	I _{cc} =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	I _{cc} =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		

39. TN, TT, and IT power distribution systems are supported. Corner (line) grounding is not supported.

40. 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 $T \geq 25^{\circ}\text{C}$, 0 mV per °C for $T < 25^{\circ}\text{C}$

Specifications for 80 kVA UPS 3:3

Input	Voltage (V)	380 V	400 V	415 V
	Connections	L1, L2, L3, PE ⁴¹		
	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) ⁴²	6 pulses ≤15%		
	Input power factor ⁴²	≥0.9		
	Maximum short circuit rating	I _{cc} =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	I _{cc} =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		

41. TN, TT, and IT power distribution systems are supported. Corner (line) grounding is not supported.

42. 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 $T \geq 25\text{ °C}$, 0 mV per °C for $T < 25\text{ °C}$

Specifications for 100 kVA UPS 3:3

Input	Voltage (V)	380 V	400 V	415 V
	Connections	L1, L2, L3, PE ⁴³		
	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) ⁴⁴	12 pulses $\leq 10\%$		
	Input power factor ⁴⁴	≥ 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	$\leq 110\%$ 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 ⁴⁵	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	$\leq 110\%$ continuous 125% for 10 minutes 150% for 1 minute		
	Output voltage regulation	$\pm 1\%$		
	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 $\pm 1\%$		
	Output short-circuit current at 60 ms (A)	460		
	Output performance classification (according to IEC/ EN62040-3)	VFI-SS-111		

43. TN, TT, and IT power distribution systems are supported. Corner (line) grounding is not supported.

44. With filter.

45. 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 $T \geq 25\text{ °C}$, 0 mV per °C for $T < 25\text{ °C}$

Specifications for 120 kVA UPS 3:3

Input	Voltage (V)	380 V	400 V	415 V
	Connections	L1, L2, L3, PE ⁴⁶		
	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) ⁴⁷	12 pulses ≤10%		
	Input power factor ⁴⁷	≥0.9		
	Maximum short circuit rating	I _{cc} =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 ⁴⁸	250	241
	Maximum short circuit rating	I _{cc} =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		

46. TN, TT, and IT power distribution systems are supported. Corner (line) grounding is not supported.

47. With filter.

48. 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 $T \geq 25\text{ °C}$, 0 mV per °C for $T < 25\text{ °C}$

Specifications for 160 kVA UPS 3:3

Input	Voltage (V)	380 V	400 V	415 V
	Connections	L1, L2, L3, PE ⁴⁹		
	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) ⁵⁰	12 pulses ≤10%		
	Input power factor ⁵⁰	≥0.9		
	Maximum short circuit rating	I _{cc} =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	I _{cc} =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		

49. TN, TT, and IT power distribution systems are supported. Corner (line) grounding is not supported.

50. 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 $T \geq 25\text{ }^{\circ}\text{C}$, 0 mV per °C for $T < 25\text{ }^{\circ}\text{C}$

Specifications for 200 kVA UPS 3:3

Input	Voltage (V)	380 V	400 V	415 V
	Connections	L1, L2, L3, PE ⁵¹		
	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) ⁵²	12 pulses ≤10%		
	Input power factor ⁵²	≥0.9		
	Maximum short circuit rating	I _{cc} =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	I _{cc} =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		

51. TN, TT, and IT power distribution systems are supported. Corner (line) grounding is not supported.

52. 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 $T \geq 25\text{ °C}$, 0 mV per °C for $T < 25\text{ °C}$

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	400 (fixed)	300 (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 mm².

