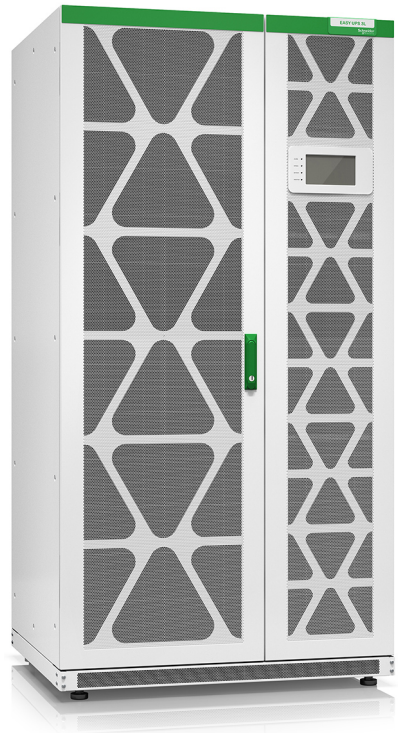
Easy UPS 3L

500-600 kVA

Technical Specifications

6/2020



www.se.com

Legal Information

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

This guide and its content are protected under applicable copyright laws and furnished for informational use only. No part of this guide may be reproduced or transmitted in any form or by any means (electronic, mechanical, photocopying, recording, or otherwise), for any purpose, without the prior written permission of Schneider Electric.

Schneider Electric does not grant any right or license for commercial use of the guide or its content, except for a non-exclusive and personal license to consult it on an "as is" basis. Schneider Electric products and equipment should be installed, operated, serviced, and maintained only by qualified personnel.

As standards, specifications, and designs change from time to time, information contained in this guide may be subject to change 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 material or consequences arising out of or resulting from the use of the information contained herein.

Go to *http://www.productinfo.schneider-electric.com/portals/ui/easyups3l/* for translations.
Rendez-vous sur *http://www.productinfo.schneider-electric.com/portals/ui/easyups3l/* pour accéder aux traductions.
Vaya a *http://www.productinfo.schneider-electric.com/portals/ui/easyups3l/* para obtener las traducciones.
Gehe zu *http://www.productinfo.schneider-electric.com/portals/ui/easyups3l/* für Übersetzungen.
Vai a *http://www.productinfo.schneider-electric.com/portals/ui/easyups3l/* per le traduzioni.
Vá para *http://www.productinfo.schneider-electric.com/portals/ui/easyups3l/* para obter as traduções.
Перейдите по ссылке *http://www.productinfo.schneider-electric.com/portals/ui/easyups3l/* для просмотра переводов.
前往 *http://www.productinfo.schneider-electric.com/portals/ui/easyups3l/* 查看译文。

Table of Contents

Important Safety Instructions — SAVE THESE INSTRUCTIONS 5
- Electromagnetic Compatibility 6
- Safety Precautions 6
  - Electrical Safety 8
  - Battery Safety 9

Model List 11

System Overview 12
- User Interface 12
  - Status LEDs 12
- Overview of Single UPS 13
- Overview of 1+1 Redundant Parallel System with Common Battery Bank 14
- Overview of Parallel System 15

Technical Data 16
- Input Power Factor 16
- Efficiency 16
- Derating Due to Load Power Factor 17
- End of Discharge Voltage 17
- Battery Runtimes 18
  - Classic Battery Runtimes 18
- Compliance 19
- Communication and Management 19

Facility Planning 20
- Input Specifications 20
- Bypass Specifications 20
- Output Specifications 21
- Battery Specifications 22
- Recommended Upstream Protection 22
- Recommended Cables Sizes 23
- Recommended Bolts and Cable Lugs 24
- Torque Specifications 24
- UPS Weights and Dimensions 25
- UPS Shipping Weights and Dimensions 25
- Clearance 25
- Environmental 26
  - Heat Dissipation 26

Requirements for a Third Party Battery Solution 27
- Third Party Battery Breaker Requirements 27
- Guidance for Organizing Battery Cables 28

Weights and Dimensions 29
- Classic Battery Cabinet Weights and Dimensions 29
- Classic Battery Cabinet Shipping Weights and Dimensions 29
- Battery Breaker Box Weight and Dimensions 29
- Battery Breaker Box Shipping Weight and Dimensions 29
- Battery Breaker Kit Weight and Dimensions 30
- Battery Breaker Kit Shipping Weight and Dimensions 30

Drawings 31
Easy UPS 3L UPS for External Batteries – Single Mains System 31
Easy UPS 3L UPS for External Batteries – Dual Mains System 32
Options 33
Default Settings 33
Limited Factory Warranty 35

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

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

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

⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

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

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

⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

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

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

⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- The product must be installed according to the specifications and requirements as defined by Schneider Electric. It concerns in particular the external and internal protections (upstream breakers, battery breakers, cabling, etc.) and environmental requirements. No responsibility is assumed by Schneider Electric if these requirements are not respected.
- After the UPS system has been electrically wired, do not start up the system. Start-up must only be performed by Schneider Electric.

