Easy UPS 3S Pro for External Batteries

10-40 kVA 400 V 3:3

Technical Specifications

Latest updates are available on the Schneider Electric website
5/2025

www.se.com

Legal Information

The information provided in this document contains general descriptions, technical characteristics and/or recommendations related to products/solutions.

This document is not intended as a substitute for a detailed study or operational and site-specific development or schematic plan. It is not to be used for determining suitability or reliability of the products/solutions for specific user applications. It is the duty of any such user to perform or have any professional expert of its choice (integrator, specifier or the like) perform the appropriate and comprehensive risk analysis, evaluation and testing of the products/solutions with respect to the relevant specific application or use thereof.

The Schneider Electric brand and any trademarks of Schneider Electric SE and its subsidiaries referred to in this document are the property of Schneider Electric SE or its subsidiaries. All other brands may be trademarks of their respective owner.

Schneider Electric does not grant any right or license for commercial use of the document or its content, except for a non-exclusive and personal license to consult it on an "as is" basis.

Schneider Electric reserves the right to make changes or updates with respect to or in the content of this document or the format thereof, at any time without notice.

To the extent permitted by applicable law, no responsibility or liability is assumed by Schneider Electric and its subsidiaries for any errors or omissions in the informational content of this document, as well as any non-intended use or misuse of the content thereof.

Access to Your Product Manuals Online

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=**E3SP10KH***

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

Scan the QR code to go to the Easy UPS 3S Pro online manual portal:
https://www.productinfo.schneider-electric.com/easyups3s_pro_iec/

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 Easy UPS 3S Pro Here:

Go to *https://www.se.com/ww/en/product-range/319433188* to learn more about this product.

Table of Contents

Important Safety Instructions — SAVE THESE INSTRUCTIONS

Read these instructions carefully and look at the equipment to become familiar with it before trying to install, operate, service or maintain it. The following safety messages may appear throughout this manual or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.

The addition of this symbol to a “Danger” or “Warning” safety message indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages with this symbol to avoid possible injury or death.

⚠DANGER

DANGER indicates a hazardous situation which, if not avoided, **will result in** death or serious injury.

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

⚠WARNING

WARNING indicates a hazardous situation which, if not avoided, **could result in** death or serious injury.

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

⚠CAUTION

CAUTION indicates a hazardous situation which, if not avoided, **could result in** minor or moderate injury.

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

NOTICE

NOTICE is used to address practices not related to physical injury. The safety alert symbol shall not be used with this type of safety message.

Failure to follow these instructions can result in equipment damage.

Please Note

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

A qualified person is one who has skills and knowledge related to the construction, installation, and operation of electrical equipment and has received safety training to recognize and avoid the hazards involved.

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

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

Electromagnetic Compatibility

NOTICE

RISK OF ELECTROMAGNETIC DISTURBANCE

This is a product Category C3 according to IEC 62040-2. This is a product for commercial and industrial applications in the second environment - installation restrictions or additional measures may be needed to prevent disturbances. The second environment includes all commercial, light industry, and industrial locations other than residential, commercial, and light industrial premises directly connected without intermediate transformer to a public low-voltage mains supply. The installation and cabling must follow the electromagnetic compatibility rules, e.g.:

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

Failure to follow these instructions can result in equipment damage.

Safety Precautions

⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

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

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

⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

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

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

⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

Do not install the UPS system until all construction work has been completed and the installation room has been cleaned.

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

⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- The product must be installed according to the specifications and requirements as defined by Schneider Electric. It concerns in particular the external and internal protections (upstream disconnect devices, battery disconnect devices, 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.

Model List

UPS Models

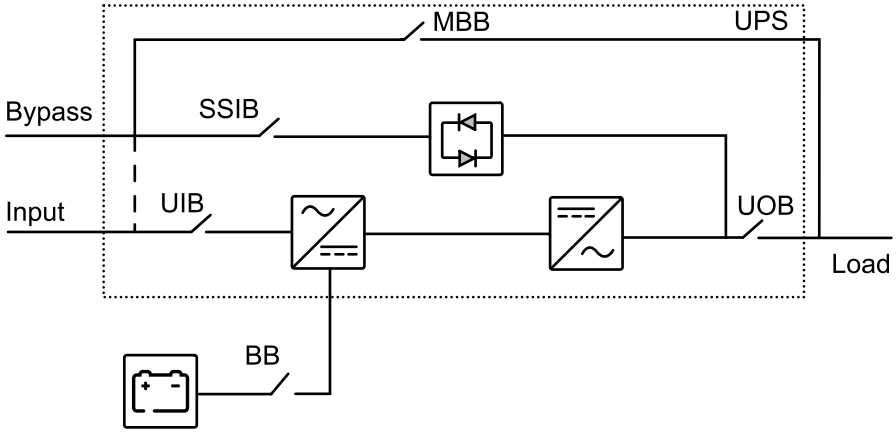
- Easy UPS 3S Pro 10 kVA 400 V 3:3 UPS for external batteries (E3SP10KH)
- Easy UPS 3S Pro 15 kVA 400 V 3:3 UPS for external batteries (E3SP15KH)
- Easy UPS 3S Pro 20 kVA 400 V 3:3 UPS for external batteries (E3SP20KH)
- Easy UPS 3S Pro 30 kVA 400 V 3:3 UPS for external batteries (E3SP30KH)
- Easy UPS 3S Pro 40 kVA 400 V 3:3 UPS for external batteries (E3SP40KH)
- Easy UPS 3S Pro 15 kVA 400 V India 3:3 UPS for external batteries (E3SP15KHIN)
- Easy UPS 3S Pro 20 kVA 400 V India 3:3 UPS for external batteries (E3SP20KHIN)
- Easy UPS 3S Pro 30 kVA 400 V India 3:3 UPS for external batteries (E3SP30KHIN)
- Easy UPS 3S Pro 40 kVA 400 V India 3:3 UPS for external batteries (E3SP40KHIN)

Overview

Overview of Single UPS

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

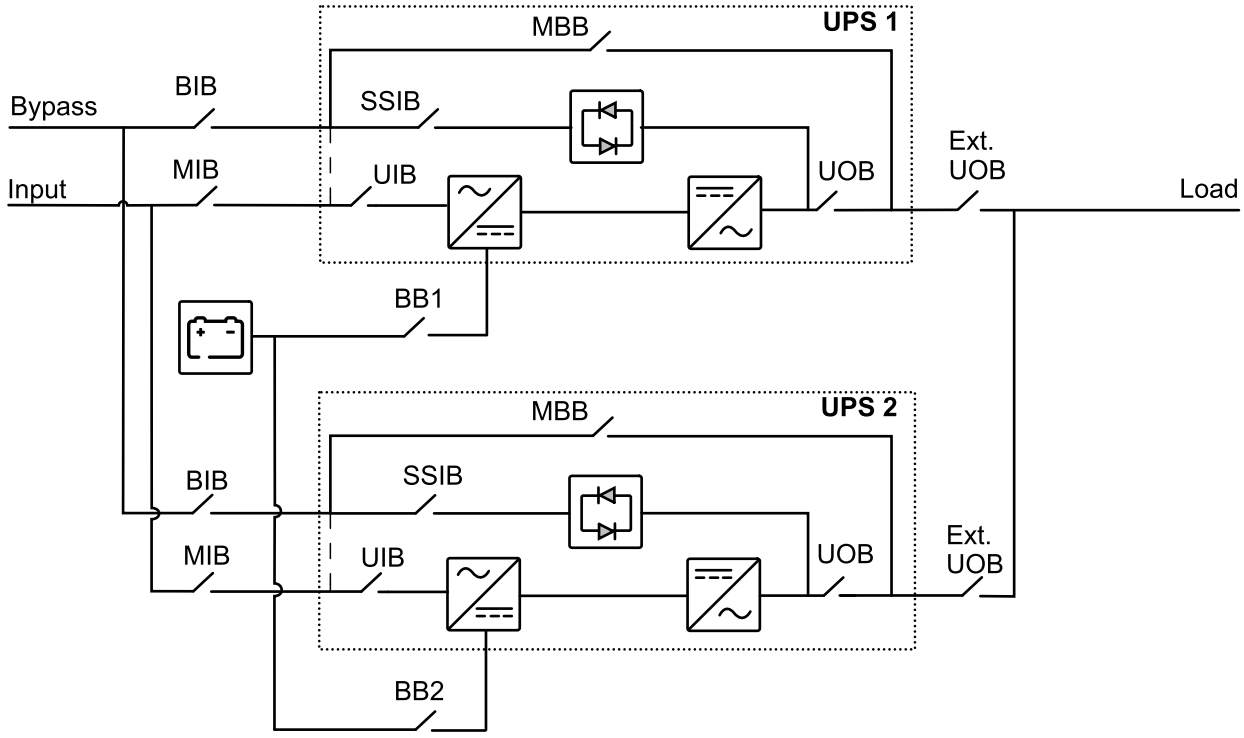
NOTE: In Schneider Electric literature, 'disconnect device' is used as a generic term covering circuit breakers or switches as their position may vary depending on configuration. Details about the individual configuration are found in the electrical diagram and/or by reading the symbol on the front of each disconnect device.



Overview of 1+1 Redundant Parallel System with Common Battery Bank

MIB	Main input disconnect device
BIB	Bypass input disconnect device
UIB	Unit input disconnect device
SSIB	Static switch input disconnect device
UOB	Unit output disconnect device
Ext. UOB	External unit output disconnect device
MBB	Maintenance bypass disconnect device
Ext. MBB	External maintenance bypass disconnect device
BB1	Battery disconnect device 1
BB2	Battery disconnect device 2

NOTE: In Schneider Electric literature, 'disconnect device' is used as a generic term covering circuit breakers or switches as their position may vary depending on configuration. Details about the individual configuration are found in the electrical diagram and/or by reading the symbol on the front of each disconnect device.

