Easy UPS 3S

10–40 kVA

Technical Specifications

04/2018

www.schneider-electric.com

Legal Information

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.

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

- 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 circuit breakers, battery circuit 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

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 area free of conductive contaminants and humidity.
- Install the UPS system on a non-inflammable, 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.

NOTICE

RISK OF OVERHEATING

Respect the clearance 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

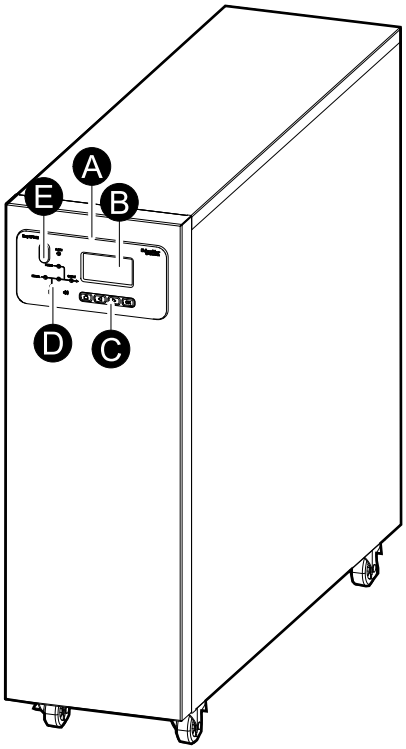
Do not connect the UPS output to regenerative load systems including photovoltaic systems and speed drives.

Failure to follow these instructions can result in equipment damage.

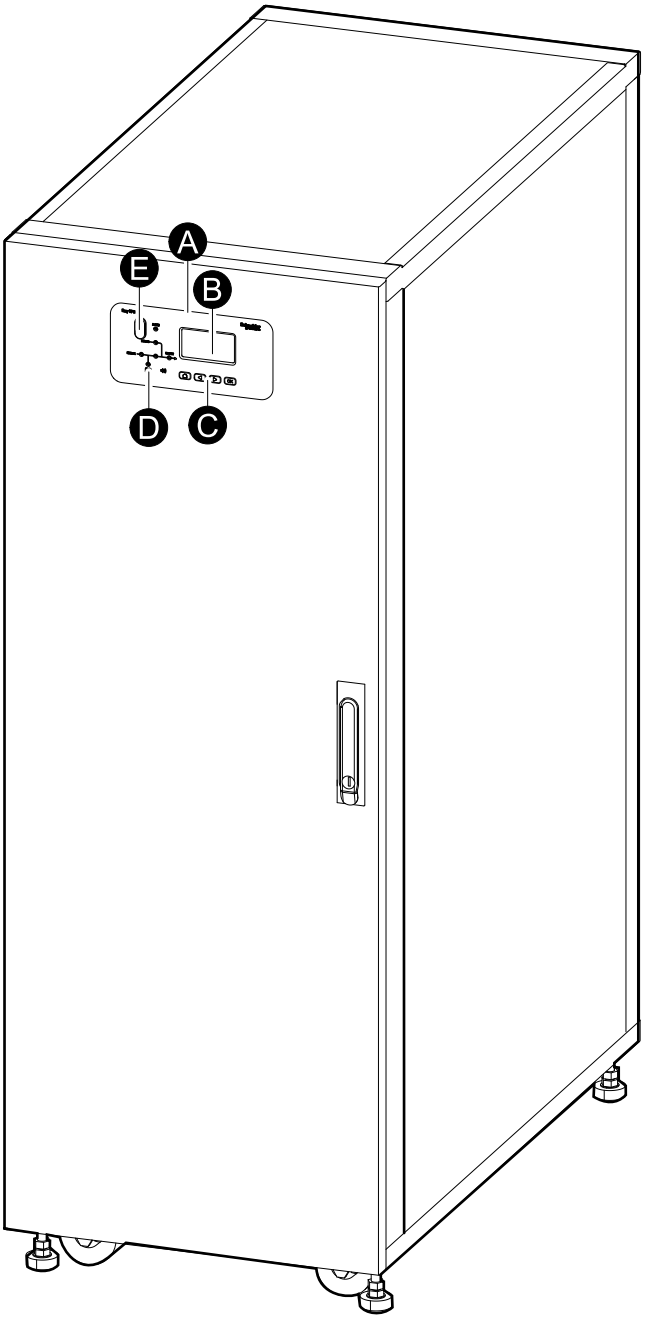
System Overview

A. User interface
B. Display interface
C. Keys
D. Status LEDs
E. EPO button

UPS for External Batteries



UPSs with Internal Batteries



Model List

UPSs

- E3UPS10KH: Easy UPS 3S 10 kVA 400 V for external batteries
- E3UPS15KH: Easy UPS 3S 15 kVA 400 V for external batteries
- E3UPS20KH: Easy UPS 3S 20 kVA 400 V for external batteries
- E3UPS30KH: Easy UPS 3S 30 kVA 400 V for external batteries
- E3UPS40KH: Easy UPS 3S 40 kVA 400 V for external batteries
- E3SUPS10KHB: Easy UPS 3S 10 kVA 400 V for internal batteries[1]
- E3SUPS15KHB: Easy UPS 3S 15 kVA 400 V for internal batteries[1]
- E3SUPS20KHB: Easy UPS 3S 20 kVA 400 V for internal batteries[1]
- E3SUPS30KHB: Easy UPS 3S 30 kVA 400 V for internal batteries[1]
- E3SUPS40KHB: Easy UPS 3S 40 kVA 400 V for internal batteries[1]
- E3SUPS10KHB1: Easy UPS 3S 10 kVA with internal batteries – 10 min runtime[1]
- E3SUPS10KHB2: Easy UPS 3S 10 kVA with internal batteries – 30 min runtime[1]
- E3SUPS15KHB1: Easy UPS 3S 15 kVA with internal batteries – 10 min runtime[1]
- E3SUPS15KHB2: Easy UPS 3S 15 kVA with internal batteries – 30 min runtime[1]
- E3SUPS20KHB1: Easy UPS 3S 20 kVA with internal batteries – 10 min runtime[1]
- E3SUPS20KHB2: Easy UPS 3S 20 kVA with internal batteries – 25 min runtime[1]
- E3SUPS30KHB1: Easy UPS 3S 30 kVA with internal batteries – 10 min runtime[1]
- E3SUPS30KHB2: Easy UPS 3S 30 kVA with internal batteries – 20 min runtime[1]
- E3SUPS40KHB1: Easy UPS 3S 40 kVA with internal batteries – 10 min runtime[1]
- E3SUPS40KHB2: Easy UPS 3S 40 kVA with internal batteries – 20 min runtime[1]

Options

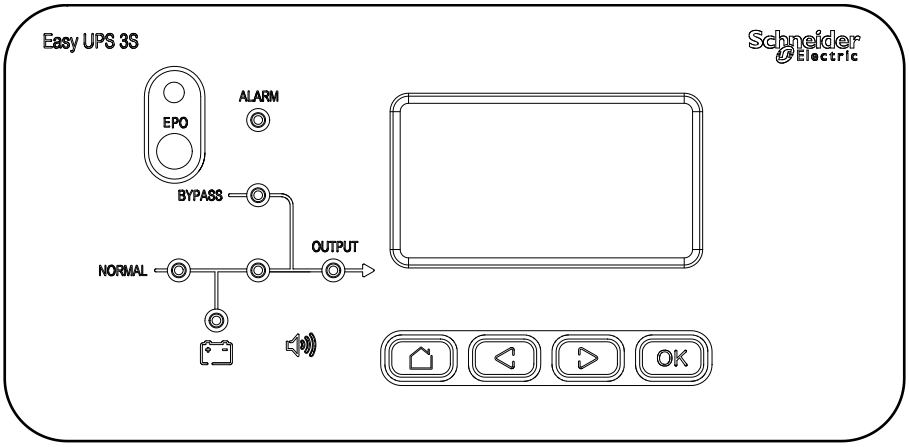
- E3SOPT001: Easy UPS 3S network card
- E3SOPT002: Easy UPS 3S parallel kit with 5 meter cable
- E3SOPT003: Easy UPS 3S temperature sensor kit for external battery system
- E3SOPT004: Easy UPS 3S cold start kit
- E3SOPT007: Easy UPS 3S battery breaker box
- E3SOPT008: Easy UPS 3S battery breaker kit
- E3SEBC7: Easy UPS 3S 700 mm empty battery cabinet