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

⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

The UPS system must be installed according to local and national regulations. Install the UPS according to:

- IEC 60364 (including 60364–4–41- protection against electric shock, 60364–4–42 - protection against thermal effect, and 60364–4–43 - protection against overcurrent), **or**
- NEC NFPA 70, **or**
- Canadian Electrical Code (C22.1, Part 1)

depending on which one of the standards apply in your local area.

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

⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Install the UPS system in a temperature controlled indoor environment free of conductive contaminants and humidity.
- Install the UPS system on a non-flammable, level and solid surface (e.g. concrete) that can support the weight of the system.

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

⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

The UPS is not designed for and must therefore not be installed in the following unusual operating environments:

- Damaging fumes
- Explosive mixtures of dust or gases, corrosive gases, or conductive or radiant heat from other sources
- Moisture, abrasive dust, steam or in an excessively damp environment
- Fungus, insects, vermin
- Salt-laden air or contaminated cooling refrigerant
- Pollution degree higher than 2 according to IEC 60664-1
- Exposure to abnormal vibrations, shocks, and tilting
- Exposure to direct sunlight, heat sources, or strong electromagnetic fields

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

⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

Do not drill or cut holes for cables or conduits with the gland plates installed and do not drill or cut holes in close proximity to the UPS.

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

⚠WARNING

HAZARD OF ARC FLASH

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

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

NOTICE

RISK OF OVERHEATING

Respect the space requirements around the UPS system and do not cover the product's ventilation openings when the UPS system is in operation.

Failure to follow these instructions can result in equipment damage.

NOTICE

RISK OF EQUIPMENT DAMAGE

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

Failure to follow these instructions can result in equipment damage.

Electrical Safety

⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Electrical equipment must be installed, operated, serviced, and maintained only by qualified personnel.
- Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices.
- Turn off all power supplying the UPS system before working on or inside the equipment.
- Before working on the UPS system, check for hazardous voltage between all terminals including the protective earth.
- The UPS contains an internal energy source. Hazardous voltage can be present even when disconnected from the mains supply. Before installing or servicing the UPS system, ensure that the units are OFF and that mains and batteries are disconnected. Wait five minutes before opening the UPS to allow the capacitors to discharge.
- A disconnection device (e.g. disconnection circuit breaker or switch) must be installed to enable isolation of the system from upstream power sources in accordance with local regulations. The disconnection device must be easily accessible and visible.
- The UPS must be properly earthed/grounded and due to a high leakage current, the earthing/grounding conductor must be connected first.

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

⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

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

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

When the UPS input is connected through external isolators that, when opened, isolate the neutral or when the automatic backfeed isolation is provided external to the equipment or is connected to an IT power distribution system, a label must be fitted at the UPS input terminals, and on all primary power isolators installed

remote from the UPS area and on external access points between such isolators and the UPS, by the user, displaying the following text (or equivalent in a language which is acceptable in the country in which the UPS system is installed):

⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

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

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

⚠ CAUTION

RISK OF ELECTRICAL DISTURBANCE

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

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

Battery Safety

⚠⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

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

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

⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

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

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

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

⚠⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

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

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

NOTICE

RISK OF EQUIPMENT DAMAGE

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

Failure to follow these instructions can result in equipment damage.

Model List

UPS

- E3LUPS500KHS: Easy UPS 3L 500 kVA 400 V, Start-up 5x8
- E3LUPS600KHS: Easy UPS 3L 600 kVA 400 V, Start-up 5x8