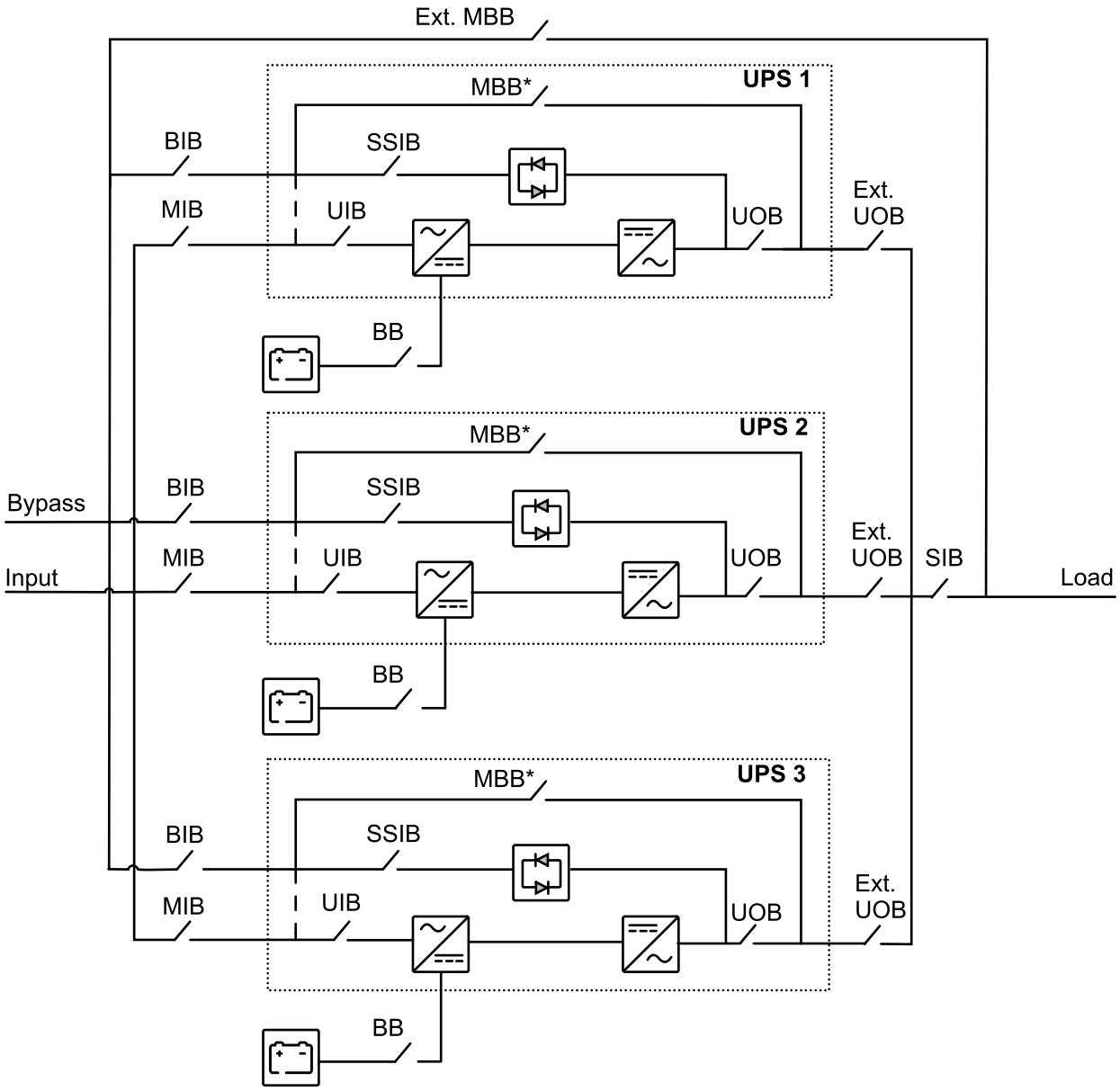


Overview of Parallel System

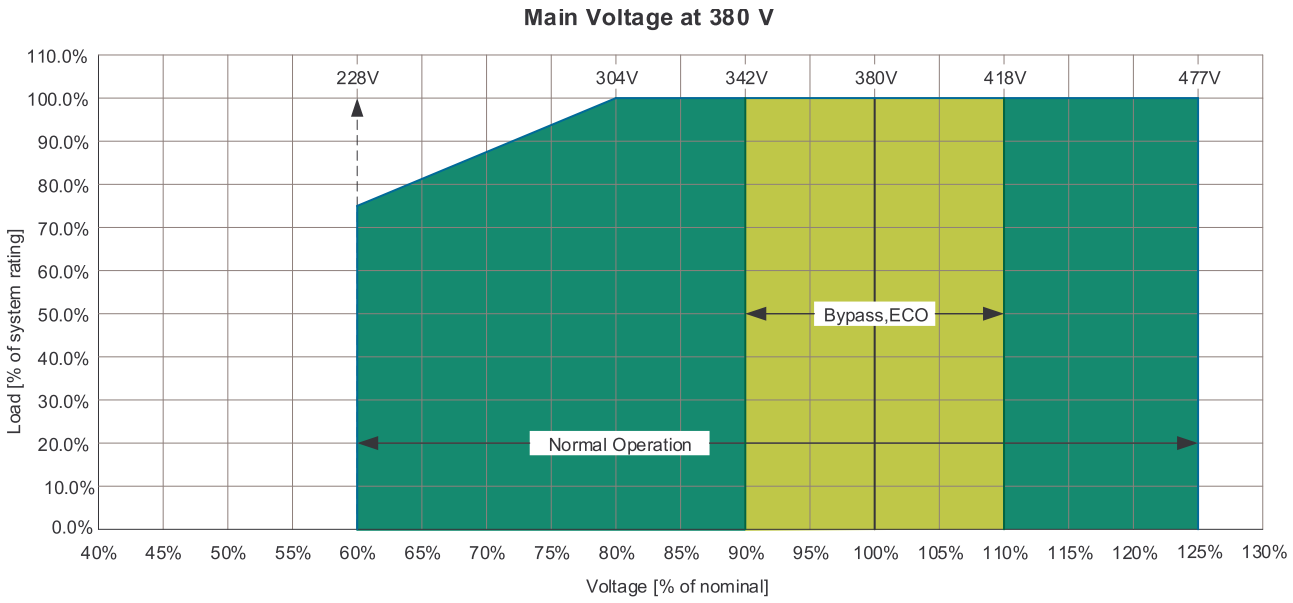
MIB	Main input disconnect device
BIB	Bypass input disconnect device
UIB	Unit input disconnect device
SSIB	Static switch input disconnect device
UOB	Unit output disconnect device
Ext. UOB	External unit output disconnect device
MBB	Maintenance bypass disconnect device
Ext. MBB	External maintenance bypass disconnect device
SIB	System isolation disconnect device
BB	Battery disconnect device

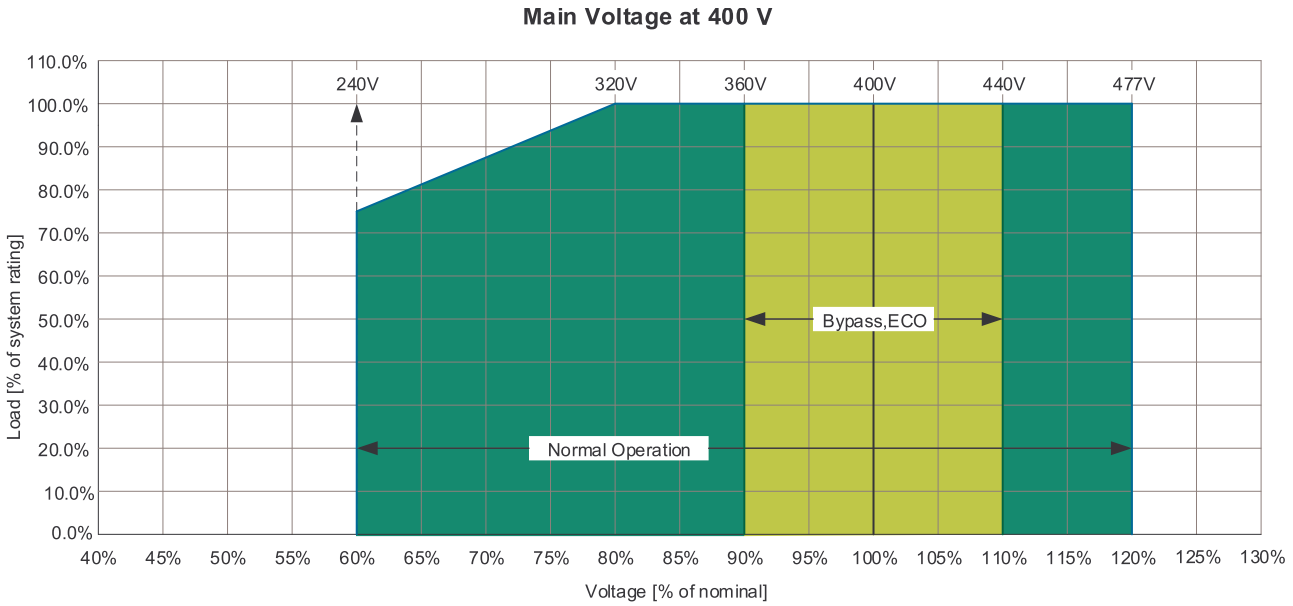
NOTE: In Schneider Electric literature, 'disconnect device' is used as a generic term covering circuit breakers or switches as their position may vary depending on configuration. Details about the individual configuration are found in the electrical diagram and/or by reading the symbol on the front of each disconnect device.

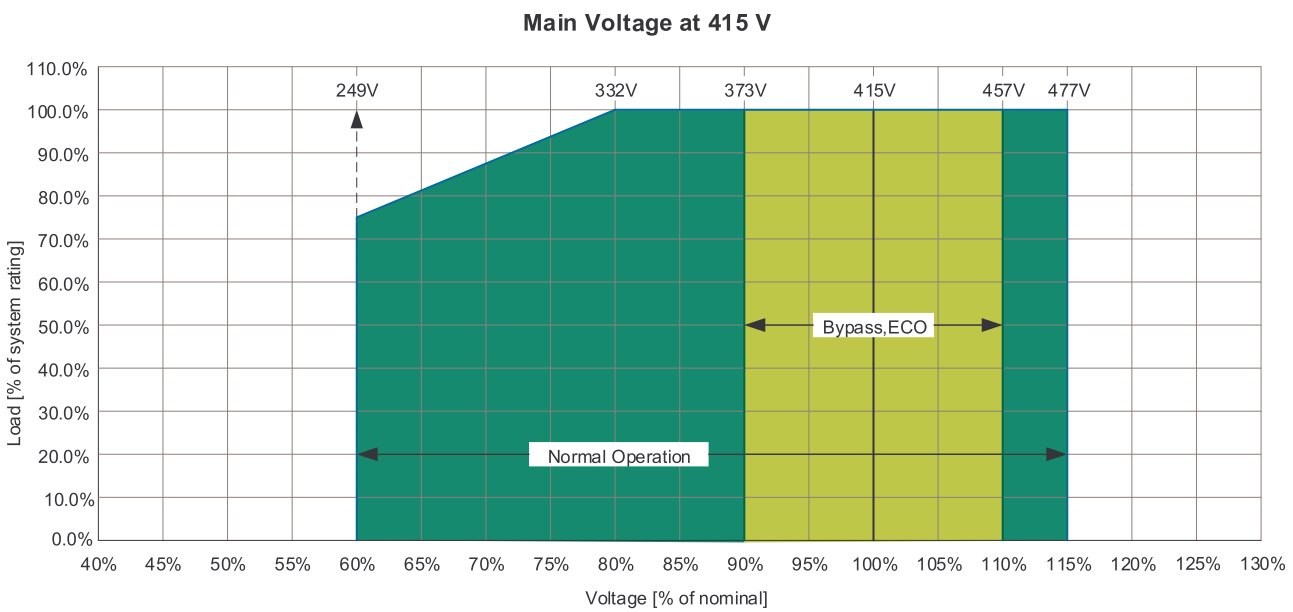
NOTE: In parallel systems with an external maintenance bypass disconnect device Ext. MBB, the internal maintenance bypass disconnect devices MBB* must be padlocked in the open (OFF) position.