Batteries

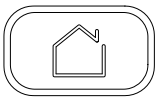
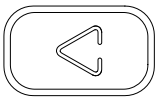
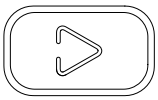
- E3SBTU: Easy UPS 3S standard battery unit
- E3SBTHU: Easy UPS 3S high performance battery unit
- E3SBT4: Easy UPS 3S standard battery unit
- E3SBTH4: Easy UPS 3S high performance battery unit

1. Not available in India and China

User Interface



Keys

			
Home	Previous	Next	Confirm

EPO

Only use the EPO button in case of emergency. When the EPO button is pushed, the system turns off the rectifier and the inverter, and stops supplying the load immediately.

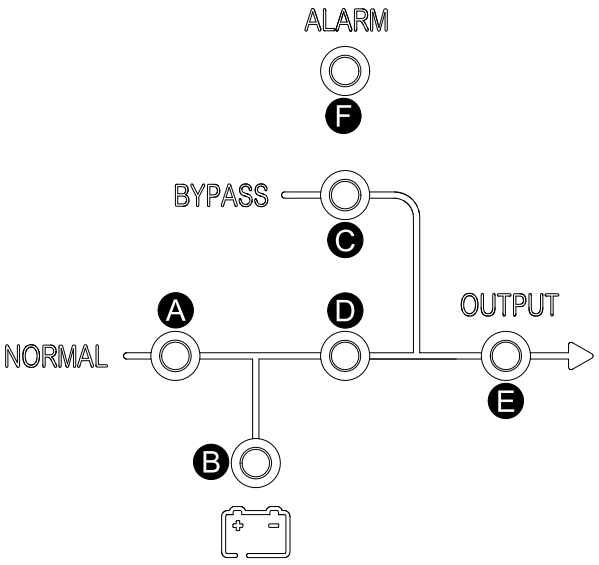
⚠DANGER

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.

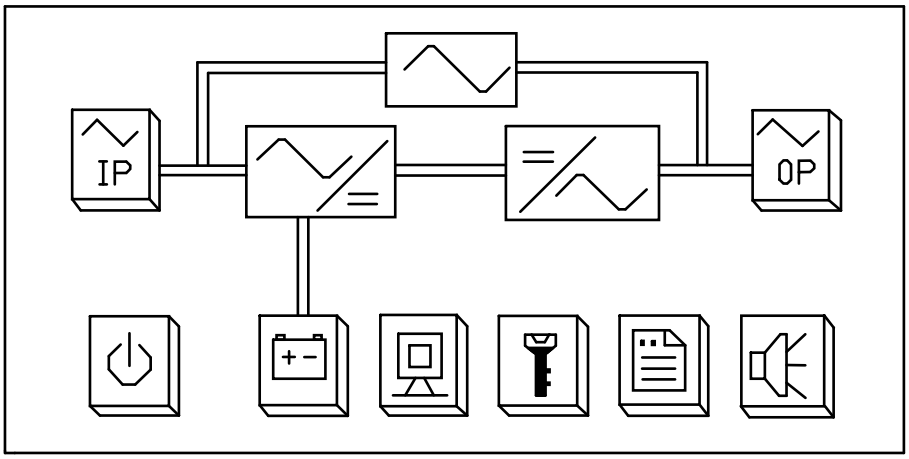
Status LEDs



	LED	Status
A	Rectifier	Green ●: Rectifier is working correctly. Flashing green ◔: Rectifier is working correctly and mains is normal. Red ●: Rectifier is inoperable. Flashing red ◔: Mains is unavailable. OFF ○: Rectifier is off.
B	Battery	Green ●: Battery is charging. Flashing green ◔: Battery is discharging. Red ●: Battery is inoperable. Flashing red ◔: Battery low voltage. OFF ○: Battery and battery charger are normal, battery is not charging.
C	Bypass	Green ●: Load supplied by bypass source. Red ●: Bypass source is unavailable or static bypass switch is inoperable. Flashing red ◔: Bypass voltage is out of tolerance. OFF ○: Bypass source is normal.
D	Inverter	Green ●: Load supplied by inverter. Flashing green ◔: Inverter on, start, synchronization or standby (ECO mode) for at least one module. Red ●: Load not supplied by inverter, inverter is inoperable. Flashing red ◔: Load supplied by inverter, but an inverter alarm is present. OFF ○: Inverter is off.
E	Load	Green ●: UPS output is on. Red ●: Overload on UPS output for too long, or output has shorted, or no output power present. Flashing red ◔: Overload on UPS output. OFF ○: UPS output is off.
F	Status	Green ●: Normal mode. Red ●: Inoperable status.

Display Interface

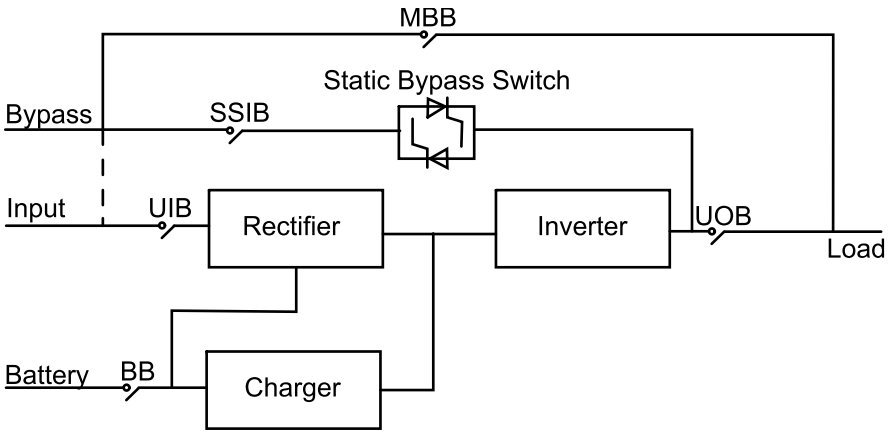
Home Screen



Buttons

							
Power On/ Off	Input and bypass status information	Output status information	Battery status information	UPS status	Function settings	Log	Mute