Battery Solutions

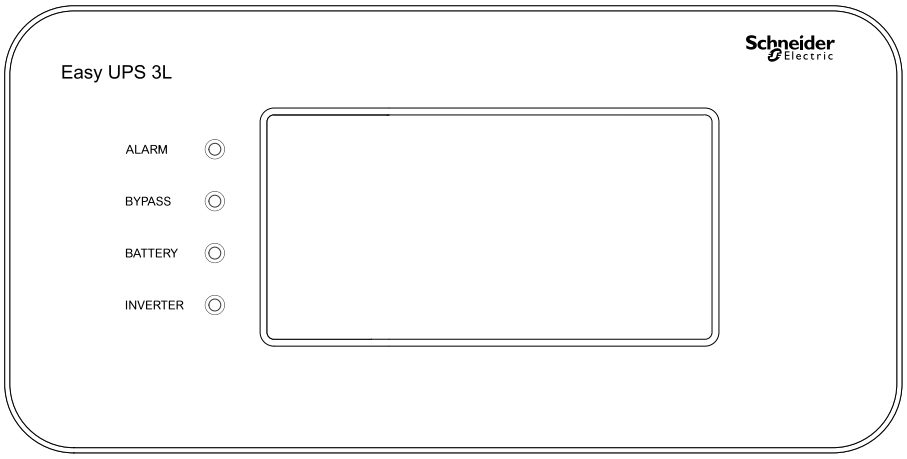
- E3MCBC7B: Easy UPS 3M Classic Battery Cabinet with batteries, IEC, 700 mm wide - Config B
- E3MCBC10A: Easy UPS 3M Classic Battery Cabinet with batteries, IEC, 1000 mm wide - Config A
- E3MCBC10B: Easy UPS 3M Classic Battery Cabinet with batteries, IEC, 1000 mm wide - Config B
- E3MCBC10C: Easy UPS 3M Classic Battery Cabinet with batteries, IEC, 1000 mm wide - Config C
- E3MCBC10D: Easy UPS 3M Classic Battery Cabinet with batteries, IEC, 1000 mm wide - Config D
- E3MCBC10E: Easy UPS 3M Classic Battery Cabinet with batteries, IEC, 1000 mm wide - Config E
- E3MBBB100K200H: Battery Breaker Box 630 A, one circuit breaker for Easy UPS 3M/3L
- E3MBBK100K200H: Battery Breaker Kit 630 A, one circuit breaker for Easy UPS 3M/3L

Options

- E3SOPT001: Easy UPS 3 Series Network Card
- E3LOPT001: Easy UPS 3L Parallel Kit with 20m cable
- E3LOPT002: Synchronization Kit with 20m cable for Easy UPS 3M/3L
- E3MOPT005: Easy UPS 3M cold start kit for 60-200 kVA

System Overview

User Interface

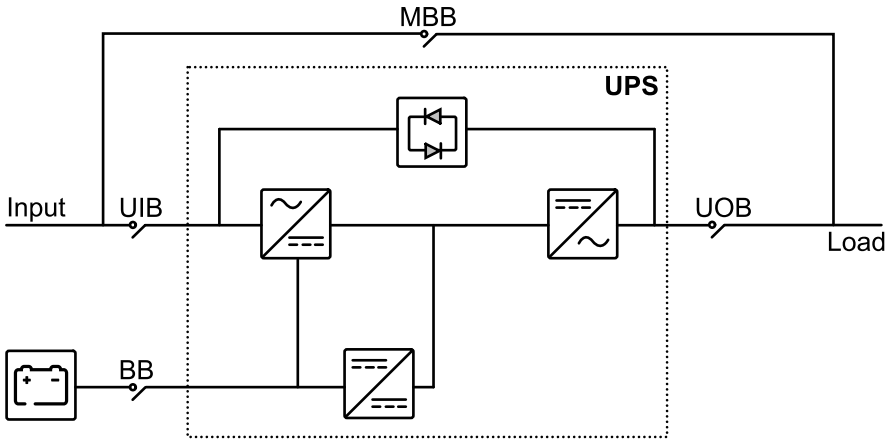


Status LEDs

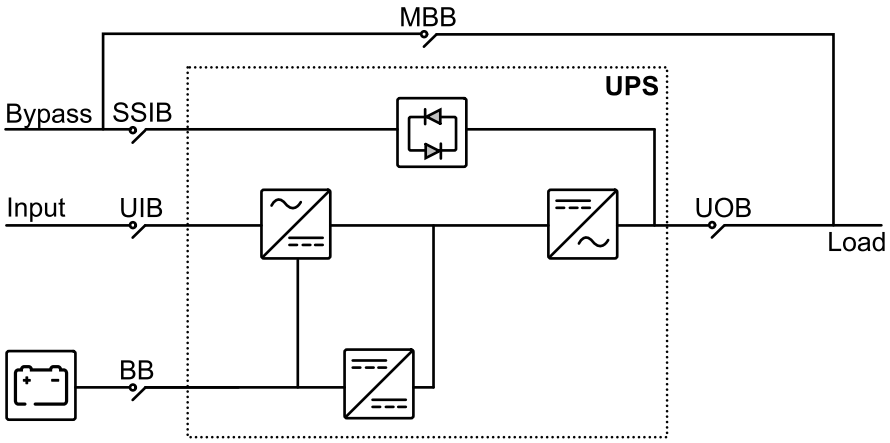
LED	State	Description
ALARM	Steady or flashing red	Critical alarm
	Steady or flashing yellow	Warning alarm
	Off	No alarm condition
BYPASS	Steady yellow	The load is supplied by the bypass source
	Flashing yellow	There is an alarm condition on the bypass source
	Off	The load is not supplied by the bypass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