Ext. MBB
UPS 1
MBB*
BIB
SSIB
MIB
UIB
UOB
Ext.
UOB
BB
UPS 2
MBB*
Bypass
BIB
SSIB
Input
MIB
UIB
UOB
Ext.
UOB
SIB
Load
BB
UPS 3
MBB*
BIB
SSIB
MIB
UIB
UOB
Ext.
UOB
BB

Input Voltage Window







Inverter Short Circuit Capabilities (Bypass not Available)

IK1 – Short Circuit between a Phase and Neutral

IK1 400 V

S [kVA]	10 ms		20 ms		30 ms	
	I[A]	I²t [A²s]	I[A]	I²t [A²s]	I[A]	I²t [A²s]
10	34	12	34	23	34	35
15	52	27	52	54	52	81
20	74	55	74	110	74	164
30	104	108	104	216	104	324
40	140	196	140	392	140	588

IK1 400 V

S [kVA]	50 ms		100 ms		200 ms	
	I[A]	I²t [A²s]	I[A]	I²t [A²s]	I[A]	I²t [A²s]
10	34	58	34	116	34	231
15	52	135	52	270	52	541
20	74	274	74	548	74	1095
30	104	541	104	1082	104	2163
40	140	980	140	1960	140	3920

IK2 – Short Circuit between Two Phases

IK2 400 V

S [kVA]	10 ms		20 ms		30 ms	
	I[A]	I²t [A²s]	I[A]	I²t [A²s]	I[A]	I²t [A²s]
10	33	11	33	22	33	33
15	49	24	49	48	49	72
20	70	49	70	98	70	147
30	101	102	101	204	101	306
40	138	190	138	381	138	571

IK2 400 V

S [kVA]	50 ms		100 ms		200 ms	
	I[A]	I²t [A²s]	I[A]	I²t [A²s]	I[A]	I²t [A²s]
10	33	54	33	109	33	218
15	49	120	49	240	49	480
20	70	245	70	490	70	980
30	101	510	101	1020	101	2040
40	138	952	138	1904	138	3809

IK3 – Short Circuit between Three Phases

IK3 400 V

S [kVA]	10 ms		20 ms		30 ms	
	I[A]	I^2t [A^2s]	I[A]	I^2t [A^2s]	I[A]	I^2t [A^2s]
10	37	14	37	27	37	41
15	53	28	53	56	53	84
20	80	64	80	128	80	192
30	110	121	110	242	110	363
40	146	213	146	426	146	639

IK3 400 V

S [kVA]	50 ms		100 ms		200 ms	
	I[A]	I^2t [A^2s]	I[A]	I^2t [A^2s]	I[A]	I^2t [A^2s]
10	37	68	37	137	37	274
15	53	140	53	281	53	562
20	80	320	80	640	80	1280
30	110	605	110	1210	110	2420
40	146	1066	146	2132	146	4263

Efficiency

10 kVA

	Normal operation			ECO mode			Battery operation		
Voltage (V)	**380**	**400**	**415**	**380**	**400**	**415**	**380**	**400**	**415**
25% load	95.1%	95.3%	95.1%	99.0%	99.1%	99.1%	92.0%	91.9%	91.2%
50% load	95.7%	95.8%	95.7%	99.5%	99.5%	99.5%	94.5%	94.1%	94.3%
75% load	95.7%	96.0%	96.1%	99.5%	99.5%	99.6%	95.1%	94.9%	95.0%
100% load	95.6%	95.8%	95.9%	99.7%	99.6%	99.7%	95.2%	95.0%	95.0%

15 kVA

	Normal operation			ECO mode			Battery operation		
Voltage (V)	**380**	**400**	**415**	**380**	**400**	**415**	**380**	**400**	**415**
25% load	95.1%	95.1%	95.0%	98.9%	98.9%	99.0%	93.3%	93.4%	93.1%
50% load	95.9%	95.9%	95.9%	99.6%	99.5%	99.5%	94.9%	94.9%	94.7%
75% load	95.8%	95.9%	96.0%	99.4%	99.4%	99.4%	95.3%	95.3%	95.1%
100% load	95.6%	95.7%	95.9%	99.7%	99.6%	99.6%	95.3%	95.2%	95.3%

20 kVA

	Normal operation			ECO mode			Battery operation		
Voltage (V)	**380**	**400**	**415**	**380**	**400**	**415**	**380**	**400**	**415**
25% load	94.9%	95.0%	94.7%	99.3%	99.4%	99.4%	94.4%	93.1%	93.8%
50% load	96.1%	96.2%	96.2%	99.6%	99.6%	99.6%	95.6%	94.9%	95.2%
75% load	95.8%	96.0%	96.0%	99.6%	99.6%	99.6%	95.8%	95.2%	95.6%
100% load	95.6%	95.6%	95.8%	99.6%	99.7%	99.7%	95.6%	95.3%	94.9%

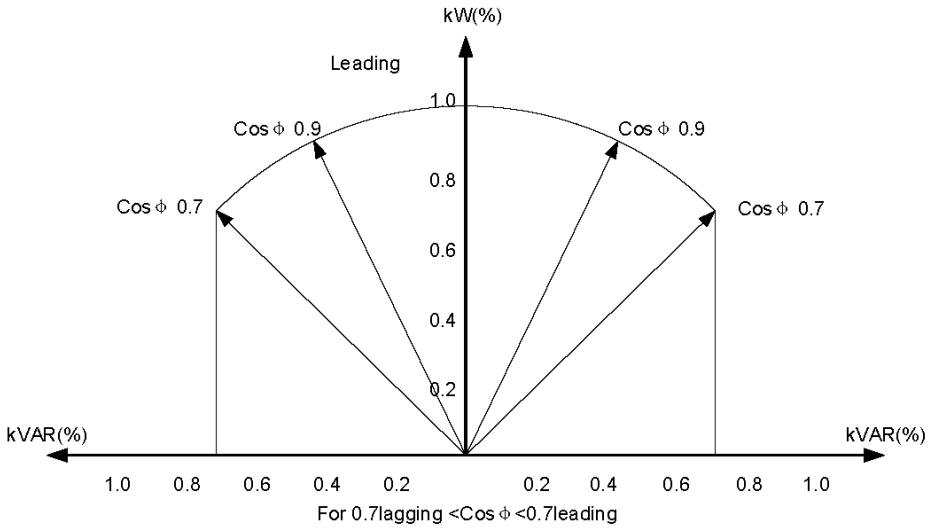
30 kVA

	Normal operation			ECO mode			Battery operation		
Voltage (V)	**380**	**400**	**415**	**380**	**400**	**415**	**380**	**400**	**415**
25% load	95.2%	95.2%	95.1%	99.4%	99.4%	99.4%	95.2%	94.5%	95.0%
50% load	96.0%	96.0%	96.0%	99.6%	99.7%	99.7%	95.8%	95.6%	95.3%
75% load	95.6%	95.8%	95.8%	99.5%	99.5%	99.5%	95.8%	95.7%	95.7%
100% load	95.4%	95.4%	95.6%	99.5%	99.6%	99.6%	95.5%	95.7%	95.6%

40 kVA

	Normal operation			ECO mode			Battery operation		
Voltage (V)	**380**	**400**	**415**	**380**	**400**	**415**	**380**	**400**	**415**
25% load	95.4%	95.4%	95.4%	99.5%	99.5%	99.5%	95.3%	94.7%	95.4%
50% load	96.2%	96.2%	96.3%	99.5%	99.6%	99.6%	95.8%	95.7%	95.9%
75% load	95.7%	95.8%	96.0%	99.5%	99.5%	99.6%	95.9%	95.9%	95.9%
100% load	95.3%	95.5%	95.7%	99.4%	99.4%	99.5%	95.7%	95.7%	95.9%

Derating Due to Load Power Factor

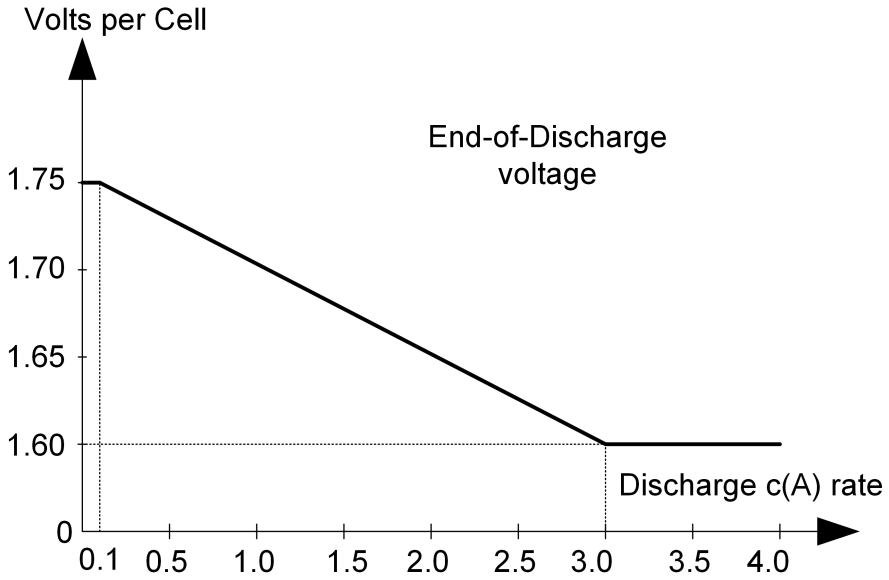


0.7 leading to 0.7 lagging without derating.

UPS rating	UPS Output					
	Leading			Leading		
PF=1	PF=0.7	PF=0.8	PF=0.9	PF=0.9	PF=0.8	PF=0.7
10 kVA/kW	10 kVA/7 kW	10 kVA/8 kW	10 kVA/9 kW	10 kVA/9 kW	10 kVA/8 kW	10 kVA/7 kW
15 kVA/kW	15 kVA/10.5 kW	15 kVA/12 kW	15 kVA/13.5 kW	15 kVA/13.5 kW	15 kVA/12 kW	15 kVA/10.5 kW
20 kVA/kW	20 kVA/14 kW	20 kVA/16 kW	20 kVA/18 kW	20 kVA/18 kW	20 kVA/16 kW	20 kVA/14 kW
30 kVA/kW	30 kVA/21 kW	30 kVA/24 kW	30 kVA/27 kW	30 kVA/27 kW	30 kVA/24 kW	30 kVA/21 kW
40 kVA/kW	30 kVA/28 kW	40 kVA/32 kW	40 kVA/36 kW	40 kVA/36 kW	40 kVA/32 kW	30 kVA/28 kW

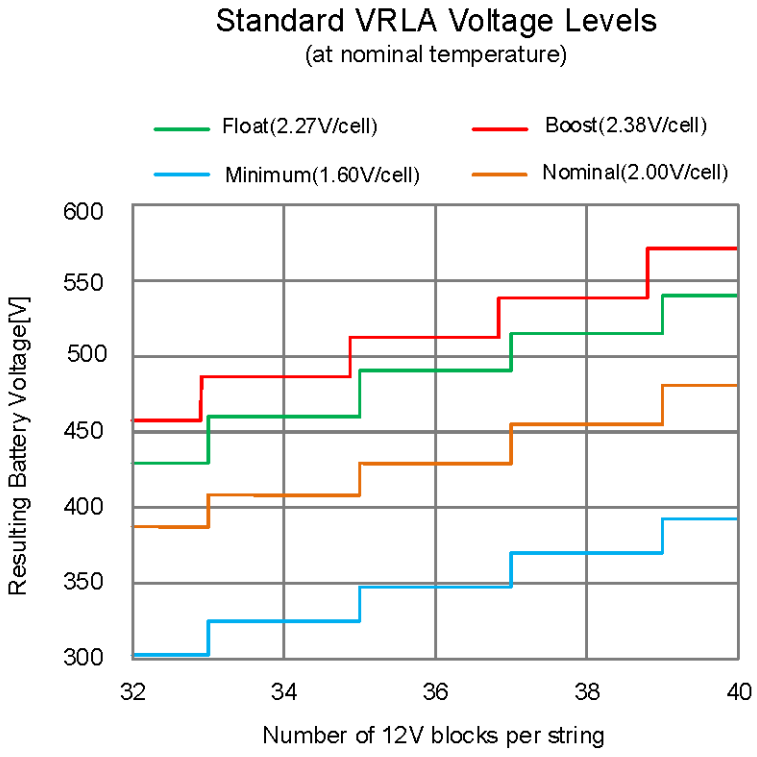
Batteries

End of Discharge Voltage



This diagram is applicable for end of discharge (EOD) set as 1.6 V/cell at 3C – for VRLA only.