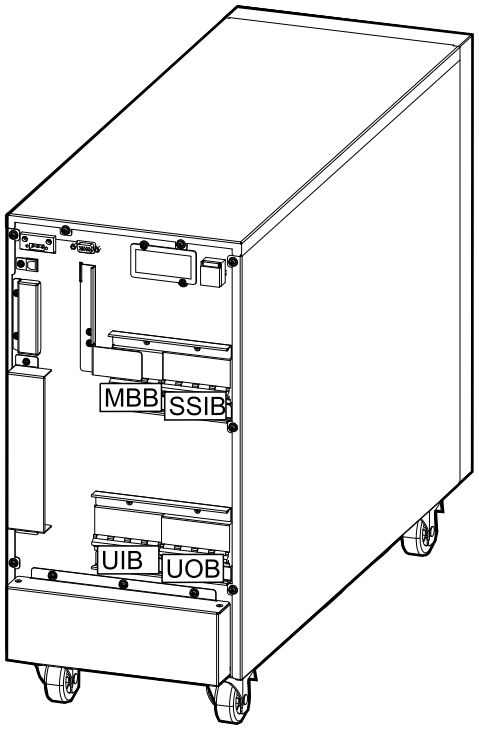
Overview of Single UPS



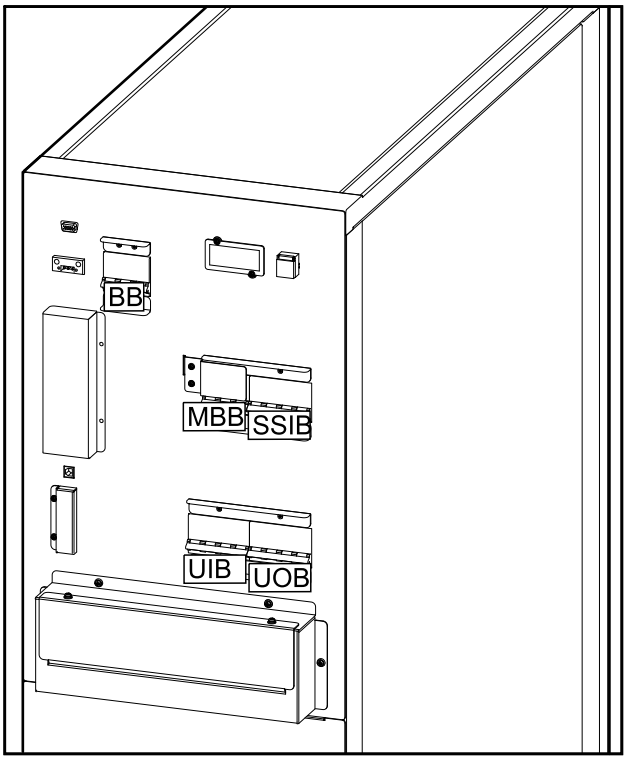
UIB	Unit input breaker
SSIB	Static switch input breaker
UOB	Unit output breaker
MBB	Maintenance bypass breaker
BB	Battery breaker

Location of Breakers

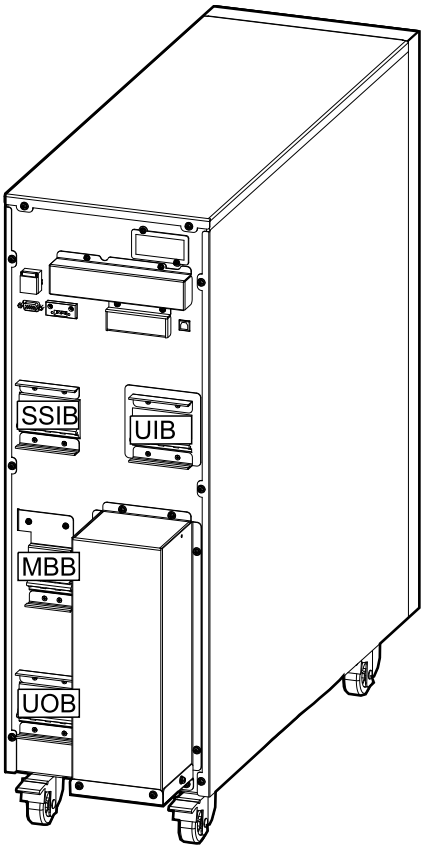
Rear View of the 10–15 kVA UPS for External Batteries



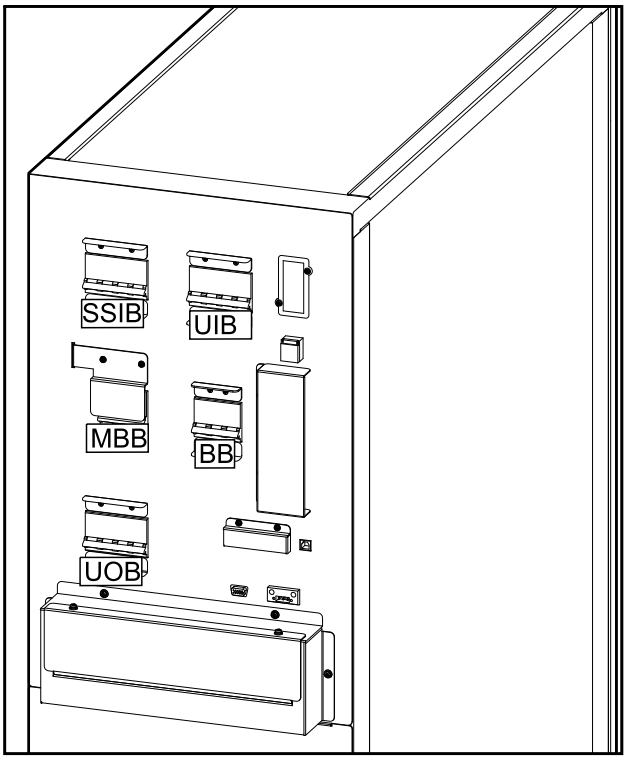
Rear View of the 10–15 kVA UPS with Internal Batteries



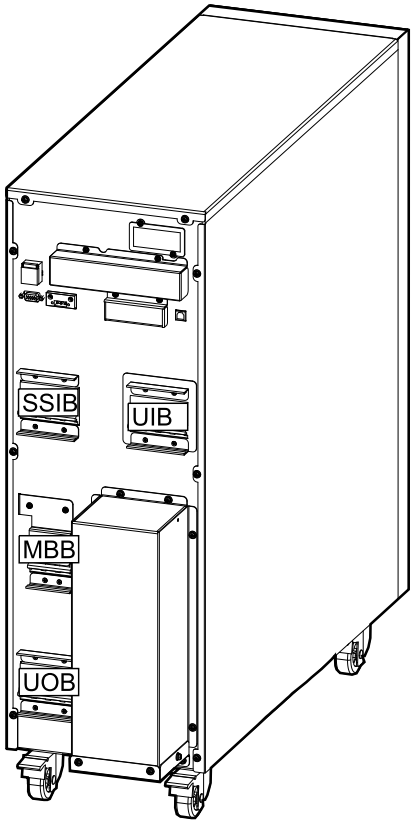
Rear View of the 20 kVA UPS for External Batteries



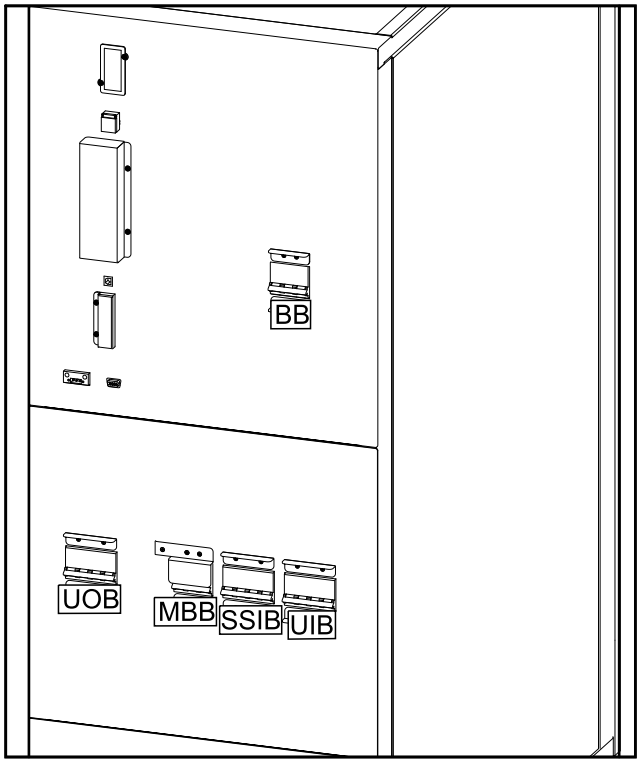
Rear View of the 20 kVA UPS with Internal Batteries