Overview of Single UPS

Single Mains System

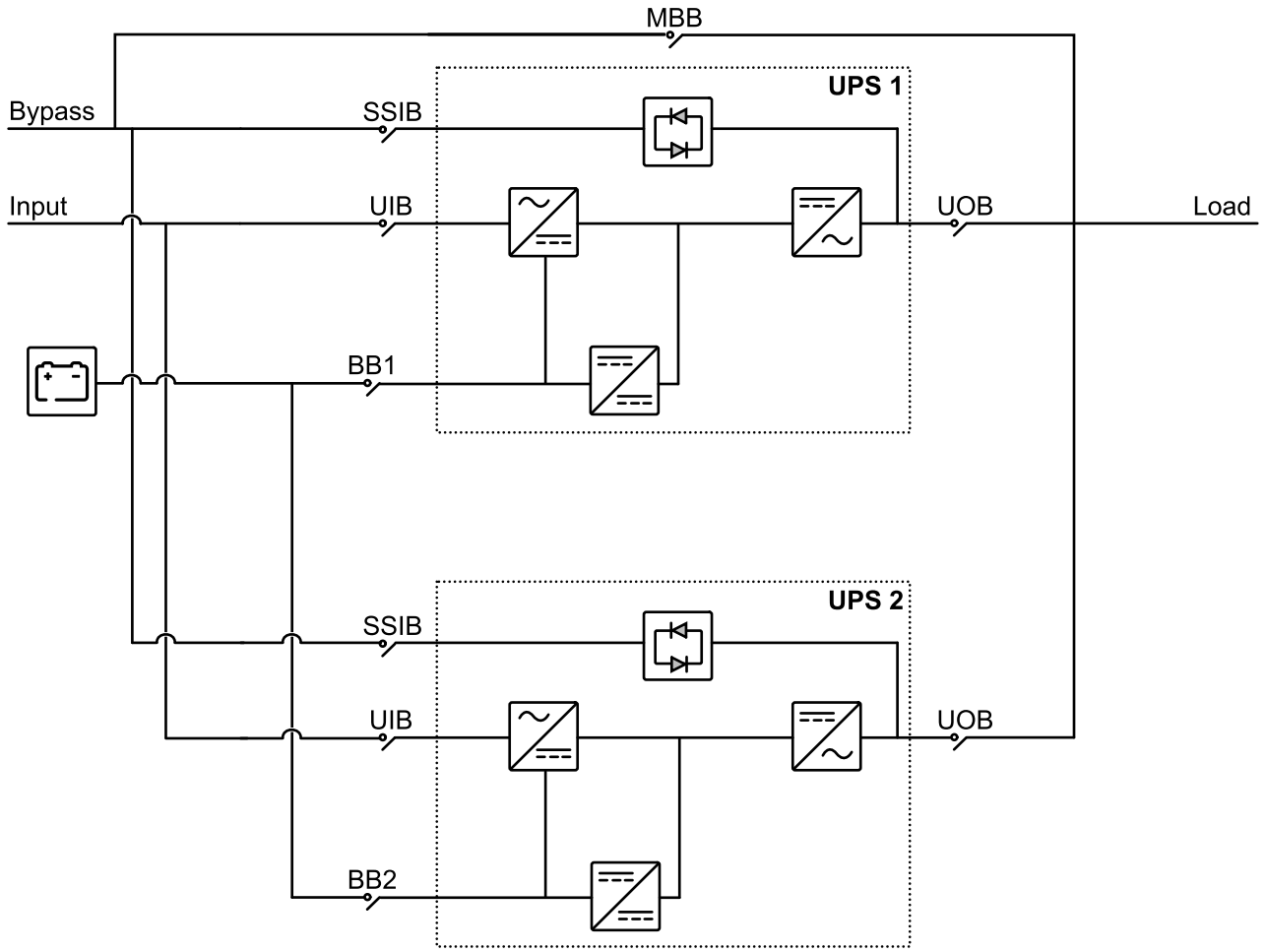


Dual Mains System



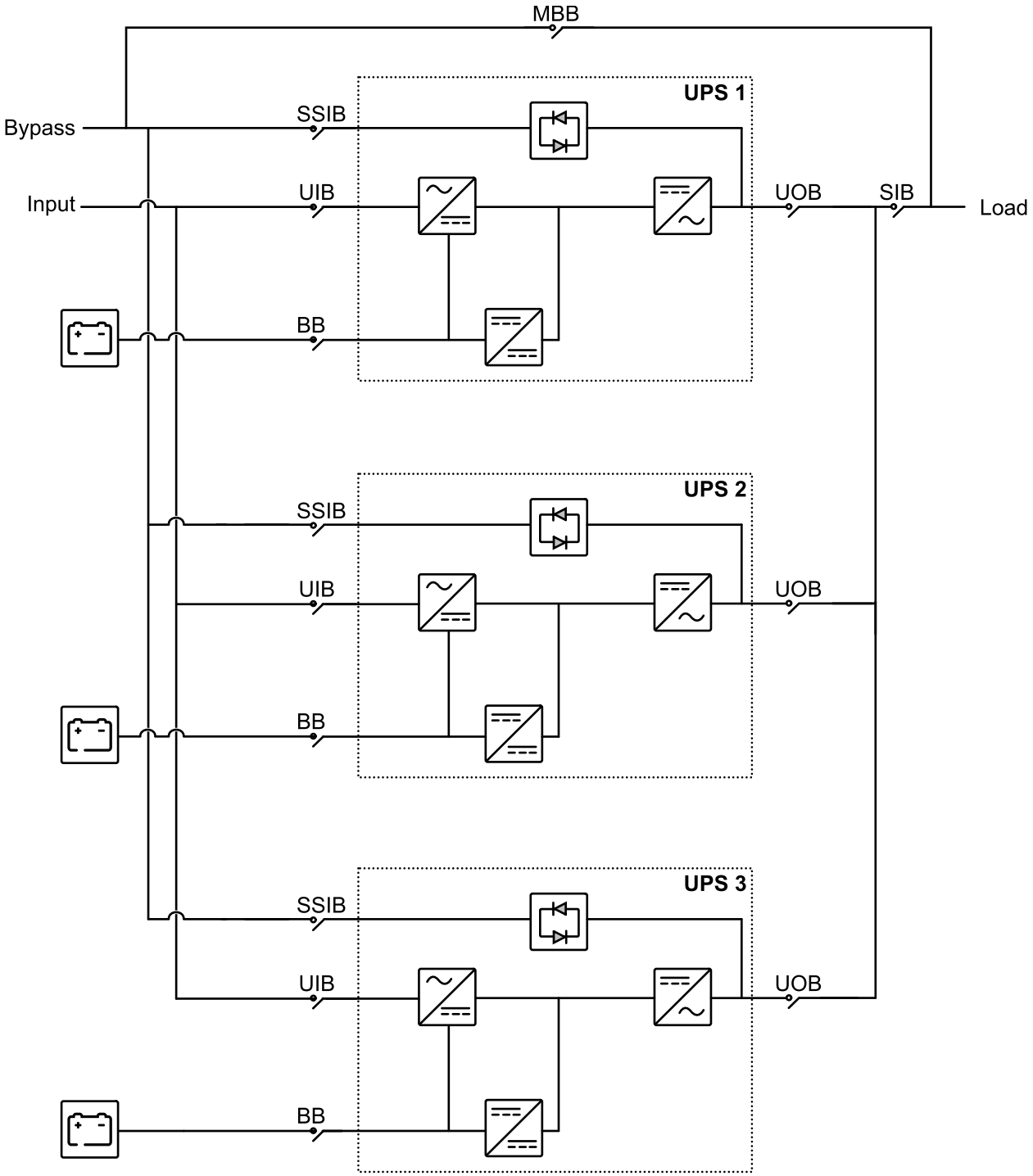
UIB	Unit input breaker
SSIB	Static switch input breaker
UOB	Unit output breaker
MBB	Maintenance bypass breaker
BB	Battery breaker

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



UIB	Unit input breaker
SSIB	Static switch input breaker
UOB	Unit output breaker
MBB	Maintenance bypass breaker
BB1	Battery breaker 1
BB2	Battery breaker 2

Overview of Parallel System



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

Technical Data

Input Power Factor

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

UPS rating	500 kVA	600 kVA
25% load	0.99	0.99
50% load	0.99	0.99
75% load	0.99	0.99
100% load	0.99	0.99

Efficiency

The values are at a 400 V, 50 Hz linear load, at output power factor 1.