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

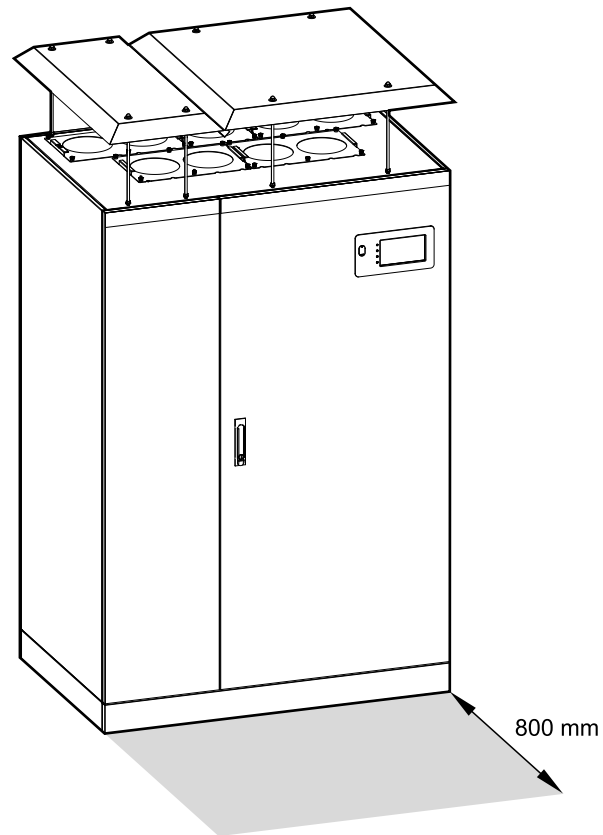
UPS rating	Weight kg	Height mm	Width mm	Depth mm
80 kVA	634	1800	800	800
100 kVA	1063	1800	1200	800
120 kVA	1136	1800	1200	800
160 kVA	1456	1800	1600	800
200 kVA	1676	1800	1600	800

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

Drawings

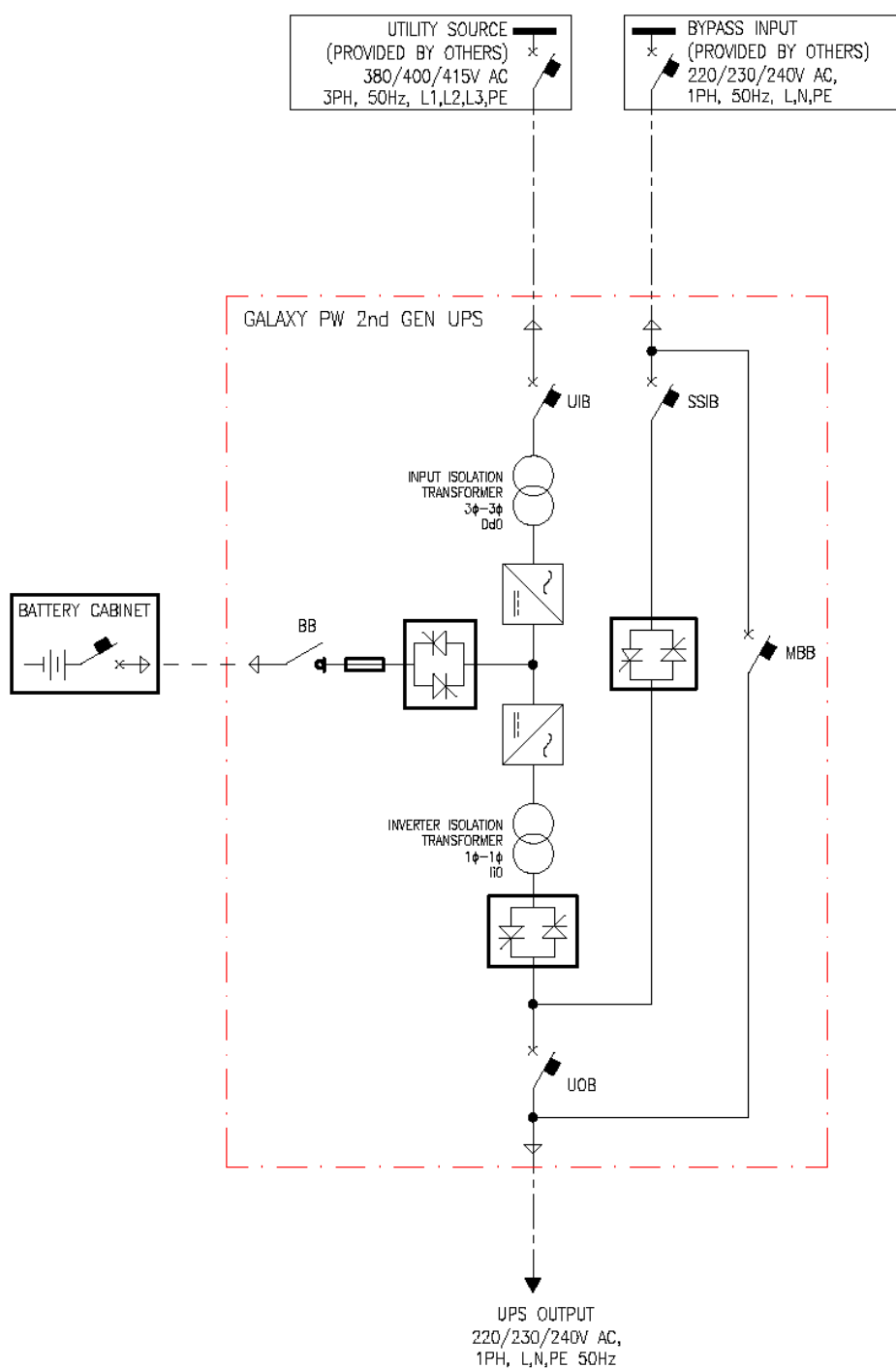
NOTE: A comprehensive set of drawings is available on www.se.com.