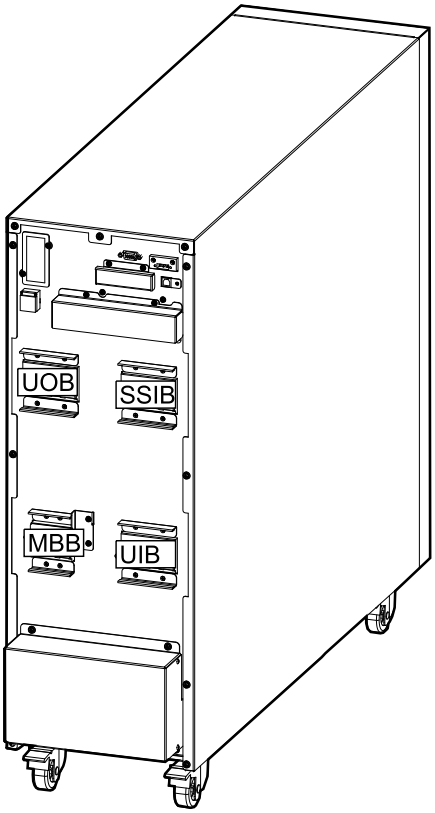
Rear View of the 30 kVA UPS for External Batteries



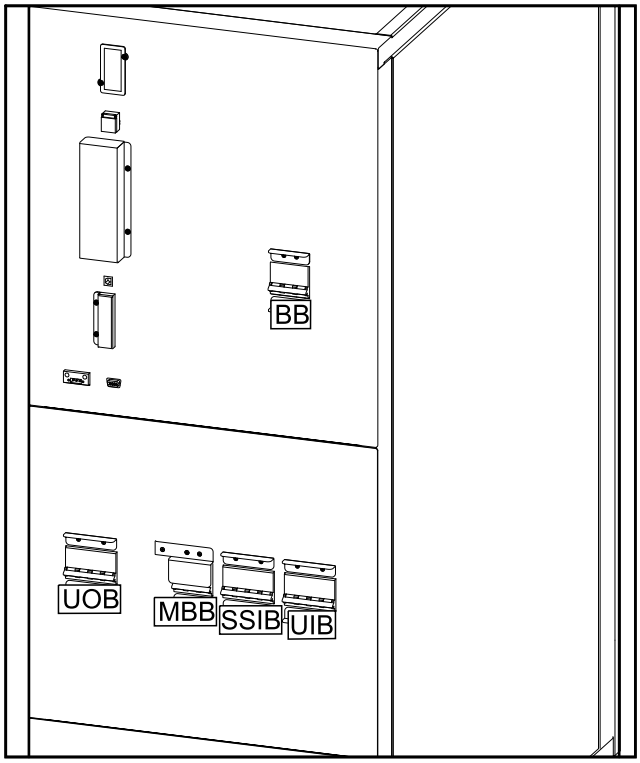
Rear View of the 30 kVA UPS with Internal Batteries



Rear View of the 40 kVA UPS for External Batteries

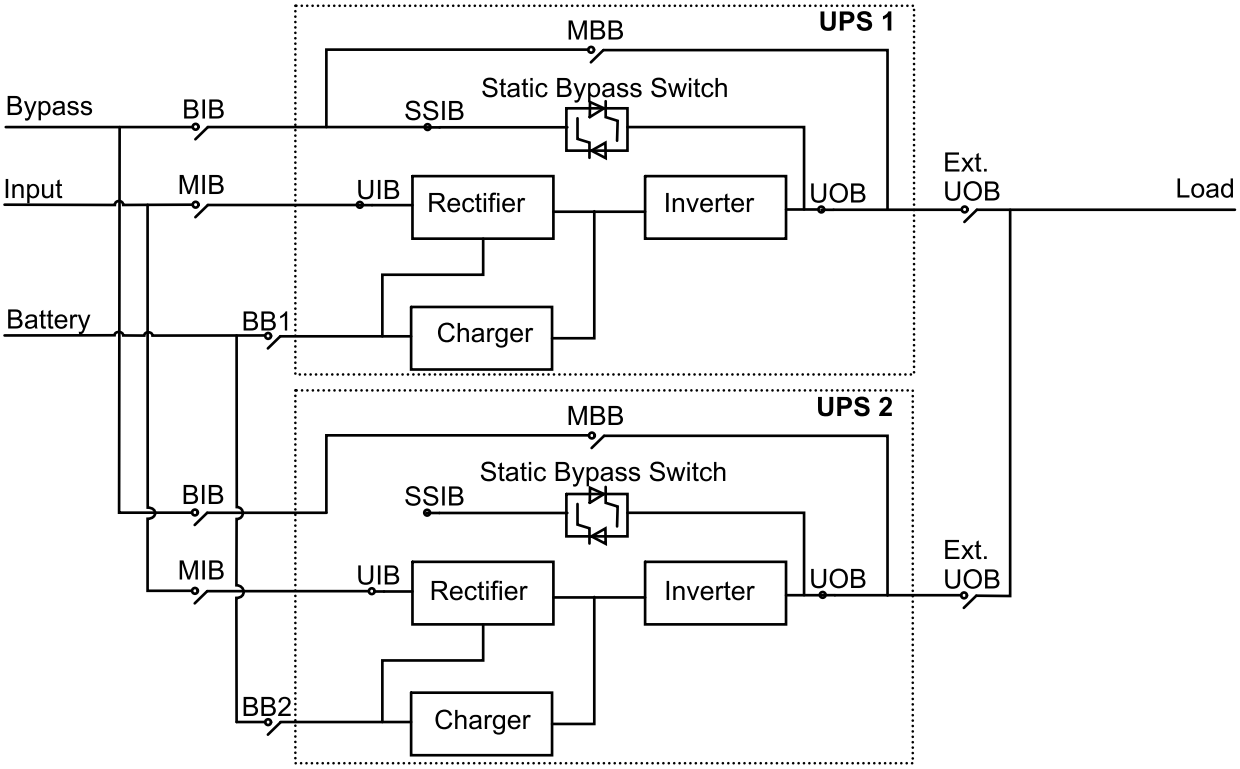


Rear View of the 40 kVA UPS with Internal Batteries



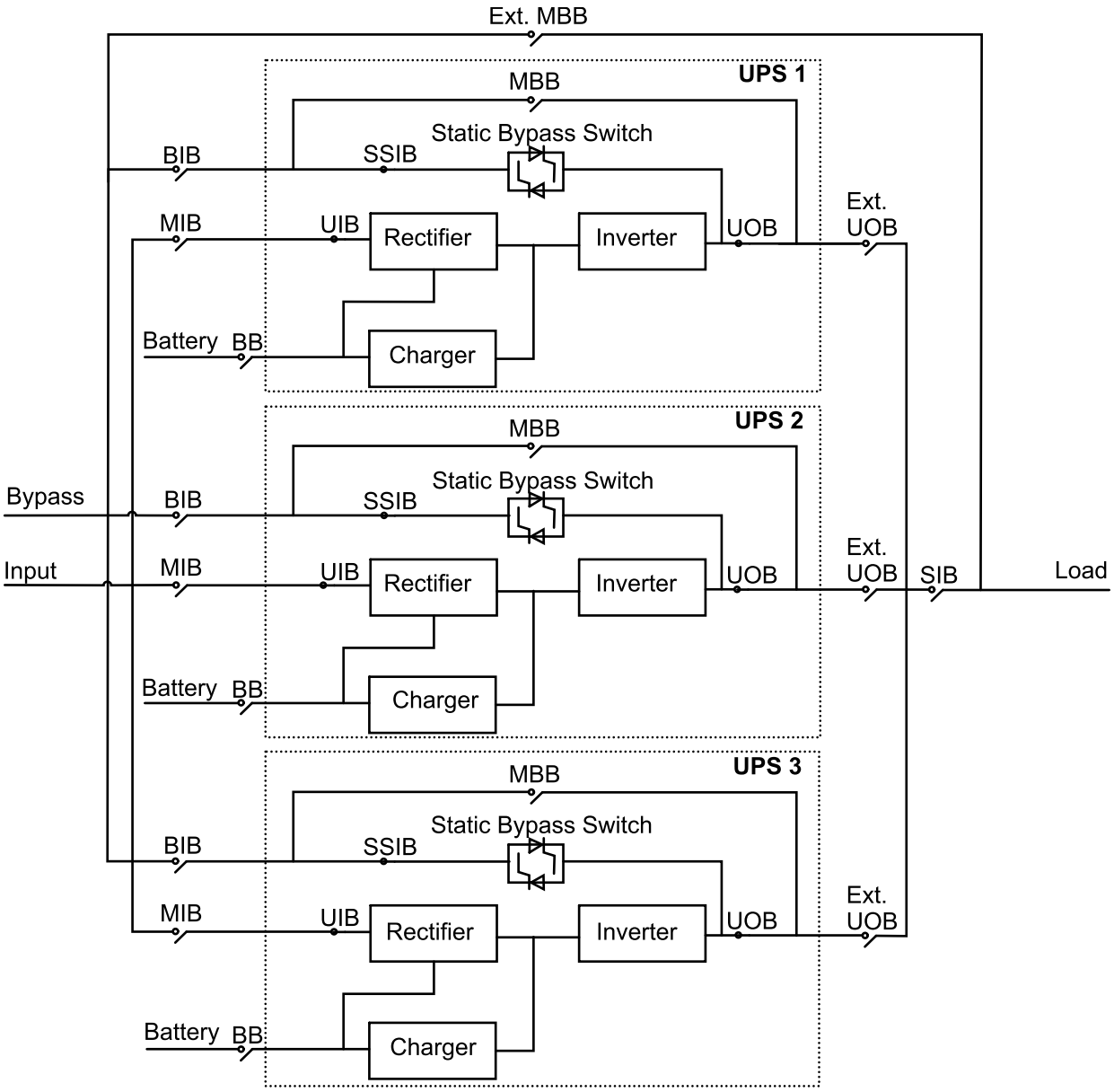
Overview of 1+1 Redundant Parallel System with Common Battery Bank