Standard VRLA Voltage Levels



NOTE: Specific configurations may differ from the general constraint shown above.

Compliance

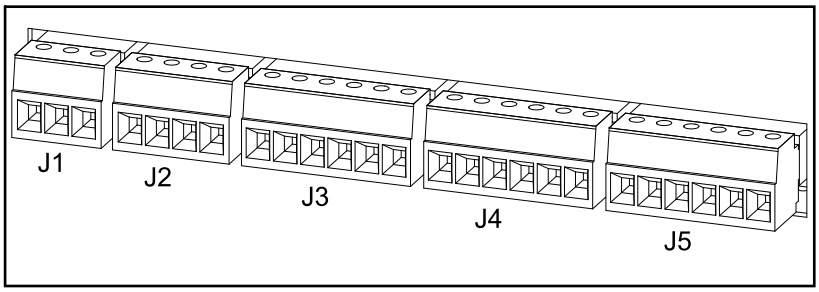
Safety	IEC 62040-1: 2017, Edition 2.0, Uninterruptible Power Systems (UPS) - Part 1: Safety requirements IEC62040-1/A1: 2021+A2: 2022 Amendment 1 + Amendment 2
EMC/EMI/RFI	IEC 62040-2: 2005, 2nd edition Uninterruptible Power Systems (UPS) - Part 2: Electromagnetic compatibility (EMC) requirements C3 IEC 62040-2: 2016, 3rd edition Uninterruptible Power Systems (UPS) - Part 2: Electromagnetic compatibility (EMC) requirements C3
Performance	Performance in accordance with: IEC 62040-3: 2021-04, 3rd edition Uninterruptible Power Systems (UPS) - Part 3: Method of specifying the performance and test requirements. Output performance classification (according to IEC 62040-3, Clause 5.3.4): VFI SS 11
Transportation	ISTA 2B 2011
Earthing system	Supports TN, TT[1], IT[2]
Overvoltage category	OVC III
Protective class	I
Pollution degree	2

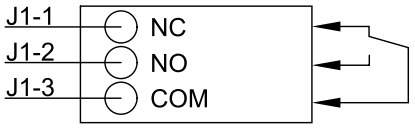
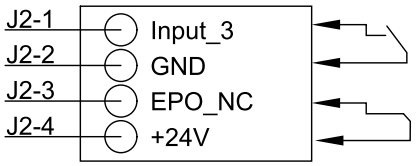
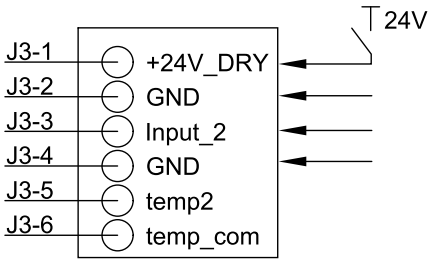
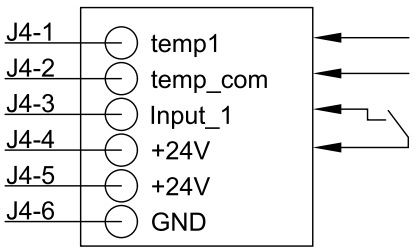
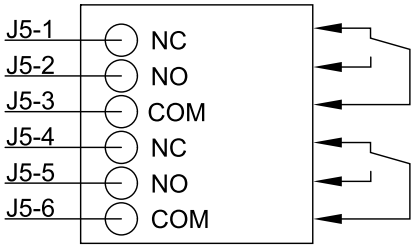
1. Neutral connection is mandatory for supported TT earthing system.
2. Neutral connection is mandatory for supported IT earthing system.

Communication and Management

Modbus	Modbus (RTU)
Output relays	3 x SELV configurable
Input contacts	3 x SELV configurable
Standard control panel	5 inch touchscreen display
Audible alarm	Yes
Emergency power off (EPO)	Options: • Normally Closed (NC)
Internal switch	UIB UOB SSIB MBB
Battery monitoring	Available for external battery solutions

Configurable Input Contacts and Output Relays



Terminal	Function		Diagram
J1-1	Configurable output (30 VDC / 3 A)	NC	
J1-2		NO	
J1-3		COM	
J2-1	Configurable input (24 VDC / 1 mA)	Input_3	
J2-2		GND	
J2-3	EPO normally closed (24 VDC / 1 mA)	EPO NC	
J2-4		+24 V	
J3-1	Configurable output (24 VDC / 400 mA)	+24_DRY	
J3-2		GND	
J3-3	Configurable input (24 VDC / 1 mA)	Input_2	
J3-4		GND	
J3-5	Ambient temperature signal	Temp 2	
J3-6		Temp_COM	
J4-1	External battery temperature signal	Temp 1	
J4-2		Temp_COM	
J4-3	Configurable input[3] / (24 VDC / 1 mA)	Input_1	
J4-4	— (24 VDC / 400 mA)	+24 V	
J4-5	— (24 VDC / 400 mA)	+24 V	
J4-6	—	GND	
J5-1	Configurable output (30 VDC / 3 A)	NC	
J5-2		NO	
J5-3		COM	
J5-4	Bypass backfeed trip (30 VDC / 3 A)	NC	
J5-5		NO	
J5-6		COM	

3. For E3SP15KHIN, E3SP20KHIN, E3SP30KHIN, or E3SP40KHIN, the default function for J4-3 is surge protection abnormal.

Requirements for a Third Party Battery Solution

Battery breaker boxes from Schneider Electric are recommended for the battery interface. Please contact Schneider Electric for more information.

Third Party Battery Breaker Requirements

⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- All selected battery breakers must be equipped with instantaneous trip functionality with an undervoltage release coil or a shunt trip release coil.
- Trip delay must be set to zero on all battery breakers.

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

NOTE: There are more factors to consider when selecting a battery breaker than the requirements listed below. Please contact Schneider Electric for more information.

Design Requirements for a Battery Circuit Breaker

Battery circuit breaker rated DC voltage > Normal battery voltage	The normal voltage of the battery configuration is defined as the highest nominal occurring battery voltage. This can be equivalent to the float voltage which may be defined as **number of battery blocks x number of cells x cell float voltage**.
Battery circuit breaker rated DC current > Rated discharge battery current	This current is controlled by the UPS and must include maximum discharge current. This will typically be the current at the end of discharge (minimum operation DC voltage or in overload condition or a combination).
DC landings	Three DC landings (+, -, N) for DC cables are required.
AUX switches for monitoring	One AUX switch must be installed in the battery breaker and connected to the UPS. The UPS can monitor one battery breaker.
Short-circuit breaking capability	The short-circuit breaking capability must be higher than the short-circuit DC current of the (largest) battery configuration.
Minimum trip current	The minimum short-circuit current to trip the battery circuit breaker must match the (smallest) battery configuration, to make the breaker trip in case of a short circuit, up to the end of its life time.

Specifications

Specifications for 10 kVA UPS

	Voltage (V)	380	400	415
Input	Connections	4-wire (L1, L2, L3, N, PE)[4]		
	Input voltage range (V)	304-477	320-477	332-477
	Frequency range (Hz)	40-70		
	Nominal input current (A)	16	16	15
	Maximum input current (A)	21	20	19
	Input current limitation (A)	21	20	19
	Minimum short circuit rating	Dependent on upstream protection. See Upstream and Downstream Protection, page 36 for details.		
	Maximum short circuit rating	16 kA		
	Total harmonic distortion (THDI)	<3% at full linear load ≤ 4% (full non-linear load)		
	Input power factor	0.99 at load > 75%		
	Protection	Fuse		
Bypass	Connections	4-wire (L1, L2, L3, N, PE)[4]		
	Bypass voltage range (V)	342-418	360-440	373-457
	Frequency (Hz)	50 or 60		
	Frequency range (Hz)	Selectable, ±1, ±3, ±5		
	Nominal bypass current (A)	16	15	15
	Minimum short circuit rating	Dependent on upstream protection. See Upstream and Downstream Protection, page 36 for details.		
	Maximum short circuit rating	16 kA		
	Backfeed protection	Dry contact (with 24 VDC source)		

4. Note: Refer to the earthing diagrams for your specific earthing system requirements concerning the N connection.

	Voltage (V)	380	400	415
Output	Connections[5]	4-wire (L1, L2, L3, N, PE)[6]		
	Output voltage regulation	Symmetrical load ± 1% Asymmetrical load ± 3%		
	Overload capacity	Normal operation: 110% for 60 minutes, 125% for 10 minutes, 150% for 1 minute Battery operation: 110% for 60 minutes, 125% for 10 minutes, 150% for 1 minute Bypass operation: 150% for 1 minute, 125% for 10 minutes, 110% continuous		
	Output power factor	1		
	Nominal output current (A)	16	15	14
	Maximum short circuit rating	16 kA		
	Inverter output short circuit capabilities	Varies with time. See graph and table values in Inverter Short Circuit Capabilities (Bypass not Available), page 17..		
	Output short circuit current (inverter) (A)[7]	34		
	Output frequency (Hz)	50/60 Hz bypass synchronized; 50/60 Hz ±0.1% free running		
	Synchronized slew rate (Hz/sec)	Programmable: 0.5, 1.0, 1.5, or 2.0. Default is 2.0.		
	Total harmonic distortion (THDU)	<1% for 100% balanced linear load <5% for non-linear load		
	Output voltage compensation	± 10 V		
	Output performance classification (according to IEC/ EN62040-3)	VFI SS 11		
	Load crest factor	Maximum crest factor 3:1		
	Load power factor	From 0.7 leading to 0.7 lagging without any derating		
Battery	Charging power in % of output power	Programmable from 1% to 20% of UPS capacity. Default is 10%.		
	Maximum charging power (kW) (at 100% load)	2		
	Maximum charging power (kW) (at 0% load)	2		
	Number of battery blocks	32-40 blocks		
	Nominal battery voltage (VDC)	384-480		
	Nominal float voltage (VDC)	436-545		
	Maximum boost voltage (VDC)	457-572		
	Maximum charge current (A)	3.7		
	Temperature compensation (per cell) at temperature over 25 °C	Programmable from 0-5 mV. Default is 0 mV.		
	End of discharge voltage (full load) (VDC)	308-384		
	End of discharge voltage (no load) (VDC)	336-420		
	Battery current at full load and nominal battery voltage (A)	27-22		
	Battery current at full load and minimum battery voltage (A)	34-27		
	Ripple current	< 5% C10		
	Battery test	Manual/automatic (selectable)		
	Maximum short circuit rating	16 kA		

NOTE: Battery specifications are based on VRLA batteries.