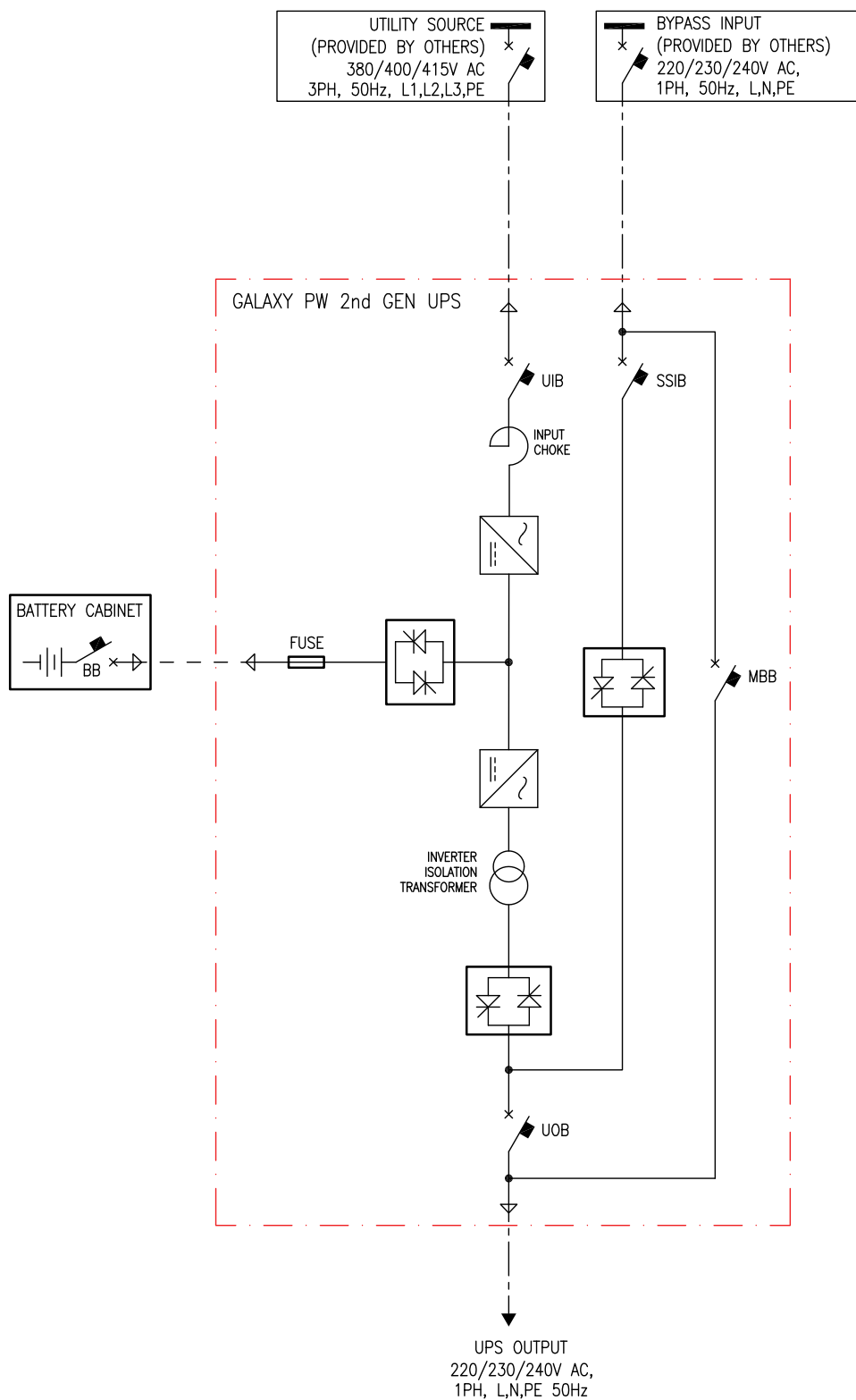
NOTE: These drawings are for reference ONLY – subject to change without notice.