NOTE: For UPS with internal batteries, the batteries must be removed and the internal battery breaker (BB) must be opened.



MIB	Mains input breaker
BIB	Bypass input breaker
UIB	Unit input breaker
SSIB	Static switch input breaker
UOB	Unit output breaker
Ext. UOB	External unit output breaker
MBB	Maintenance bypass breaker
Ext. MBB	External maintenance bypass breaker
SIB	System isolation breaker
BB1	Battery breaker 1
BB2	Battery breaker 2

Overview of Parallel System



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

Technical Data

Input Power Factor

The values are at a 400 V, 50 Hz load.

	10 kVA	15 kVA	20 kVA	30 kVA	40 kVA
25% load	0.90	0.92	0.93	0.97	0.96
50% load	0.98	0.98	0.99	0.99	0.99
75% load	0.99	0.99	0.99	0.99	0.99
100% load	0.99	0.99	0.99	0.99	0.99

Efficiency

Efficiency in Normal Mode

The values are at a 400 V, 50 Hz load.

	10 kVA	15 kVA	20 kVA	30 kVA	40 kVA
25% load	94.4	94.0	95.0	95.3	95.2
50% load	95.3	95.1	95.8	95.9	95.8
75% load	95.3	95.0	95.8	95.8	95.7
100% load	94.9	94.7	95.5	95.3	95.3

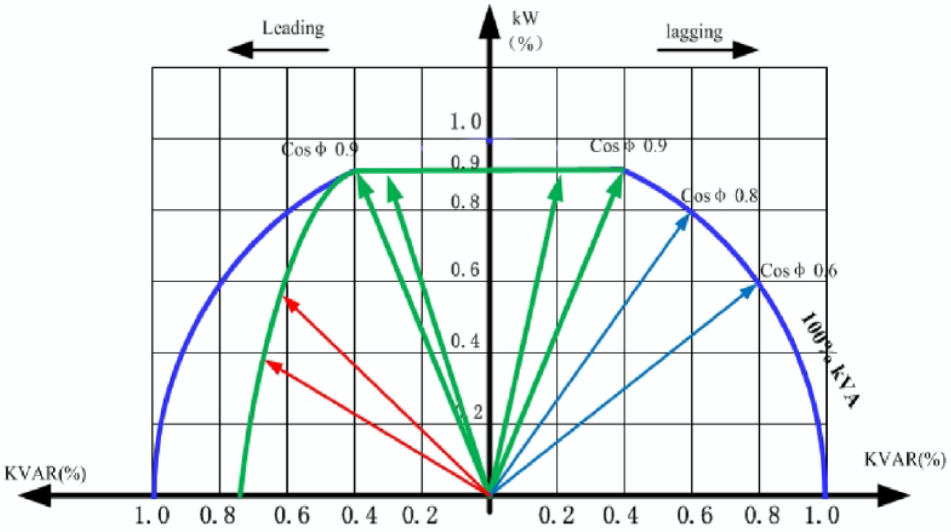
Efficiency in ECO Mode

	10 kVA	15 kVA	20 kVA	30 kVA	40 kVA
25% load	95.1	96.3	97.0	97.9	98.0
50% load	97.3	97.9	98.1	98.6	98.8
75% load	98.0	98.5	98.6	99.0	99.0
100% load	98.4	98.7	98.8	99.1	99.1

Efficiency in Battery Mode

	10 kVA	15 kVA	20 kVA	30 kVA	40 kVA
25% load	94.0	93.3	94.5	94.7	94.7
50% load	94.9	94.6	95.2	95.4	95.2
75% load	94.7	94.5	95.2	95.2	95.1
100% load	94.3	94.0	94.9	94.6	94.6

Derating Due to Load Power Factor



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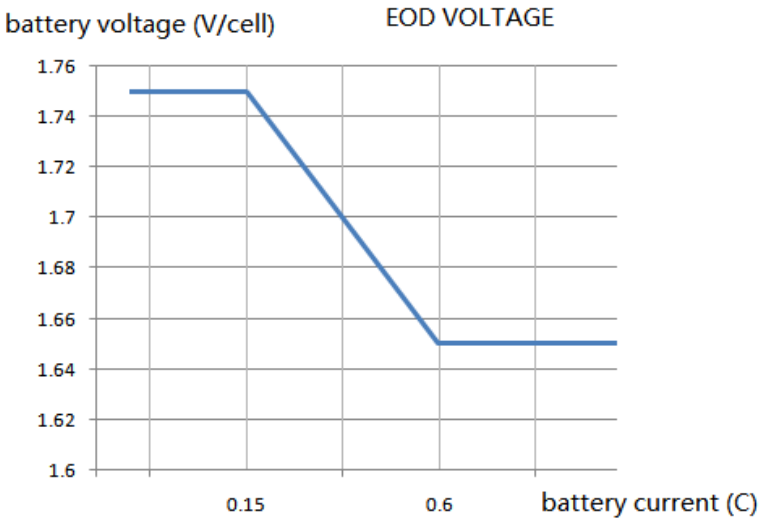
Batteries

End of Discharge Voltage



Compliance

Safety	IEC 62040-1: 2008-06, 1st edition Uninterruptible Power Systems (UPS) - Part 1: General and safety requirements for UPS EN 62040-1: 2013-01, 1st edition amendment 1
EMC/EMI/RFI	IEC 62040-2: 2005-10, 2nd edition 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
Markings	CE, RCM, EAC, WEEE
Transportation	ISTA 2B

Communication and Management

- User interface with status LEDs and LCD
- RS232
- RS485
- SNMP (option)
- Dry contacts
- USB

Facility Planning

Input Specifications

	10 kVA			15 kVA			20 kVA			30 kVA			40 kVA		
Voltage (V)	**380**	**400**	**415**	**380**	**400**	**415**	**380**	**400**	**415**	**380**	**400**	**415**	**380**	**400**	**415**
Connections	L1, L2, L3, N, PE														
Input voltage range (V)	304–477														
Frequency range (Hz)	45–65														
Nominal input current (A)	16	15	15	24	23	22	32	31	30	48	46	44	65	61	59
Maximum input current (A)	19	18	18	29	28	26	38	37	36	58	55	53	78	73	71
Input current limitation (A)	22	20	20	33	31	30	44	42	41	65	63	60	89	83	80
Total harmonic distortion (THDI)	<3% for 10 kVA UPS <4% for 15–40 kVA UPS														
Input power factor	> 0.99														
Maximum input shortcircuit withstand	Icc=10 kA														
Protection	Circuit breaker and fuse									Switch and fuse					
Ramp-in	15 seconds														