5. The number of output connections must match the number of input connections in a single mains system. The number of output connections must match the number of bypass connections in a dual mains system.
6. Note: Refer to the earthing diagrams for your specific earthing system requirements concerning the N connection.
7. The output short circuit current (inverter) is based on IK1 at 10 ms.

Specifications for 15 kVA UPS

	Voltage (V)	380	400	415
Input	Connections	4-wire (L1, L2, L3, N, PE)[8]		
	Input voltage range (V)	304-477	320-477	332-477
	Frequency range (Hz)	40-70		
	Nominal input current (A)	24	23	22
	Maximum input current (A)	31	29	28
	Input current limitation (A)	31	29	28
	Minimum short circuit rating	Dependent on upstream protection. See Upstream and Downstream Protection, page 36 for details.		
	Maximum short circuit rating	16 kA		
	Total harmonic distortion (THDI)	<3% at full linear load ≤ 4% (full non-linear load)		
	Input power factor	0.99 at load > 75%		
	Protection	Fuse		
Bypass	Connections	4-wire (L1, L2, L3, N, PE)[8]		
	Bypass voltage range (V)	342-418	360-440	373-457
	Frequency (Hz)	50 or 60		
	Frequency range (Hz)	Selectable, ±1, ±3, ±5		
	Nominal bypass current (A)	24	22	22
	Minimum short circuit rating	Dependent on upstream protection. See Upstream and Downstream Protection, page 36 for details.		
	Maximum short circuit rating	16 kA		
	Backfeed protection	Dry contact (with 24 VDC source)		

8. Note: Refer to the earthing diagrams for your specific earthing system requirements concerning the N connection.

	Voltage (V)	380	400	415
Output	Connections[9]	4-wire (L1, L2, L3, N, PE)[10]		
	Output voltage regulation	Symmetrical load ± 1% Asymmetrical load ± 3%		
	Overload capacity	Normal operation: 110% for 60 minutes, 125% for 10 minutes, 150% for 1 minute Battery operation: 110% for 60 minutes, 125% for 10 minutes, 150% for 1 minute Bypass operation: 150% for 1 minute, 125% for 10 minutes, 110% continuous		
	Output power factor	1		
	Nominal output current (A)	23	22	21
	Maximum short circuit rating	16 kA		
	Inverter output short circuit capabilities	Varies with time. See graph and table values in Inverter Short Circuit Capabilities (Bypass not Available), page 17.		
	Output short circuit current (inverter) (A)[11]	52		
	Output frequency (Hz)	50/60 Hz bypass synchronized; 50/60 Hz ±0.1% free running		
	Synchronized slew rate (Hz/sec)	Programmable: 0.5, 1.0, 1.5, or 2.0. Default is 2.0.		
	Total harmonic distortion (THDU)	<1% for 100% balanced linear load <5% for non-linear load		
	Output voltage compensation	± 10 V		
	Output performance classification (according to IEC/ EN62040-3)	VFI SS 11		
	Load crest factor	Maximum crest factor 3:1		
	Load power factor	From 0.7 leading to 0.7 lagging without any derating		
Battery	Charging power in % of output power	Programmable from 1% to 20% of UPS capacity. Default is 10%.		
	Maximum charging power (kW) (at 100% load)	3		
	Maximum charging power (kW) (at 0% load)	3		
	Number of battery blocks	32-40 blocks		
	Nominal battery voltage (VDC)	384-480		
	Nominal float voltage (VDC)	436-545		
	Maximum boost voltage (VDC)	457-572		
	Maximum charge current (A)	5.5		
	Temperature compensation (per cell) at temperature over 25 ° C	Programmable from 0-5 mV. Default is 0 mV.		
	End of discharge voltage (full load) (VDC)	308-384		
	End of discharge voltage (no load) (VDC)	336-420		
	Battery current at full load and nominal battery voltage (A)	41-33		
	Battery current at full load and minimum battery voltage (A)	51-41		
	Ripple current	< 5% C10		
	Battery test	Manual/automatic (selectable)		
	Maximum short circuit rating	16 kA		

NOTE: Battery specifications are based on VRLA batteries.

9. The number of output connections must match the number of input connections in a single mains system. The number of output connections must match the number of bypass connections in a dual mains system.
10. Note: Refer to the earthing diagrams for your specific earthing system requirements concerning the N connection.
11. The output short circuit current (inverter) is based on IK1 at 10 ms.

Specifications for 20 kVA UPS

	Voltage (V)	380	400	415
Input	Connections	4-wire (L1, L2, L3, N, PE)[12]		
	Input voltage range (V)	304-477	320-477	332-477
	Frequency range (Hz)	40-70		
	Nominal input current (A)	32	31	29
	Maximum input current (A)	41	39	38
	Input current limitation (A)	41	39	38
	Minimum short circuit rating	Dependent on upstream protection. See Upstream and Downstream Protection, page 36 for details.		
	Maximum short circuit rating	16 kA		
	Total harmonic distortion (THDI)	<3% at full linear load ≤ 4% (full non-linear load)		
	Input power factor	0.99 at load > 75%		
	Protection	Fuse		
Bypass	Connections	4-wire (L1, L2, L3, N, PE)[12]		
	Bypass voltage range (V)	342-418	360-440	373-457
	Frequency (Hz)	50 or 60		
	Frequency range (Hz)	Selectable, ±1, ±3, ±5		
	Nominal bypass current (A)	31	30	29
	Minimum short circuit rating	Dependent on upstream protection. See Upstream and Downstream Protection, page 36 for details.		
	Maximum short circuit rating	16 kA		
	Backfeed protection	Dry contact (with 24 VDC source)		

12. Note: Refer to the earthing diagrams for your specific earthing system requirements concerning the N connection.

	Voltage (V)	380	400	415
Output	Connections[13]	4-wire (L1, L2, L3, N, PE)[14]		
	Output voltage regulation	Symmetrical load ± 1% Asymmetrical load ± 3%		
	Overload capacity	Normal operation: 110% for 60 minutes, 125% for 10 minutes, 150% for 1 minute Battery operation: 110% for 60 minutes, 125% for 10 minutes, 150% for 1 minute Bypass operation: 150% for 1 minute, 125% for 10 minutes, 110% continuous		
	Output power factor	1		
	Nominal output current (A)	31	29	28
	Maximum short circuit rating	16 kA		
	Inverter output short circuit capabilities	Varies with time. See graph and table values in Inverter Short Circuit Capabilities (Bypass not Available), page 17.		
	Output short circuit current (inverter) (A)[15]	74		
	Output frequency (Hz)	50/60 Hz bypass synchronized; 50/60 Hz ±0.1% free running		
	Synchronized slew rate (Hz/sec)	Programmable: 0.5, 1.0, 1.5, or 2.0. Default is 2.0.		
	Total harmonic distortion (THDU)	<1% for 100% balanced linear load <5% for non-linear load		
	Output voltage compensation	± 10 V		
	Output performance classification (according to IEC/ EN62040-3)	VFI SS 11		
	Load crest factor	Maximum crest factor 3:1		
	Load power factor	From 0.7 leading to 0.7 lagging without any derating		
Battery	Charging power in % of output power	Programmable from 1% to 20% of UPS capacity. Default is 10%.		
	Maximum charging power (kW) (at 100% load)	4		
	Maximum charging power (kW) (at 0% load)	4		
	Number of battery blocks	32-40 blocks		
	Nominal battery voltage (VDC)	384-480		
	Nominal float voltage (VDC)	436-545		
	Maximum boost voltage (VDC)	457-572		
	Maximum charge current (A)	7.4		
	Temperature compensation (per cell) at temperature over 25 ° C	Programmable from 0-5 mV. Default is 0 mV.		
	End of discharge voltage (full load) (VDC)	308-384		
	End of discharge voltage (no load) (VDC)	336-420		
	Battery current at full load and nominal battery voltage (A)	55-44		
	Battery current at full load and minimum battery voltage (A)	68-55		
	Ripple current	< 5% C10		
	Battery test	Manual/automatic (selectable)		
	Maximum short circuit rating	16 kA		

NOTE: Battery specifications are based on VRLA batteries.

13. The number of output connections must match the number of input connections in a single mains system. The number of output connections must match the number of bypass connections in a dual mains system.
14. Note: Refer to the earthing diagrams for your specific earthing system requirements concerning the N connection.
15. The output short circuit current (inverter) is based on IK1 at 10 ms.

Specifications for 30 kVA UPS

	Voltage (V)	380	400	415
Input	Connections	4-wire (L1, L2, L3, N, PE)[16]		
	Input voltage range (V)	304-477	320-477	332-477
	Frequency range (Hz)	40-70		
	Nominal input current (A)	48	46	44
	Maximum input current (A)	60	57	55
	Input current limitation (A)	60	57	55
	Minimum short circuit rating	Dependent on upstream protection. See Upstream and Downstream Protection, page 36 for details.		
	Maximum short circuit rating	16 kA		
	Total harmonic distortion (THDI)	<3% at full linear load ≤ 4% (full non-linear load)		
	Input power factor	0.99 at load > 75%		
	Protection	Fuse		
Bypass	Connections	4-wire (L1, L2, L3, N, PE)[16]		
	Bypass voltage range (V)	342-418	360-440	373-457
	Frequency (Hz)	50 or 60		
	Frequency range (Hz)	Selectable, ±1, ±3, ±5		
	Nominal bypass current (A)	47	44	43
	Minimum short circuit rating	Dependent on upstream protection. See Upstream and Downstream Protection, page 36 for details.		
	Maximum short circuit rating	16 kA		
	Backfeed protection	Dry contact (with 24 VDC source)		

16. Note: Refer to the earthing diagrams for your specific earthing system requirements concerning the N connection.

	Voltage (V)	380	400	415
Output	Connections[17]	4-wire (L1, L2, L3, N, PE)[18]		
	Output voltage regulation	Symmetrical load ± 1% Asymmetrical load ± 3%		
	Overload capacity	Normal operation: 110% for 60 minutes, 125% for 10 minutes, 150% for 1 minute Battery operation: 110% for 60 minutes, 125% for 10 minutes, 150% for 1 minute Bypass operation: 150% for 1 minute, 125% for 10 minutes, 110% continuous		
	Output power factor	1		
	Nominal output current (A)	46	44	42
	Maximum short circuit rating	16 kA		
	Inverter output short circuit capabilities	Varies with time. See graph and table values in Inverter Short Circuit Capabilities (Bypass not Available), page 17.		
	Output short circuit current (inverter) (A)[19]	104		
	Output frequency (Hz)	50/60 Hz bypass synchronized; 50/60 Hz ±0.1% free running		
	Synchronized slew rate (Hz/sec)	Programmable: 0.5, 1.0, 1.5, or 2.0. Default is 2.0.		
	Total harmonic distortion (THDU)	<1% for 100% balanced linear load <5% for non-linear load		
	Output voltage compensation	± 10 V		
	Output performance classification (according to IEC/ EN62040-3)	VFI SS 11		
	Load crest factor	Maximum crest factor 3:1		
	Load power factor	From 0.7 leading to 0.7 lagging without any derating		
Battery	Charging power in % of output power	Programmable from 1% to 20% of UPS capacity. Default is 10%.		
	Maximum charging power (kW) (at 100% load)	6		
	Maximum charging power (kW) (at 0% load)	6		
	Number of battery blocks	32-40 blocks		
	Nominal battery voltage (VDC)	384-480		
	Nominal float voltage (VDC)	436-545		
	Maximum boost voltage (VDC)	Programmable from 0-5 mV. Default is 0 mV.		
	Maximum charge current (A)	11.1		
	Temperature compensation (per cell) at temperature over 25 ° C	Programmable from 0-5 mV. Default is 0 mV.		
	End of discharge voltage (full load) (VDC)	308-384		
	End of discharge voltage (no load) (VDC)	336-420		
	Battery current at full load and nominal battery voltage (A)	82-65		
	Battery current at full load and minimum battery voltage (A)	102-82		
	Ripple current	< 5% C10		
	Battery test	Manual/automatic (selectable)		
	Maximum short circuit rating	16 kA		

NOTE: Battery specifications are based on VRLA batteries.