Normal Mode

UPS rating	500 kVA	600 kVA
25% load	95.42%	95.36%
50% load	95.45%	95.58%
75% load	94.90%	95.06%
100% load	94.16%	94.24%

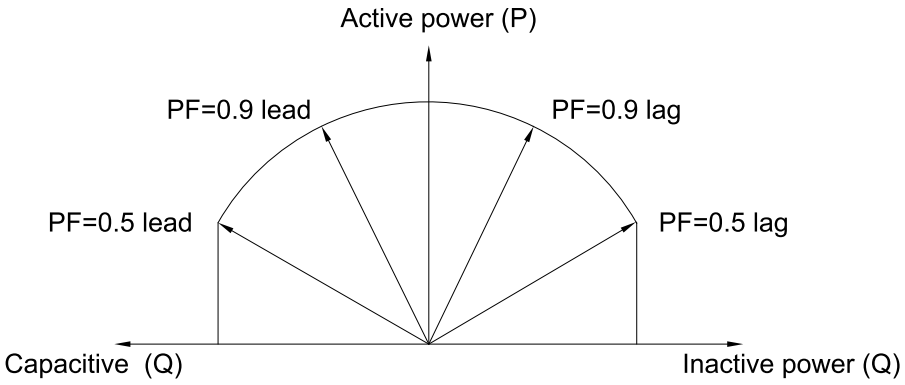
ECO mode

UPS rating	500 kVA	600 kVA
25% load	99.04%	98.99%
50% load	99.31%	99.26%
75% load	99.38%	99.32%
100% load	99.34%	99.31%

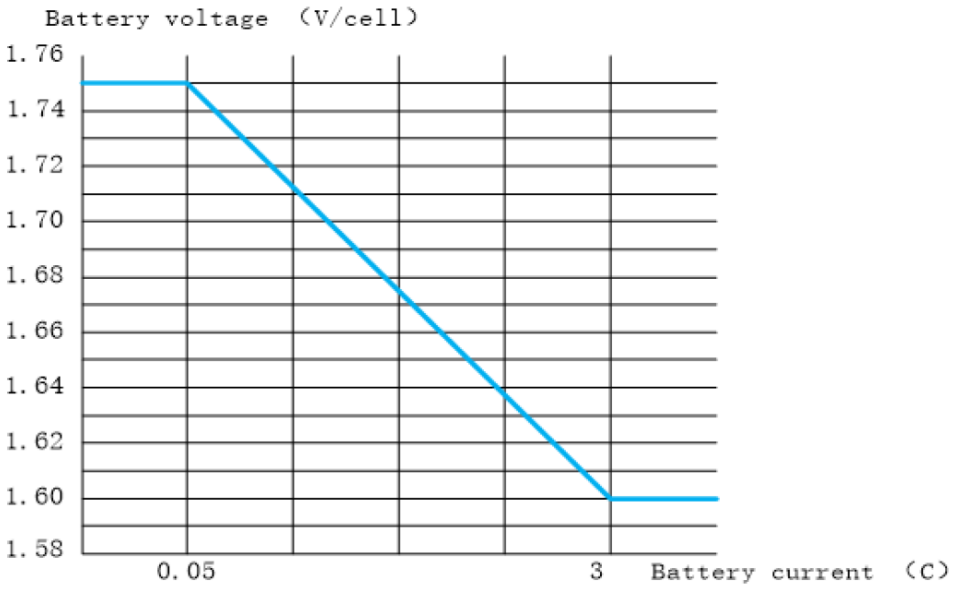
Battery operation

UPS rating	500 kVA	600 kVA
25% load	94.46%	94.80%
50% load	95.18%	95.07%
75% load	94.81%	94.62%
100% load	94.29%	94.34%

Derating Due to Load Power Factor



End of Discharge Voltage



Battery Runtimes

Classic Battery Runtimes

Battery runtimes are listed in minutes.

Battery runtimes are estimated values based on battery manufacturer data for operation at 25 °C.

Please note that not all battery solutions are available for all UPS ratings due to:

- The specific battery solution would provide less than 5 minutes runtime with the specific UPS.

UPS rating	**500 kVA**				**600 kVA**			
Power factor	**1**							
	25% load	**50% load**	**75% load**	**100% load**	**25% load**	**50% load**	**75% load**	**100% load**
E3MCBC10E	21	6.8						
2 x E3MCBC10B	21	6.8						
2 x E3MCBC10C	24.5	8.3						
2 x E3MCBC10D	37	15	8.3		29.5	11.5	6.1	
2 x E3MCBC10E	52.5	21	11	6.7	41.5	16	8.3	
3 x E3MCBC7B	18	6.5						
3 xE3MCBC10A	25.5	10	5		20	7.5		
3 xE3MCBC10B	36.5	13.5	6.7		28.5	10		
3 xE3MCBC10C	41.5	16	8.3		33	12	5.7	
3 xE3MCBC10D	60	26	15	9.9	48	20.5	11.5	7.4
3 xE3MCBC10E	86	36.5	21	13.5	69	28.5	16	10