Bypass Specifications

	10 kVA			15 kVA			20 kVA			30 kVA			40 kVA		
Voltage (V)	**380**	**400**	**415**	**380**	**400**	**415**	**380**	**400**	**415**	**380**	**400**	**415**	**380**	**400**	**415**
Connections	L1, L2, L3, N, PE														
Overload capacity	125% continuous 125–130% for 10 minutes 130–150% for 1 minute >150% for 300 milliseconds														
Minimum bypass voltage (V)	304	320	332	304	320	332	304	320	332	304	320	332	304	320	332
Maximum bypass voltage (V)	437	460	477	437	460	477	437	460	477	437	460	477	437	460	477
Frequency (Hz)	50 or 60														
Nominal bypass current (A)	15	14	14	23	22	21	30	29	28	46	43	42	61	58	56
Maximum input short circuit withstand	Icc=10 kA														

Output Specifications

	10 kVA			15 kVA			20 kVA			30 kVA			40 kVA		
Voltage (V)	**380**	**400**	**415**	**380**	**400**	**415**	**380**	**400**	**415**	**380**	**400**	**415**	**380**	**400**	**415**
Connections	L1, L2, L3, N, PE														
Overload capacity	110% for 60 minutes 125% for 10 minutes 150% for 1 minute >150% for less than 200 milliseconds														
Output voltage tolerance	+/- 1.5%														
Dynamic load response	40 milliseconds														
Output power factor	1.0						1.0[2]								
Nominal output current (A)	15	14	14	23	22	21	30	29	28	46	43	42	61	58	56
Total harmonic distortion (THDU)	<3% at 100% linear load <5.5% at 100% non-linear load														
Output frequency (Hz)	50 or 60														
Slew rate (Hz/sec)	Programmable: 0.1 or 5.0. Default is 2.0.														
Output performance classification (according to EN62040–3)	VFI-SS–111														

Battery Specifications for UPSs for External Batteries

	10 kVA	15 kVA	20 kVA	30 kVA	40 kVA
Charging power	Programmable from 1% to 20% of UPS capacity. Default is 10%.				
Maximum charging power (W)	2000	3000	4000	6000	8000
Nominal battery voltage (16–20 blocks) (VDC)	+/-192 to +/- 240				
Nominal float voltage (16–20 blocks) (VDC)	+/- 216 to +/- 270				
End of discharge voltage (16–20 blocks) (full load) (VDC)	+/- 158 to +/- 198				
End of discharge voltage (16–20 blocks) (no load) (VDC)	+/- 168 to +/- 210				
Battery current at full load and nominal battery voltage (16–20 blocks) (A)	28–22	42–33	55–44	83–66	111–89
Battery current at full load and minimum battery voltage (16–20 blocks) (A)	34–27	50–40	67–54	101–81	134–107
Temperature compensation (per cell)	Programmable from 0–5 mV. Default is 3 mV.				
Ripple current	< 5% C10				

2. When ambient temperature is below 30 °C. When the ambient temperature is above 30 °C, the power factor is 0.9.

Battery Specifications for UPSs with Internal Batteries

	10 kVA	15 kVA	20 kVA	30 kVA	40 kVA
Charging power	Programmable from 1% to 20% of UPS capacity. Default is 10%.				
Maximum charging power (W)	2000	3000	4000	6000	8000
Nominal battery voltage (VDC)	+/- 240				
Nominal float voltage (VDC)	+/- 270				
End of discharge voltage (full load) (VDC)	+/- 198				
End of discharge voltage (no load) (VDC)	+/- 210				
Battery current at full load and nominal battery voltage (A)	22	33	44	66	89
Battery current at full load and minimum battery voltage (A)	27	40	54	81	107
Temperature compensation (per cell)	Programmable from 0–5 mV. Default is 3 mV.				
Ripple current	< 5% C10				

Required Upstream Protection and Cable Sizes

NOTE: Overcurrent protection must be provided by others.

Cable sizes in this manual are based on:

- Single core cables type U1000 R02V
- 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% , 35 °C at 400 V grouped in four touching cables
- Specific to DC cables: Maximum length 15 m with a line voltage drop <1%

10 kVA UPS

	Breaker	Cable Size per Phase (mm^2)	PE Cable Size (mm^2)
Input – single mains Input – dual mains	C65H-D-4P-50A/C60H-D-4P-50A C65H-D-4P-50A/C60H-D-4P-50A	6	6
Bypass	C65H-D-4P-50A/C60H-D-4P-50A	6	6
Output	C65N-B-4P-10A/C60N-B-4P-10A/ C65N-B-4P-10A /C60N-C-4P-6A	6	6
Battery	Compact NSX100F DC TM50D - 3P	8	6

15 kVA UPS

	Breaker	Cable Size per Phase (mm^2)	PE Cable Size (mm^2)
Input – single mains Input – dual mains	C65H-D-4P-50A/C60H-D-4P-50A C65H-D-4P-50A/C60H-D-4P-50A	6	6
Bypass	C65H-D-4P-50A/C60H-D-4P-50A	6	6
Output	C65N-B-4P-10A/C60N-B-4P-10A/ C65N-B-4P-10A /C60N-C-4P-6A	6	6
Battery	Compact NSX100F DC TM63D - 3P	8	6

20 kVA UPS

	Breaker	Cable Size per Phase (mm²)	PE Cable Size (mm²)
Input – single mains Input – dual mains	C65H-D-4P-63A/C60H-D-4P-63A C65H-D-4P-50A/C60H-D-4P-50A	10	10
Bypass	C65H-D-4P-63A/C60H-D-4P-63A	10	10
Output	C65N-B-4P-10A/C60N-B-4P-10A/ C65N-B-4P-10A /C60N-C-4P-6A	10	10
Battery	Compact NSX100F DC TM80D - 3P	25	10

30 kVA UPS

	Breaker	Cable Size per Phase (mm²)	PE Cable Size (mm²)
Input – single mains Input – dual mains	C120H-D-4P-80A C120H-D-4P-80A	16	16
Bypass	C120H-D-4P-80A	16	16
Output	C65N-B-4P-16A/C60N-B-4P-16A/ C65N-C-4P-10A /C60N-C-4P-10A	16	16
Battery	Compact NSX160F DC TM125D - 3P	25	16

40 kVA UPS

	Breaker	Cable Size per Phase (mm²)	PE Cable Size (mm²)
Input – single mains Input – dual mains	C120H-D-4P-125A C120H-D-4P-125A	25	16
Bypass	C120H-D-4P-125A	25	16
Output	C65N-B-4P-20A/C60N-B-4P-20A/ C65N-C-4P-10A /C60N-C-4P-10A	25	16
Battery	Compact NSX160F DC TM160D - 3P	35	16

Recommended Bolts and Cable Lugs

Cable Size (mm²)	Bolt Size	Cable Lug Type
6	M5	KST TLK6-5
8	M5	KST RNBS8-5
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

UPS Weights and Dimensions

UPS	Weight kg	Height mm	Width mm	Depth mm
10 kVA UPS for external batteries	36	530	250	700
15 kVA UPS for external batteries	36	530	250	700
20 kVA UPS for external batteries	58	770	250	800
30 kVA UPS for external batteries	60	770	250	800
40 kVA UPS for external batteries	70	770	250	900
10 kVA UPS with internal batteries	112[3]	1400	380	928
15 kVA UPS with internal batteries	112[3]	1400	380	928
20 kVA UPS with internal batteries	122[3]	1400	380	928
30 kVA UPS with internal batteries	152[3]	1400	500	969
40 kVA UPS with internal batteries	158[3]	1400	500	969
Battery	27	157	107	760