Galaxy PW 2nd Gen 3:1 Single System

3:1 220 VDC UPS

1 MODULE UPS SOLUTION

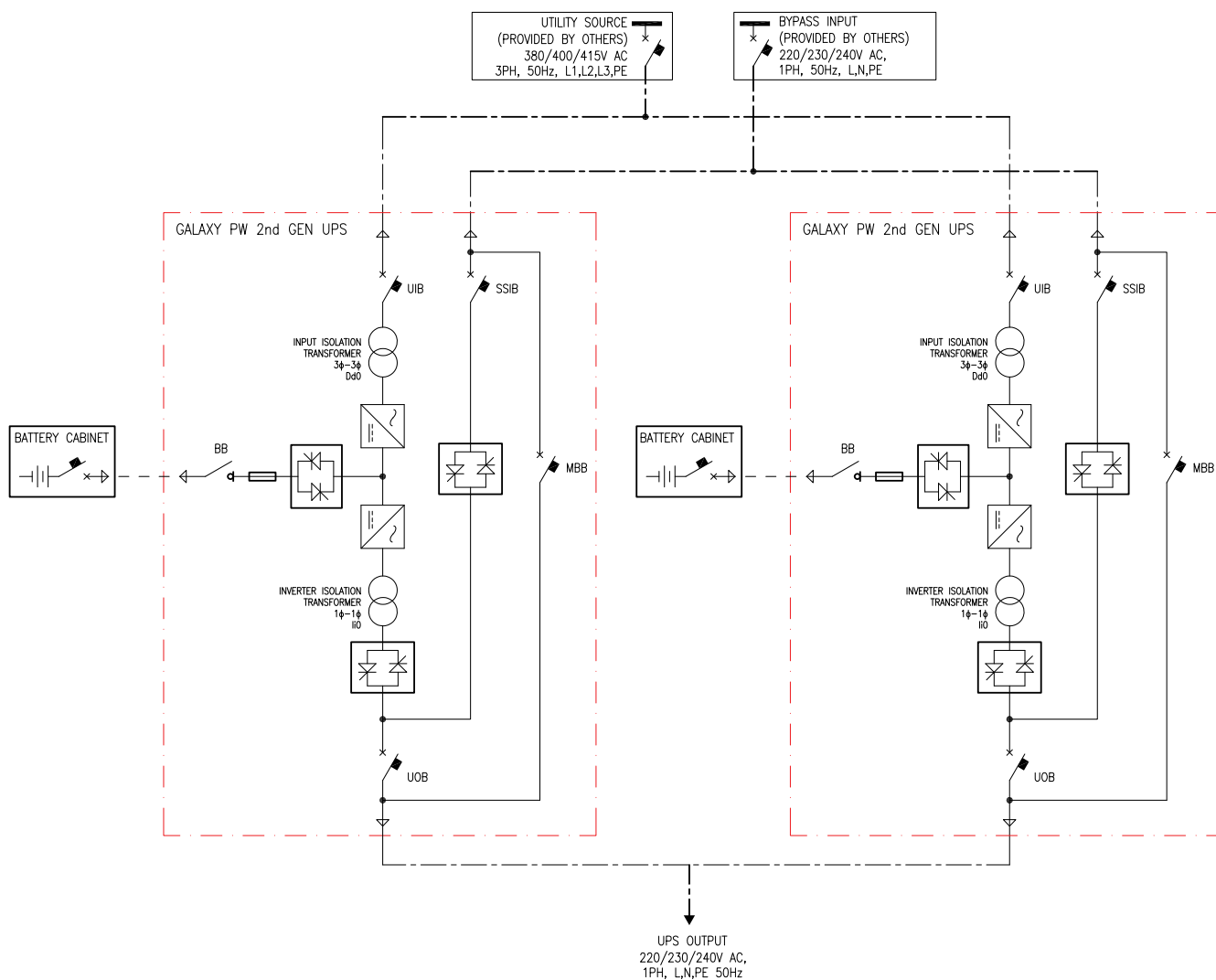


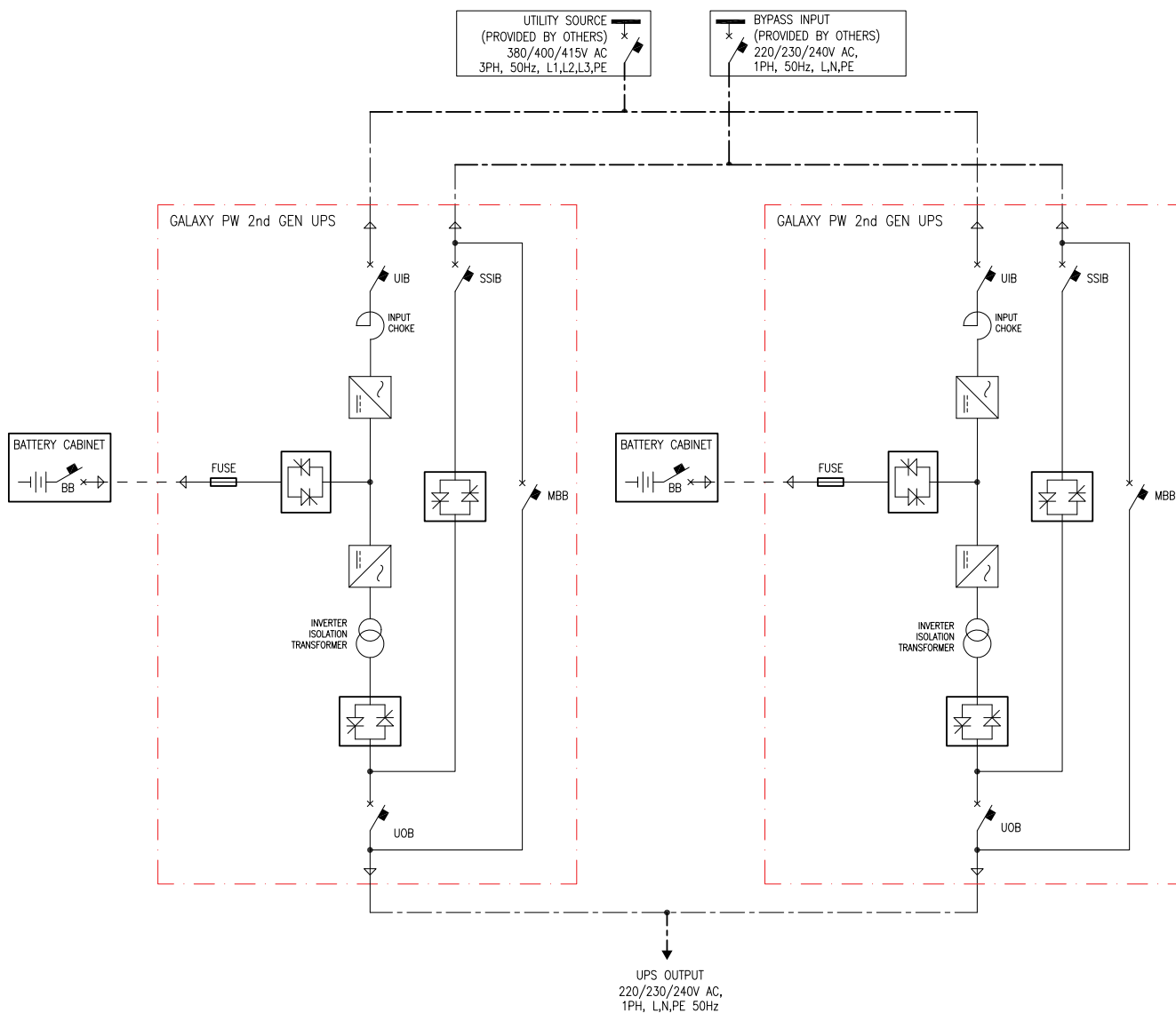
3:1 384 VDC UPS1 MODULE UPS SOLUTION

Galaxy PW 2nd Gen 3:1 1+1 Redundant Parallel System

3:1 220 VDC UPS

1+1 REDUNDANT PARALLEL UPS SOLUTION