Compliance

Safety	IEC 62040-1:2017, Edition 2.0, Uninterruptible power systems (UPS) – Part 1: Safety requirements IEC 62040-1: 2008-6, 1st edition, Uninterruptible Power Systems (UPS) – Part 1: General and safety requirements for UPS IEC 62040-1:2013-01, 1st edition amendment 1
EMC	IEC 62040-2:2016, Edition 3.0, Uninterruptible power systems (UPS) – Part 2: Electromagnetic compatibility (EMC) requirements. IEC 62040-2:2005-10, 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
Pollution degree	2
Overvoltage category	III
Earthing system	TN-S, TN-C, TT, or IT

Communication and Management

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

Facility Planning

Input Specifications

UPS rating	**500 kVA**			**600 kVA**		
Voltage (V)	**380**	**400**	**415**	**380**	**400**	**415**
Connections	L1, L2, L3, N, PE					
Input voltage range (V)	323-477 (full load)					
Frequency range (Hz)	40-70					
Nominal input current (A)	808	768	740	970	921	888
Maximum input current (A)	946	899	866	1135	1079	1040
Input current limitation (A)	1080			1320		
Total harmonic distortion (THDI)	<3% for linear loads <5% for non-linear loads					
Input power factor	>0.99					
Maximum short circuit rating	Icc=35 kA					
Ramp-in	7 seconds					

Bypass Specifications

UPS rating	**500 kVA**			**600 kVA**		
Voltage (V)	**380**	**400**	**415**	**380**	**400**	**415**
Connections	L1, L2, L3, N, PE					
Overload capacity	≤115% continuous 125% for 10 minutes 150% for 1 minute					
Minimum bypass voltage (V)	209	221	228	209	221	228
Maximum bypass voltage (V)	475	480	477	475	480	477
Frequency (Hz)	50 or 60					
Frequency range (%)	±1, ±2, ±4, ±5, ±10. Default is ±10 (user selectable).					
Nominal bypass current (A)	767	729	703	921	875	843
Maximum short circuit rating	Icc=35 kA					

Output Specifications

UPS rating	**500 kVA**			**600 kVA**		
Voltage (V)	**380**	**400**	**415**	**380**	**400**	**415**
Connections	L1, L2, L3, N, PE					
Overload capacity[1]	105% continuous 125% for 10 minutes 150% for 1 minute					
Output voltage regulation	±1%					
Dynamic load response	20 milliseconds					
Output power factor	1					
Nominal output current (A)	760	722	696	912	866	835
Total harmonic distortion (THDU)	<2% at 100% linear load <4% at 100% non-linear load					
Output frequency (Hz)	50 or 60					
Slew rate (Hz/sec)	Programmable: 0.5 to 2.0 Default is 0.5					
Output performance classification (according to IEC/EN62040-3)	VFI-SS-111					
Load power factor	0.5 leading to 0.5 lagging without derating					
Output short circuit current (inverter)	1 kA/200 ms			1.4 kA/200 ms		

1. At 30 °C and output power factor 0.9.

Battery Specifications

NOTE: The UPS supports 36-50 battery blocks.

UPS rating	500 kVA	600 kVA
Max. charging power in % of output power	21%	22%
Maximum charging power (kW)	108	132
Nominal battery voltage (VDC)	±216 to ±300	
Nominal float voltage (VDC)	±243 to ±337.5	
End of discharge voltage (full load) (VDC)	±172.8 to ±240	
Battery current at full load and nominal battery voltage (A)	1231-886	1470-1058
Battery current at full load and minimum battery voltage (A)	1539-1102	1847-1323
Temperature compensation (per cell)[2]	Programmable from 0 to 7 mV/°C. Default is 0 mV/°C.	
Ripple current	<5% C10	

Recommended Upstream 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.

UPS rating	500 kVA		600 kVA	
	Input	Bypass	Input	Bypass
Breaker type	NS1000N Mic 2.0 (33475/NS33475)	NS1000N Mic 2.0 (33475/NS33475)	NS1250N Mic 2.0 (33480/NS33480)	NS1250N Mic 2.0 (33480/NS33480)
In setting	1	1	1	1
Ir setting	0.95	0.9	0.9	0.9
Im setting	Isd=1.5-10	Isd=1.5-10	Isd=1.5-10	Isd=1.5-10

2. If the temperature is above 25 °C. No compensation below 25 °C.

Recommended Cables 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 240 mm².

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

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

- 90 °C conductors
- An ambient temperature of 30 °C
- Use of copper conductors
- Installation method C

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

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

NOTE: Battery cables are sized according to 36 battery blocks.