UPS Shipping Weights and Dimensions

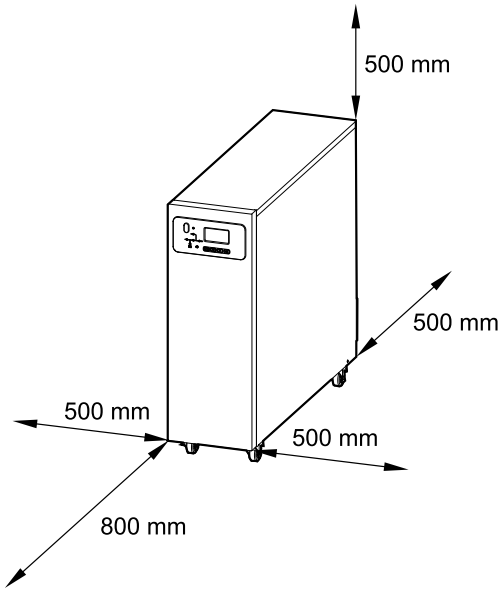
UPS	Weight kg	Height mm	Width mm	Depth mm
10 kVA UPS for external batteries	50	772	400	857
15 kVA UPS for external batteries	50	772	400	857
20 kVA UPS for external batteries	75	1015	400	982
30 kVA UPS for external batteries	77	1015	400	982
40 kVA UPS for external batteries	86	1015	400	1050
10 kVA UPS with internal batteries	145[3]	1640	563	1014
15 kVA UPS with internal batteries	145[3]	1640	563	1014
20 kVA UPS with internal batteries	158[3]	1640	563	1014
30 kVA UPS with internal batteries	190[3]	1640	683	1114
40 kVA UPS with internal batteries	195[3]	1640	683	1114
Battery	28	180	140	820

3. Weight without batteries

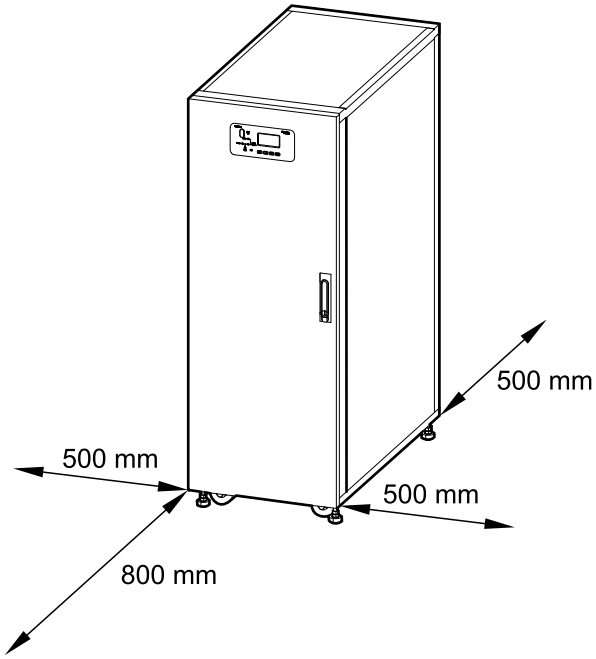
Clearance

NOTE: Clearance dimensions are published for airflow and service access only. Consult with the local safety codes and standards for additional requirements in your local area.

Front View of UPS for External Batteries



Front View of UPS with Internal Batteries



Environmental

	Operation	Storage
Temperature	0 °C to 40 °C[4]	-15 °C to 40 °C for systems with batteries -25 °C to 55 °C for systems without batteries
Relative humidity	0–95% non-condensing	
Elevation derating according to IEC 62040–3	1000 m: 1.000 1500 m: 0.975 2000 m: 0.950	< 15000 m above sea level (or in an environment with equivalent air pressure)
Audible noise	10–20 kVA: <60 dBA at full load 30–40 kVA: <63 dBA at full load	
Protection class	IP20 (dust filter as standard)	
Color	RAL 9003	

Heat Dissipation

	10 kVA	15 kVA	20 kVA	30 kVA	40 kVA
Normal mode (W)	516	852	900	1410	1880
Battery mode (W)	600	950	1080	1700	2270
ECO mode (W)	135	223	240	370	480

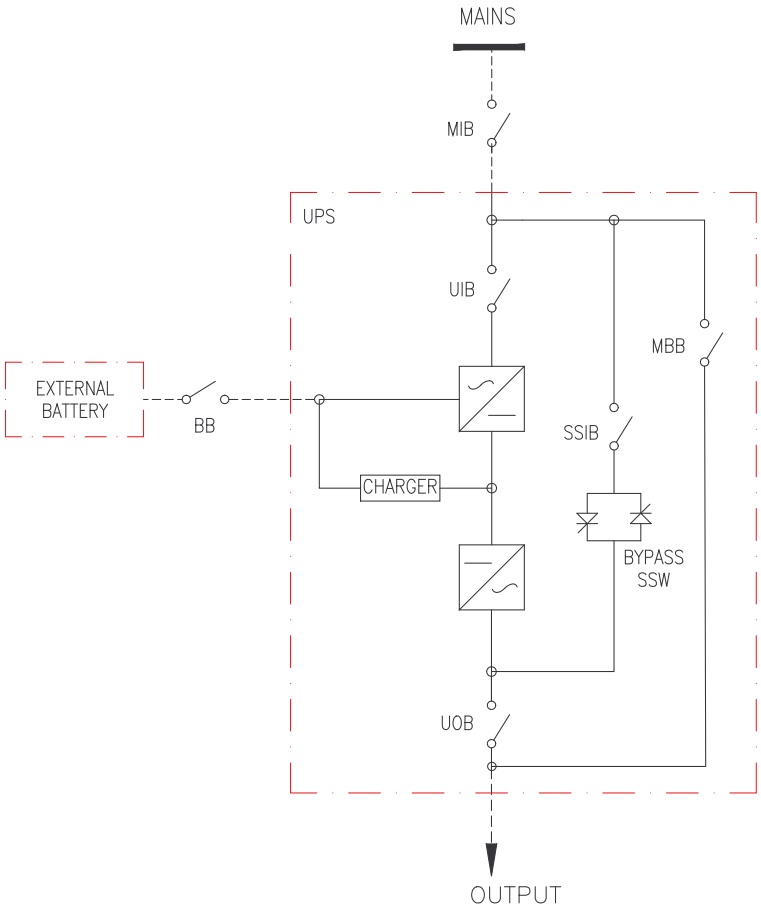
4. The optimal operation temperature for batteries is 20 °C to 25 °C

Drawings

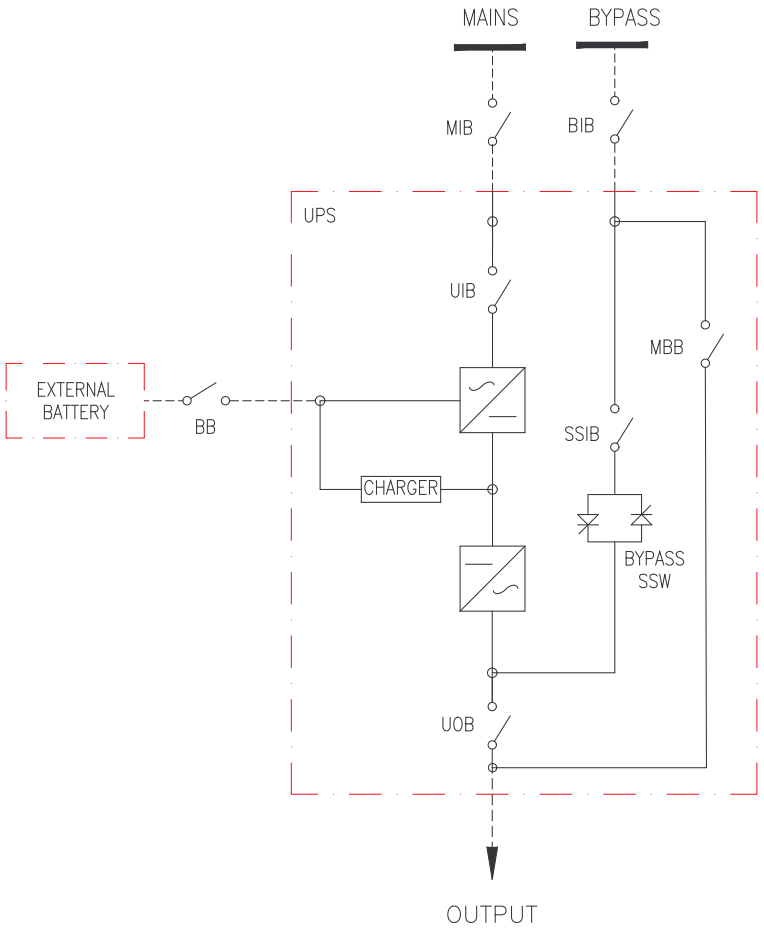
NOTE: A comprehensive set of drawings is available on the engineering website at engineer.apc.com.