17. The number of output connections must match the number of input connections in a single mains system. The number of output connections must match the number of bypass connections in a dual mains system.
18. Note: Refer to the earthing diagrams for your specific earthing system requirements concerning the N connection.
19. The output short circuit current (inverter) is based on IK1 at 10 ms.

Specifications for 40 kVA UPS

	Voltage (V)	380	400	415
Input	Connections	4-wire (L1, L2, L3, N, PE)[20]		
	Input voltage range (V)	304-477	320-477	332-477
	Frequency range (Hz)	40-70		
	Nominal input current (A)	64	61	58
	Maximum input current (A)	81	77	74
	Input current limitation (A)	81	77	74
	Minimum short circuit rating	Dependent on upstream protection. See Upstream and Downstream Protection, page 36 for details.		
	Maximum short circuit rating	16 kA		
	Total harmonic distortion (THDI)	<3% at full linear load ≤ 4% (full non-linear load)		
	Input power factor	0.99 at load > 75%		
	Protection	Fuse		
Bypass	Connections	4-wire (L1, L2, L3, N, PE)[20]		
	Bypass voltage range (V)	342-418	360-440	373-457
	Frequency (Hz)	50 or 60		
	Frequency range (Hz)	Selectable, ±1, ±3, ±5		
	Nominal bypass current (A)	62	59	57
	Minimum short circuit rating	Dependent on upstream protection. See Upstream and Downstream Protection, page 36 for details.		
	Maximum short circuit rating	16 kA		
	Backfeed protection	Dry contact (with 24 VDC source)		

20. Note: Refer to the earthing diagrams for your specific earthing system requirements concerning the N connection.

	Voltage (V)	380	400	415
Output	Connections[21]	4-wire (L1, L2, L3, N, PE)[22]		
	Output voltage regulation	Symmetrical load ± 1% Asymmetrical load ± 3%		
	Overload capacity	Normal operation: 110% for 60 minutes, 125% for 10 minutes, 150% for 1 minute Battery operation: 110% for 60 minutes, 125% for 10 minutes, 150% for 1 minute Bypass operation: 150% for 1 minute, 125% for 10 minutes, 110% continuous		
	Output power factor	1		
	Nominal output current (A)	61	58	56
	Maximum short circuit rating	16 kA		
	Inverter output short circuit capabilities	Varies with time. See graph and table values in Inverter Short Circuit Capabilities (Bypass not Available), page 17.		
	Output short circuit current (inverter) (A)[23]	140		
	Output frequency (Hz)	50/60 Hz bypass synchronized; 50/60 Hz ±0.1% free running		
	Synchronized slew rate (Hz/sec)	Programmable: 0.5, 1.0, 1.5, or 2.0. Default is 2.0.		
	Total harmonic distortion (THDU)	<1% for 100% balanced linear load <5% for non-linear load		
	Output voltage compensation	± 10 V		
	Output performance classification (according to IEC/ EN62040-3)	VFI SS 11		
	Load crest factor	Maximum crest factor 3:1		
	Load power factor	From 0.7 leading to 0.7 lagging without any derating		
Battery	Charging power in % of output power	Programmable from 1% to 20% of UPS capacity. Default is 10%.		
	Maximum charging power (kW) (at 100% load)	8		
	Maximum charging power (kW) (at 0% load)	8		
	Number of battery blocks	32-40 blocks		
	Nominal battery voltage (VDC)	384-480		
	Nominal float voltage (VDC)	436-545		
	Maximum boost voltage (VDC)	457-572		
	Maximum charge current (A)	14.8		
	Temperature compensation (per cell) at temperature over 25 ° C	Programmable from 0-5 mV. Default is 0 mV.		
	End of discharge voltage (full load) (VDC)	308-384		
	End of discharge voltage (no load) (VDC)	336-420		
	Battery current at full load and nominal battery voltage (A)	109-87		
	Battery current at full load and minimum battery voltage (A)	136-109		
	Ripple current	< 5% C10		
	Battery test	Manual/automatic (selectable)		
	Maximum short circuit rating	16 kA		

NOTE: Battery specifications are based on VRLA batteries.

21. The number of output connections must match the number of input connections in a single mains system. The number of output connections must match the number of bypass connections in a dual mains system.
22. Note: Refer to the earthing diagrams for your specific earthing system requirements concerning the N connection.
23. The output short circuit current (inverter) is based on IK1 at 10 ms.

Upstream and Downstream Protection

NOTE: For local directives which require 4-pole circuit breakers: If neutral conductor is expected to carry a high current, due to line-neutral non-linear load, the circuit breaker must be rated according to expected neutral current.

NOTE: For local directives which require 4-pole circuit breakers: Refer to the earthing diagrams for details about neutral connection.

The bypass/output breakers are sized based on the nominal current +10%. This is to accommodate either low grid voltage or deviation in length between parallel UPSs. The battery breakers are sized based on end-of-discharge voltage which has been defined as 308 VDC.

Required Upstream Protection for 380/400/415 V (IEC) and Minimum Prospective Phase-To-Earth Short Circuit at the UPS Input/Bypass Terminals

⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

The upstream overcurrent protective device (and its settings) must be sized to ensure a disconnecting time within 0.07 seconds in case of a short circuit between the input/bypass phase and the UPS.

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

Compliance is assured with the recommended breaker (and its settings) from the table below.

Required 3-Pole Upstream Protection

NOTE: Ir must be set on the breakers during start-up.

UPS rating	**10 kVA**						
	Input			**Bypass/Output**			**Battery**
Voltage (V)	**380**	**400**	**415**	**380**	**400**	**415**	**380-415**
Breaker type	NSX100B TM25D 3P3D, C10B3TM025			NSX100B TM25D 3P3D, C10B3TM025			ComPacT NSX100F DC 3P3D+TM40G, C10F3D+C103MG040
In	25	25	25	25	25	25	40
Ir	0.8 x In	0.8 x In	0.8 x In	0.7 x In	0.7 x In	0.7 x In	0.9 x In
Im	300	300	300	300	300	300	100

UPS rating	**15 kVA**						
	Input			**Bypass/Output**			**Battery**
Voltage (V)	**380**	**400**	**415**	**380**	**400**	**415**	**380-415**
Breaker type	NSX100B NSX TM32D 3P3D, C10B3TM032			NSX100B TM32D 3P3D, C10B3TM032			ComPacT NSX100F DC 3P3D+TM63G, C10F3D+C103MG063
In	32	32	32	32	32	32	63
Ir	In	In	In	0.9 x In	0.8 x In	0.8 x In	0.8 x In
Im	400	400	400	400	400	400	150

UPS rating	20 kVA						
	Input			Bypass/Output			Battery
Voltage (V)	380	400	415	380	400	415	380-415
Breaker type	NSX100B TM40D 3P3D, C10B3TM040			NSX100B TM40D 3P3D, C10B3TM040			ComPacT NSX100F DC 3P3D+TM80G, C10F3D+C103MG080
In	40	40	40	40	40	40	80
Ir	In	In	In	0.9 x In	0.9 x In	0.8 x In	0.9 x In
Im	500	500	500	500	500	500	250

UPS rating	30 kVA						
	Input			Bypass/Output			Battery
Voltage (V)	380	400	415	380	400	415	380-415
Breaker type	NSX100B TM63D 3P3D, C10B3TM063			NSX100B TM63D 3P3D, C10B3TM063			ComPacT NSX160F DC 3P3D+TM125G, C16F3D+C163MG125D
In	63	63	63	63	63	63	125
Ir	In	In	In	0.9 x In	0.8 x In	0.8 x In	0.8 x In
Im	500	500	500	500	500	500	530

UPS rating	40 kVA						
	Input			Bypass/Output			Battery
Voltage (V)	380	400	415	380	400	415	380-415
Breaker type	NSX100B TM63D 3P3D, C10B3TM080			NSX100B TM63D 3P3D, C10B3TM080			ComPacT NSX160F DC 3P3D+TM160G, C16F3D+C163MG160D
In	80	80	80	80	80	80	160
Ir	In	In	In	0.9 x In	0.9 x In	0.8 x In	0.9 x In
Im	640	640	640	640	640	640	530

Required 4-Pole Upstream Protection

NOTE: Ir must be set on the breakers during start-up.

UPS rating	10 kVA						
	Input			Bypass/Output			Battery
Voltage (V)	380	400	415	380	400	415	380-415
Breaker type	NSX100B TM25D 4P3D, C10B6TM025			NSX100B TM25D 4P3D, C10B6TM025			ComPacT NSX100F DC 3P3D+TM40G, C10F3D+C103MG040
In	25	25	25	25	25	25	40
Ir	0.8 x In	0.8 x In	0.8 x In	0.7 x In	0.7 x In	0.7 x In	0.9 x In
Im	300	300	300	300	300	300	100

UPS rating	15 kVA						
	Input			Bypass/Output			Battery
Voltage (V)	380	400	415	380	400	415	380-415
Breaker type	NSX100B TM40D 4P3D, C10B6TM040			NSX100B TM40D 4P3D, C10B6TM040			ComPacT NSX100F DC 3P3D+TM63G, C10F3D+C103MG063
In	40	40	40	40	40	40	63
Ir	0.8 x In	0.8 x In	0.8 x In	0.7 x In	0.7 x In	0.7 x In	0.8 x In
Im	500	500	500	500	500	500	150

UPS rating	20 kVA						
	Input			Bypass/Output			Battery
Voltage (V)	380	400	415	380	400	415	380-415
Breaker type	NSX100B TM63D 4P3D, C10B6TM063			NSX100B TM63D 4P3D, C10B6TM063			ComPacT NSX100F DC 3P3D+TM80G, C10F3D+C103MG080
In	63	63	63	63	63	63	80
Ir	0.7 x In	0.7 x In	0.7 x In	0.7 x In	0.7 x In	0.7 x In	0.9 x In
Im	500	500	500	500	500	500	250

UPS rating	30 kVA						
	Input			Bypass/Output			Battery
Voltage (V)	380	400	415	380	400	415	380-415
Breaker type	NSX100B TM80D 4P3D, C10B6TM080			NSX100B TM80D 4P3D, C10B6TM080			ComPacT NSX160F DC 3P3D+TM125G, C16F3D+C163MG125D
In	80	80	80	80	80	80	125
Ir	0.8 x In	0.8 x In	0.8 x In	0.7 x In	0.7 x In	0.7 x In	0.8 x In
Im	640	640	640	640	640	640	530

UPS rating	40 kVA						
	Input			Bypass/Output			Battery
Voltage (V)	380	400	415	380	400	415	380-415
Breaker type	NSX100B TM100D 4P3D, C10B6TM100			NSX100B TM100D 4P3D, C10B6TM100			ComPacT NSX160F DC 3P3D+TM160G, C16F3D+C163MG160D
In	100	100	100	100	100	100	160
Ir	0.8 x In	0.8 x In	0.8 x In	0.7 x In	0.7 x In	0.7 x In	0.9 x In
Im	800	800	800	800	800	800	530

Recommended Downstream Protection for 380/400/415 V (IEC)

UPS rating	Breaker type
10 kVA	IC65N-4P-C 4A / IC65H-4P-C 4A
15 kVA	IC65N-4P-C 4A / IC65H-4P-C 4A
20 kVA	IC65N-4P-C 6A / IC65H-4P-C 6A
30 kVA	IC65N-4P-C 6A / IC65H-4P-C 6A
40 kVA	IC65N-4P-C 10A / IC65H-4P-C 10A

Recommended Cable Sizes

⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- All wiring must comply with all applicable national and/or electrical codes.
- The maximum allowable cable size is 6 mm^2 (10 -15 kVA UPS), 16 mm^2(20 kVA UPS) , 25 mm^2 (30 kVA UPS), or 35 mm^2 (40 kVA UPS).
- Shrink sleeves must be fitted over the cable lug crimped zone and must overlap with the cable insulation on all power cables.