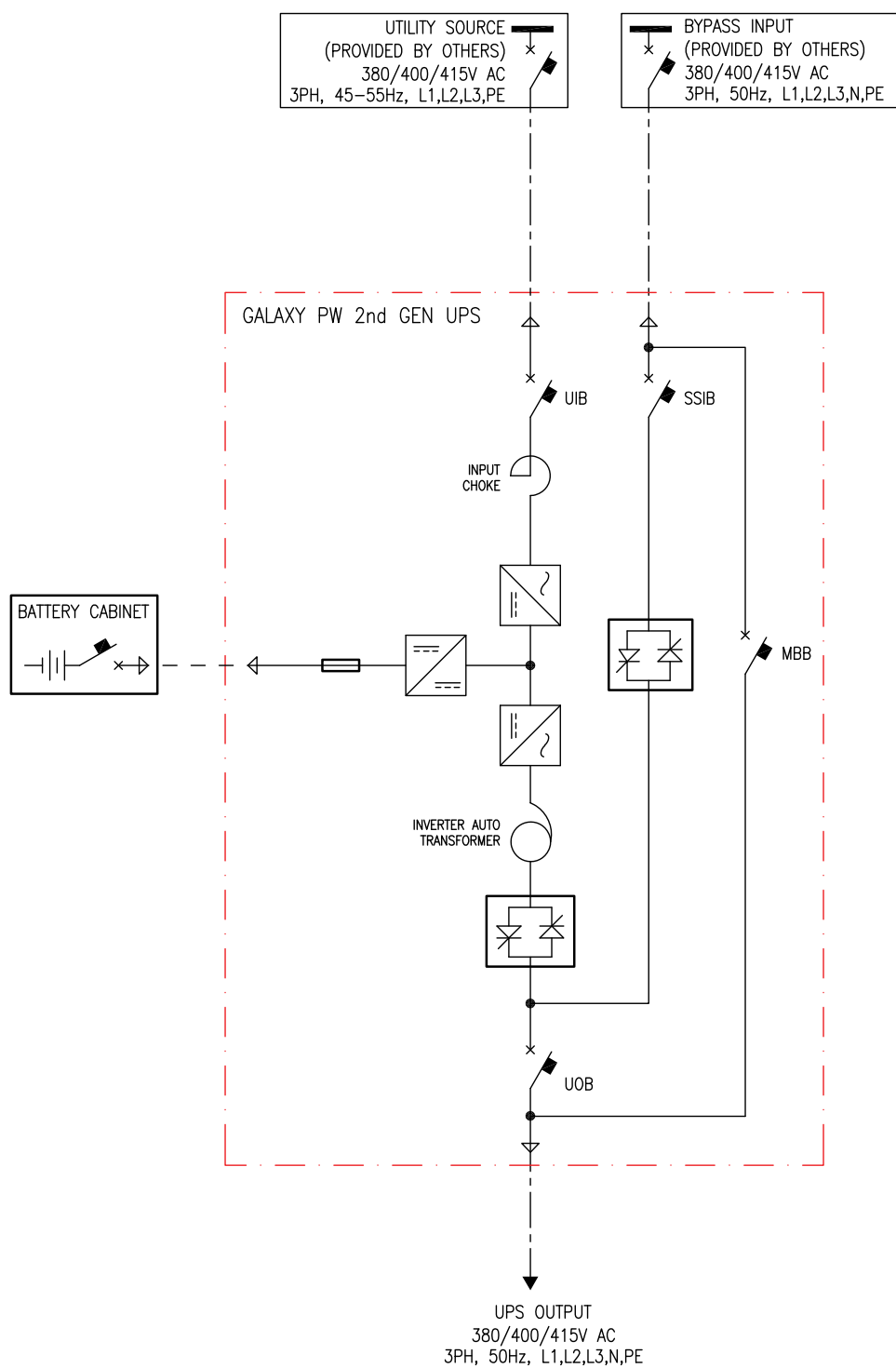


3:1 384 VDC UPS1+1 REDUNDANT PARALLEL UPS SOLUTION

Galaxy PW 2nd Gen 3:3 Single System

3:3 384 VDC UPS

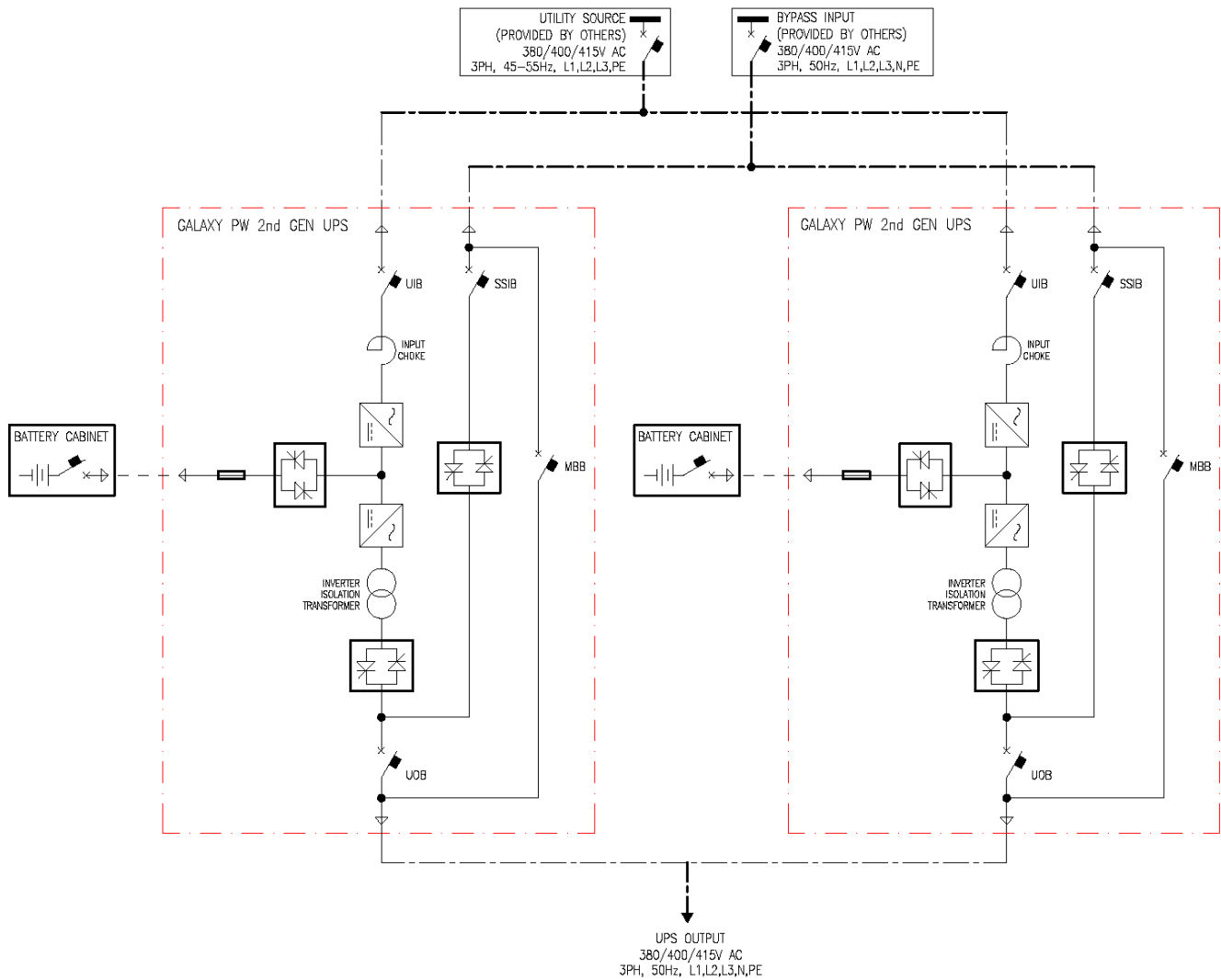
1 MODULE UPS SOLUTION



Galaxy PW 2nd Gen 3:3 1+1 Redundant Parallel System

3:3 384 VDC UPS

1+1 REDUNDANT PARALLEL UPS SOLUTION



Options

Configuration Options

- Single or dual mains
- Up to four UPSs in parallel – 3+1 for redundancy and 4 for capacity
- ECO mode

Hardware Options

NOTE: All hardware options listed here may not be available in all regions.

- Backfeed kit for Galaxy PW 2nd Gen 10 to 30 kVA 3:1 (EPWOPT015)
- Backfeed kit for Galaxy PW 2nd Gen 10 to 120 kVA 3:1 (EPWOPT016)
- Network management card (AP9547)

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One-Year Factory Warranty

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