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

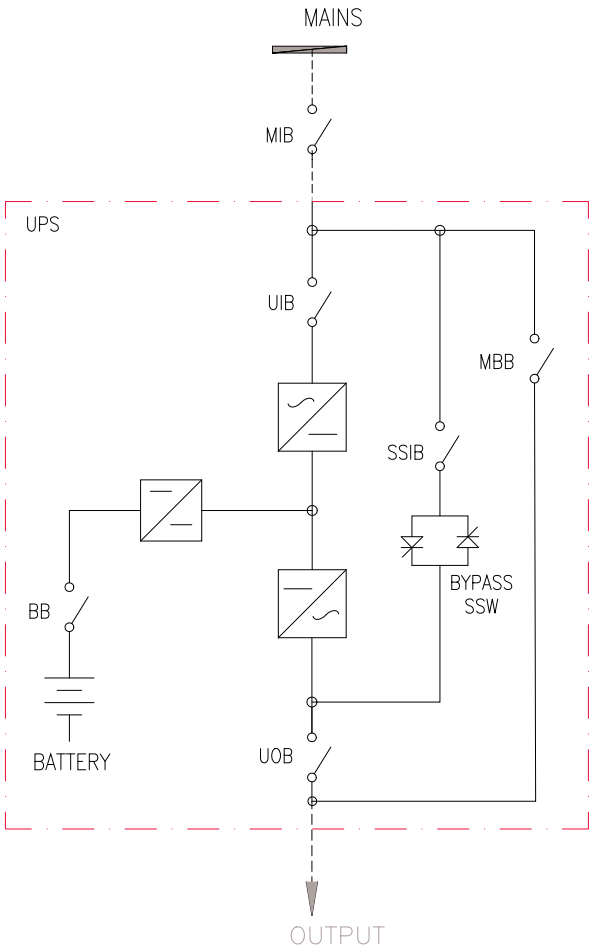
Easy UPS 3S for External Batteries – Single Mains System



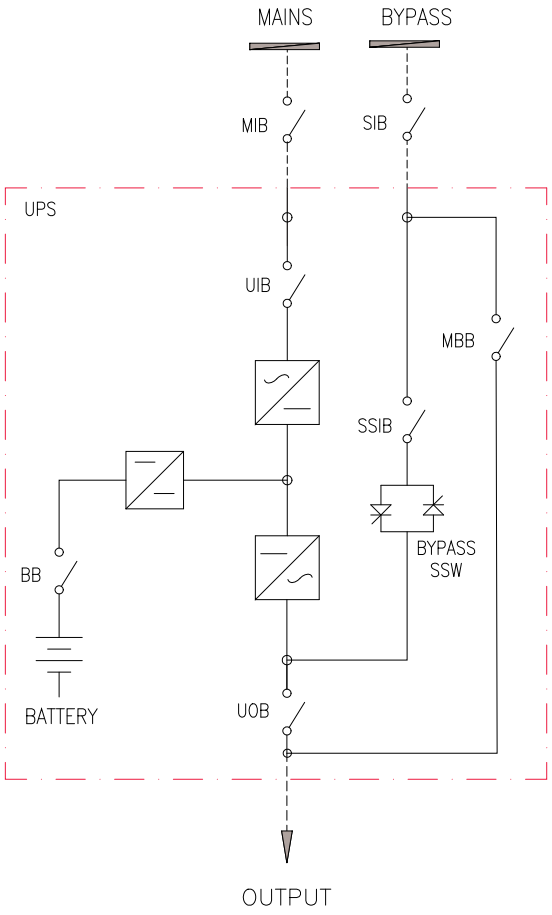
Easy UPS 3S for External Batteries – Dual Mains System



Easy UPS 3S with Internal Batteries – Single Mains System



Easy UPS 3S with Internal Batteries – Dual Mains System



Options

Hardware Options

- E3SOPT001: Easy UPS 3S network management card
- E3SOPT002: Easy UPS 3S parallel kit (5 m cable)
- E3SOPT003: Temperature sensor kit for external battery system
- E3SOPT004: Easy UPS 3S cold start kit

Configuration Options

- Single or dual mains
- Bottom cable entry
- Up to four UPSs in parallel
- ECO mode

Settings

Setting	Default Value	Available Settings
LCD contrast	60	0 to 100
Date and Time	05/07/2013 08:55:55	Year > 2000
Language	English	Chinese simplified, English, Italian, German, Russian, Spanish, Portuguese Brazilian, and French
Input voltage	400 V	380 V/400 V/415 V
Input frequency	50 Hz	60 Hz
Output voltage	400 V	380 V/400 V/415 V
Output frequency	50 Hz	60 Hz
Output phase	3	1
Auto boost	disable	enable
Auto maint	disable	enable
System mode	single	parallel/ECO/parallel ECO/self aging
United number	1	1 to 4
System ID	0	0 to 3
Adjusted output voltage	400 V	Output voltage ±10 V
Frequency slew rate	2 Hz/s	0.1 to 5.0 Hz/s
Frequency synchronization window	3 Hz	0.5 to 5.0 Hz
Monochrome LCD time (min)	10	1/3/5/10/20/30
Bypass voltage upper limit (%)	15	10/20/25
Bypass voltage lower limit (%)	-20	-10/-15/-30/-40
Bypass frequency limited (Hz)	±5	±1/±3/±5
System restart mode after end of discharge	Normal	bypass only/ no output
Fan maintenance period	34560 hours (48 months)	0 to 60000 hours
DC capacitor maintenance period	34560 hours (48 months)	0 to 60000 hours
warranty period	9 months	1 to 36 months
AC capacitor maintenance period	120 months	60 to 120 months

Setting	Default Value	Available Settings
APS maintenance period	84 months	36 to 120 months
Dust filter maintenance period	3 months	0/3/4/5/12 months
Battery maintenance period	1440 days (48 months)	100 to 3000 days
Battery number	40	32/34/36/38/40
Battery AH	1	1 to 30000
Float charge voltage/cell (V)	2.25	2.10 to 2.35
Boost charge voltage/cell (V)	2.25	2.20 to 2.45
End of discharge voltage/cell, at 0.6 C current (V)	1.65	1.50 to 1.85
End of discharge voltage/xell, at 0.15 C current (V)	1.75	1.55 to 1.90
Charge current percent limit (%)	10	1 to 20
Battery temperature compensation	0	0 to 5 mV/℃
Boost charge time limit	12 hours	1 to 48 hours
Auto boost period	2160 hours (3 months)	720 to 30000 hours, available when auto boost is enabled
Auto maintenance discharge period	6480 hours (9 months)	720 to 30000 hours, available when auto maintenance is enabled
Critical battery temperature	45 ℃	25 ℃ to 70 ℃
Critical ambient temperature	40 ℃	25 ℃ to 70 ℃

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