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

NOTE: Overcurrent protection is to be provided by others.

Cable sizes in this manual are based on the minimum requirements in table B.52.3 and table B.52.5 of IEC 60364-5-52 with the following assertions:

- 90 °C conductors
- An ambient temperature of 30 °C
- Use of copper conductors
- PE cable size is based on table 54.2 of IEC 60364-5-54
- Installation method C
- Specific to AC cables: Maximum length 70 m with a line voltage drop <3% installed on perforated cable trays, XLPE-type insulation, single layer trefoil formation, THDI between 15% and 33%.
- Specific to DC cables: Maximum length 15 m with a line voltage drop <1%

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

NOTE: Recommended cable sizes and maximum allowable cable size may vary for the auxiliary products. Refer to the installation manual provided with the auxiliary product.

NOTE: The DC cable sizes given here are recommendations – Always follow the specific instructions in the battery solution documentation for DC cable sizes and DC PE cable sizes and ensure that the DC cable sizes match the battery disconnect device rating.

Copper

UPS rating	**10 kVA**			**15 kVA**			**20 kVA**		
Voltage (V)	**380**	**400**	**415**	**380**	**400**	**415**	**380**	**400**	**415**
Input phases (mm^2)	6	6	6	6	6	6	10	10	10
Input PE (mm^2)	6	6	6	6	6	6	10	10	10
Bypass/output phases (mm^2)	6	6	6	6	6	6	10	10	10
Bypass PE/output PE (mm^2)	6	6	6	6	6	6	10	10	10
Neutral (mm^2)	6	6	6	6	6	6	16	16	16
DC+/DC-/DCN (mm^2)	6	6	6	6	6	6	16	16	16
DC PE (mm^2)	6	6	6	6	6	6	16	16	16

Copper

UPS rating	30 kVA			40 kVA		
Voltage (V)	**380**	**400**	**415**	**380**	**400**	**415**
Input phases (mm^2)	16	16	16	25	25	25
Input PE (mm^2)	16	16	16	16	16	16
Bypass/output phases (mm^2)	16	16	16	25	25	25
Bypass PE/output PE (mm^2)	16	16	16	16	16	16
Neutral (mm^2)	25	25	25	35	35	35
DC+/DC-/DCN (mm^2)	25	25	25	35	35	35
DC PE (mm^2)	16	16	16	16	16	16

Load Sharing in Bypass Operation in a Parallel System

NOTICE

RISK OF EQUIPMENT DAMAGE

To ensure correct load sharing in bypass operation in a parallel system, the following recommendations apply:

- The bypass cables must be the same length for all UPSs.
- The output cables must be the same length for all UPSs.
- The input cables must be the same length for all UPSs in a single mains system.
- Cable formation recommendations must be followed.
- The reactance of busbar layout in the bypass/input and output switchgear must be the same for all UPSs.

If the above recommendations are not followed the result can be uneven load sharing in bypass and overload of individual UPSs.

Failure to follow these instructions can result in equipment damage.

The impedance of the bypass paths needs to be controlled in a parallel UPS system. When operating in bypass mode, the parallel load sharing is determined by the total impedance of the bypass path comprising cables, switchgear, static bypass switch, and cable formation.

Recommended Bolt and Lug Sizes

Cable size mm²	Bolt size	Cable lug type
6	M6	KST TLK6-6
8	M6	KST RNBS8-6
10	M6	KST TLK10-6
16	M6	KST TLK16-6
25	M6	KST DRNB6-25
35	M6	KST TLK35-6

Torque Specifications

Bolt size	Torque
M5	4 Nm
M6	5 Nm
M8	12 Nm

Leakage Current

UPS rating	Leakage current at 100% load (mA)
10 kVA	250
15 kVA	250
20 kVA	250
30 kVA	100
40 kVA	100

NOTE: As per IEC 62477-1, the leakage current should not exceed 5% of the rated input current.

Physical

UPS Shipping Weights and Dimensions

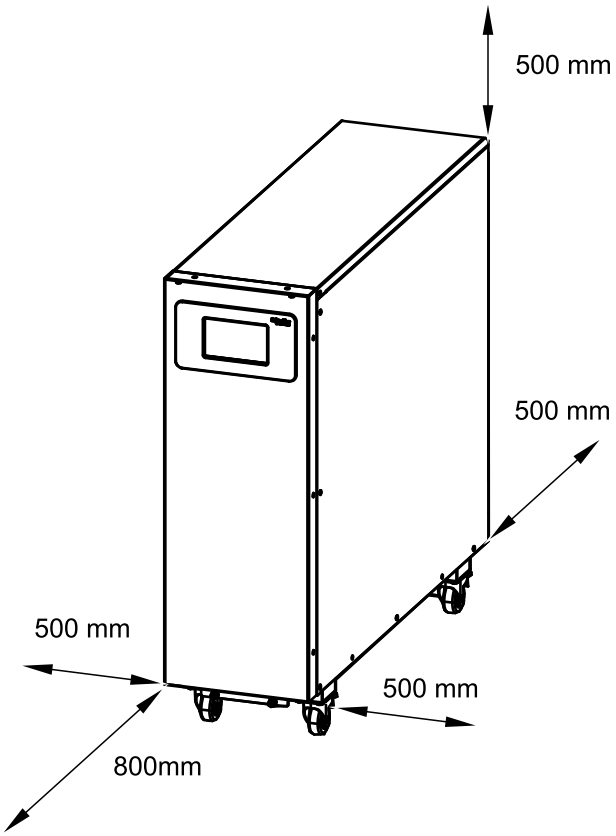
UPS rating (Commercial reference)	Weight kg	Height mm	Width mm	Depth mm
10 kVA (E3SP10KH)	50	813	380	780
15 kVA (E3SP15KH)	51	813	380	780
20 kVA (E3SP20KH)	52	813	380	780
30 kVA (E3SP30KH)	69	970	380	982
40 kVA (E3SP40KH)	73	970	380	982
15 kVA (E3SP15KHIN)	52	813	380	780
20 kVA (E3SP20KHIN)	53	813	380	780
30 kVA (E3SP30KHIN)	70	970	380	982
40 kVA (E3SP40KHIN)	74	970	380	982

UPS Weights and Dimensions

UPS rating	Weight kg	Height mm	Width mm	Depth mm
10 kVA (E3SP10KH)	35	629	250	660
15 kVA (E3SP15KH)	36	629	250	660
20 kVA (E3SP20KH)	37	629	250	660
30 kVA (E3SP30KH)	56	796	250	916
40 kVA (E3SP40KH)	59	796	250	916
15 kVA (E3SP15KHIN)	37	629	250	660
20 kVA (E3SP20KHIN)	38	629	250	660
30 kVA (E3SP30KHIN)	57	796	250	916
40 kVA (E3SP40KHIN)	60	796	250	916

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.



Environment

	Operating	Storage
Temperature	0 °C to 40 °C without load derating.	-25 °C to 55 °C for systems without batteries.
Relative humidity	0-95% non-condensing	0-95% non-condensing
Elevation	Designed for operation in 0-1000 m elevation at 100% load. Derating required from 1000-2000 m with forced air cooling: Up to 1000 m: 1.000 Up to 1500 m: 0.975 Up to 2000 m: 0.950	
Audible noise one meter from unit	**10 kVA UPS**: 46 dB at 70% load; 55 dB at 100% load **15 kVA UPS**: 48 dB at 70% load; 56 dB at 100% load **20 kVA UPS**: 50 dB at 70% load; 58 dB at 100% load **30 kVA UPS**: 60 dB at 70% load; 64 dB at 100% load **40 kVA UPS**: 63 dB at 70% load; 66 dB at 100% load	
Protection class	IP20	
Color	RAL 9003, gloss level 85%	

Heat Dissipation in BTU/hr

10 kVA

	Normal operation			ECO mode			Battery operation		
Voltage (V)	**380**	**400**	**415**	**380**	**400**	**415**	**380**	**400**	**415**
25% load	633	599	628	127	121	116	1024	1040	1123
50% load	1099	1081	1091	130	127	122	1407	1516	1466
75% load	1647	1522	1510	175	173	162	1886	1971	1935
100% load	2227	2156	2091	171	188	174	2466	2583	2540

15 kVA

	Normal operation			ECO mode			Battery operation		
Voltage (V)	**380**	**400**	**415**	**380**	**400**	**415**	**380**	**400**	**415**
25% load	628	630	636	142	139	134	860	839	880
50% load	1055	1042	1040	102	130	123	1306	1316	1362
75% load	1599	1560	1528	234	227	223	1792	1816	1863
100% load	2274	2197	2124	139	216	189	2412	2443	2426

20 kVA

	Normal operation			ECO mode			Battery operation		
Voltage (V)	**380**	**400**	**415**	**380**	**400**	**415**	**380**	**400**	**415**
25% load	864	847	904	115	101	109	964	1183	1065
50% load	1317	1309	1309	132	123	122	1505	1736	1622
75% load	2151	2055	2023	196	190	180	2172	2437	2254
100% load	3034	2971	2899	241	237	218	2978	3214	3506

30 kVA

	Normal operation			ECO mode			Battery operation		
Voltage (V)	**380**	**400**	**415**	**380**	**400**	**415**	**380**	**400**	**415**
25% load	1227	1240	1260	157	144	156	1225	1401	1278
50% load	2028	2048	2045	188	174	169	2168	2238	2420
75% load	3401	3255	3263	391	354	361	3262	3304	3330
100% load	4694	4681	4491	500	455	461	4629	4439	4555

40 kVA

	Normal operation			ECO mode			Battery operation		
Voltage (V)	**380**	**400**	**415**	**380**	**400**	**415**	**380**	**400**	**415**
25% load	1559	1564	1558	186	180	169	1609	1797	1572
50% load	2610	2615	2556	312	294	272	2870	2906	2791
75% load	4353	4253	4079	511	482	455	4162	4245	4198
100% load	6365	6164	5936	868	811	628	5820	5827	5652

Airflow Values

Indicative Airflow Values in m³/Hour Based on a 30 °C Environment in Normal Operation Mode

UPS rating	10 kVA	15 kVA	20 kVA	30 kVA	40 kVA
50% load	83	83	94	243	276
70% load	94	101	116	334	382
100% load	130	150	157	408	456

Indicative Airflow Values in m³/Hour Based on a 40 °C Environment in Normal Operation Mode

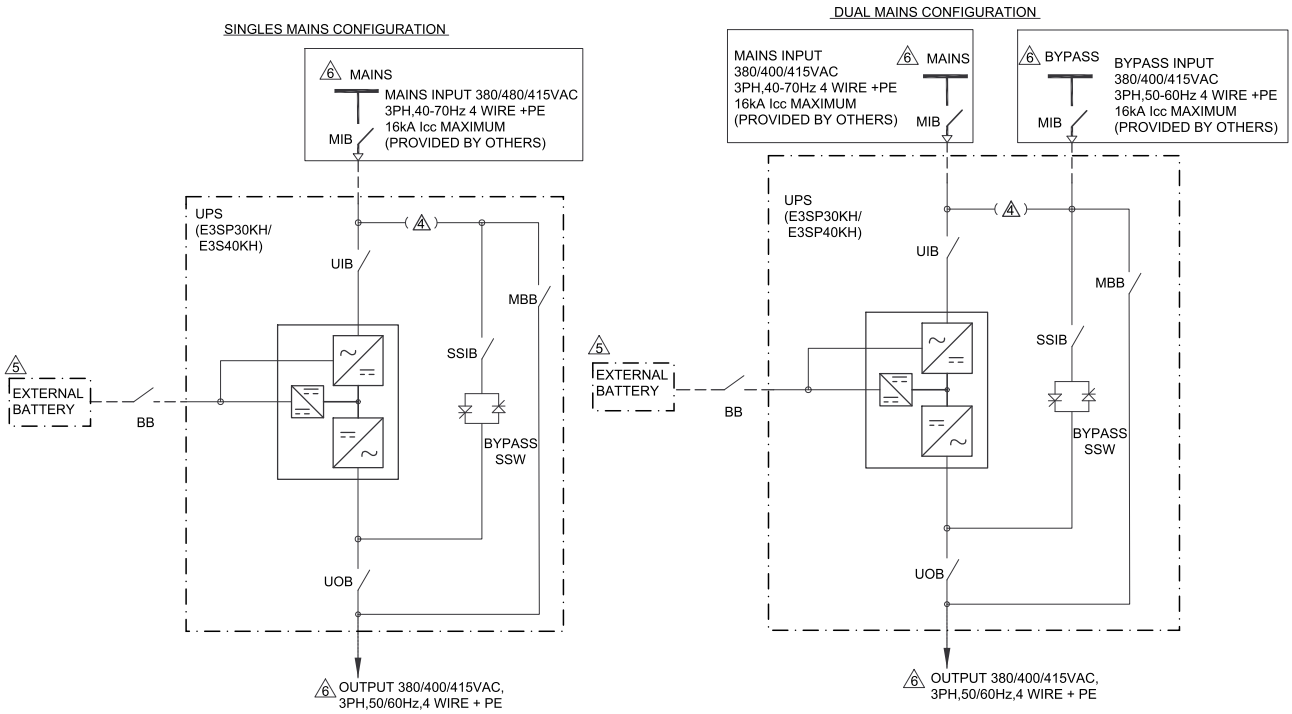
UPS rating	10 kVA	15 kVA	20 kVA	30 kVA	40 kVA
50% load	130	150	157	408	456
70% load	185	185	185	585	585
100% load	185	185	185	585	585

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.

Easy UPS 3S Pro 10-40 kVA



Options

Configuration Options

- Compact Design
- Single or dual mains
- Bottom cable entry
- Up to 4+0 UPSs in parallel capacity
- EcoStruxure IT compatible
- Generator compatible
- Touchscreen LCD
- ECO mode
- Lithium-ion battery compatible
- Robust design against harsh environment
- Electronic backfeed protection
- Supported battery types: VRLA, Lithium-ion

Hardware Options

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

Empty Battery Cabinet

Empty battery cabinet for use with third party batteries. Battery breaker kit is required (sold separately).

- Empty battery cabinet, 700 mm (GVEBC7)
- Empty battery cabinet, 1100 mm (GVEBC11)
- Empty battery cabinet, 1500 mm (GVEBC15)

Maintenance Bypass Panel

Maintenance bypass panel for complete isolation of the UPS during service operations.

- Parallel maintenance bypass panel, 10-40 kVA (E3SOPT006)

Battery Breaker Kit

Battery breaker kit for use with empty battery cabinets or third party battery solutions.

- Battery breaker kit (E3SOPT008)

Battery Breaker Box

Wall mounted battery breaker box for use with third party battery solutions.

- Battery breaker box (E3SOPT007)

Optional Installation Kits

- Cold start kit (E3SPOPT001)
- Parallel kit with 5 m cable (E3SOPT002)
- Parallel kit with 15 m cable (E3SOPT0016)
- Easy UPS 3S Pro 10-20 KVA 6-16 mm^2 cable lug kit (E3SPOPT002)
- Easy UPS 3S Pro 30-40 KVA 16-35 mm^2 cable lug kit (E3SPOPT003)
- Dry contact card (E3SOPT010)

Temperature Sensors

- Temperature sensor kit for external battery system (E3SOPT003)

Limited Factory Warranty

One-Year Factory Warranty

The limited warranty provided by Schneider Electric in this Statement of Limited Factory Warranty applies only to products you purchase for your commercial or industrial use in the ordinary course of your business.

Terms of Warranty

Schneider Electric warrants that the product shall be free from defects in materials and workmanship for a period of one year from the date of product start-up, when start-up is performed by Schneider Electric-authorized service personnel, or within 18 months from the shipment date from Schneider Electric, whichever occurs first. This warranty covers repairing or replacing any defective parts including on-site labor and travel. In the event that the product fails to meet the foregoing warranty criteria, the warranty covers repairing or replacing defective parts at the sole discretion of Schneider Electric for a period of one year from the shipment date.

Non-transferable Warranty

This warranty is extended to the first person, firm, association or corporation (herein referred to by “You” or “Your”) for whom the Schneider Electric product specified herein has been purchased. This warranty is not transferable or assignable without the prior written permission of Schneider Electric.

Assignment of Warranties

Schneider Electric will assign you any warranties which are made by manufacturers and suppliers of components of the Schneider Electric product and which are assignable. Any such warranties are assigned “AS IS” and Schneider Electric makes no representation as to the effectiveness or extent of such warranties, assumes no responsibility for any matters which may be warranted by such manufacturers or suppliers and extends no coverage under this Warranty to such components.

Drawings, Descriptions

Schneider Electric warrants for the warranty period and on the terms of the warranty set forth herein that the Schneider Electric product will substantially conform to the descriptions contained in the Schneider Electric Official Published Specifications or any of the drawings certified and agreed to by contract with Schneider Electric if applicable thereto (“Specifications”). It is understood that the Specifications are not warranties of performance and not warranties of fitness for a particular purpose.

Exclusions

Schneider Electric shall not be liable under the warranty if its testing and examination disclose that the alleged defect in the product does not exist or was

caused by end user or any third person misuse, negligence, improper installation or testing. Further, Schneider Electric shall not be liable under the warranty for unauthorized attempts to repair or modify wrong or inadequate electrical voltage or connection, inappropriate on-site operation conditions, corrosive atmosphere, repair, installation, start-up by non-Schneider Electric designated personnel, a change in location or operating use, exposure to the elements, Acts of God, fire, theft, or installation contrary to Schneider Electric recommendations or specifications or in any event if the Schneider Electric serial number has been altered, defaced, or removed, or any other cause beyond the range of the intended use.

THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, BY OPERATION OF LAW OR OTHERWISE, OF PRODUCTS SOLD, SERVICED OR FURNISHED UNDER THIS AGREEMENT OR IN CONNECTION HEREWITH. SCHNEIDER ELECTRIC DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY, SATISFACTION AND FITNESS FOR A PARTICULAR PURPOSE. SCHNEIDER ELECTRIC EXPRESS WARRANTIES WILL NOT BE ENLARGED, DIMINISHED, OR AFFECTED BY AND NO OBLIGATION OR LIABILITY WILL ARISE OUT OF, SCHNEIDER ELECTRIC RENDERING OF TECHNICAL OR OTHER ADVICE OR SERVICE IN CONNECTION WITH THE PRODUCTS. THE FOREGOING WARRANTIES AND REMEDIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES AND REMEDIES. THE WARRANTIES SET FORTH ABOVE CONSTITUTE SCHNEIDER ELECTRIC SOLE LIABILITY AND PURCHASER'S EXCLUSIVE REMEDY FOR ANY BREACH OF SUCH WARRANTIES. SCHNEIDER ELECTRIC WARRANTIES RUN ONLY TO PURCHASER AND ARE NOT EXTENDED TO ANY THIRD PARTIES.

IN NO EVENT SHALL SCHNEIDER ELECTRIC, ITS OFFICERS, DIRECTORS, AFFILIATES OR EMPLOYEES BE LIABLE FOR ANY FORM OF INDIRECT, SPECIAL, CONSEQUENTIAL OR PUNITIVE DAMAGES, ARISING OUT OF THE USE, SERVICE OR INSTALLATION, OF THE PRODUCTS, WHETHER SUCH DAMAGES ARISE IN CONTRACT OR TORT, IRRESPECTIVE OF FAULT, NEGLIGENCE OR STRICT LIABILITY OR WHETHER SCHNEIDER ELECTRIC HAS BEEN ADVISED IN ADVANCE OF THE POSSIBILITY OF SUCH DAMAGES, SPECIFICALLY, SCHNEIDER ELECTRIC IS NOT LIABLE FOR ANY COSTS, SUCH AS LOST PROFITS OR REVENUE, LOSS OF EQUIPMENT, LOSS OF USE OF EQUIPMENT, LOSS OF SOFTWARE, LOSS OF DATA, COSTS OF SUBSTITUANTS, CLAIMS BY THIRD PARTIES, OR OTHERWISE.

NO SALESMAN, EMPLOYEE OR AGENT OF SCHNEIDER ELECTRIC IS AUTHORIZED TO ADD TO OR VARY THE TERMS OF THIS WARRANTY. WARRANTY TERMS MAY BE MODIFIED, IF AT ALL, ONLY IN WRITING SIGNED BY AN SCHNEIDER ELECTRIC OFFICER AND LEGAL DEPARTMENT.

Warranty Claims

Customers with warranty claims issues may access the SCHNEIDER ELECTRIC worldwide customer support network through the SCHNEIDER ELECTRIC web site: http://www.schneider-electric.com. Select your country from the country selection pull-down menu. Open the Support tab at the top of the web page to obtain contact information for customer support in your region.

Schneider Electric
35 rue Joseph Monier
92500 Rueil Malmaison
France

+ 33 (0) 1 41 29 70 00

www.se.com

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

990-66233A-001