500 kVA UPS

	Cable Size per Phase (mm²)	Neutral Cable Size (mm²)	PE Cable Size (mm²)
Input	3 x 185	3 x 185	2 x 150
Bypass	3 x 185	3 x 185	2 x 150
Output	3 x 185	3 x 185	2 x 150
Battery	6 x 120	6 x 120	3 x 120

600 kVA UPS

	Cable Size per Phase (mm²)	Neutral Cable Size (mm²)	PE Cable Size (mm²)
Input	3 x 240	3 x 240	2 x 185
Bypass	3 x 240	3 x 240	2 x 185
Output	3 x 240	3 x 240	2 x 185
Battery	6 x 150	6 x 150	3 x 150

Recommended Bolts and Cable Lugs

Cable Size (mm²)	Bolt Size	Cable Lug Type
120	M12x35 mm	TLK 120-12
150	M12x35 mm	TLK 150-12
185	M12x35 mm	TLK 185-12
240	M12x35 mm	TLK 240-12

Torque Specifications

Bolt Size	Torque
M12	50 Nm

UPS Weights and Dimensions

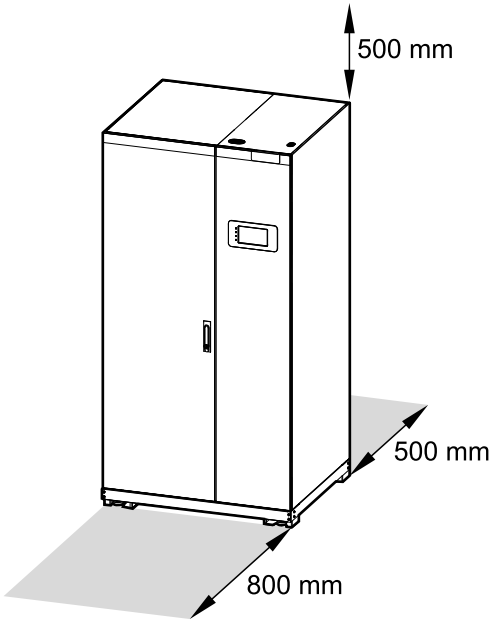
UPS rating	Weight kg	Height mm	Width mm	Depth mm
500 kVA	665	1970	1000	850
600 kVA	745	1970	1000	850

UPS Shipping Weights and Dimensions

UPS rating	Weight kg	Height mm	Width mm	Depth mm
500 kVA	720	2100	1200	1015
600 kVA	800	2100	1200	1015

Clearance

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



Environmental

	Operating	Storage
Temperature	0 °C to 30 °C	-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	Power derating factor: 0-1500 m: 1.000 1500-2000 m: 0.975	< 15000 m above sea level (or in an environment with equivalent air pressure)
Audible noise	<72 dBA at 100% load according to ISO3746	
Protection class	IP20 (dust filter as standard)	
Color	RAL 9003	

Heat Dissipation

UPS rating	**500 kVA**		**600 kVA**	
	W	**BTU/hr**	**W**	**BTU/hr**
Normal mode	31800	108507	37200	126932
Battery mode	28550	97417	33960	115877
ECO mode	3250	11090	3300	11260

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.

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 Battery Breaker

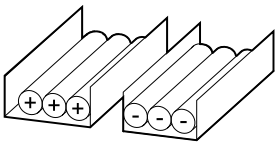
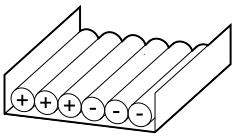
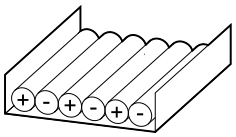
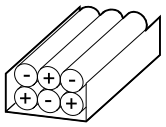
Battery breaker rated DC voltage > Normal battery voltage	The normal voltage of the battery configuration is defined as the highest nominal occurring battery voltage. This can be equivalent to the float voltage which may be defined as **number of battery blocks x number of cells x cell float voltage**.
Battery 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 each 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 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.

Guidance for Organizing Battery Cables

NOTE: For 3rd party batteries, use only high rate batteries for UPS applications.

NOTE: When the battery bank is placed remotely, the organizing of the cables is important to reduce voltage drop and inductance. The distance between the battery bank and the UPS must not exceed 200 m (656 ft). Contact Schneider Electric for installations with a longer distance.

NOTE: To minimize the risk of electromagnetic radiation, it is highly recommended to follow the below guidance and to use grounded metallic tray supports.

Cable Length				
<30 m	Not recommended	Acceptable	Recommended	Recommended
31–75 m	Not recommended	Not recommended	Acceptable	Recommended
76–150 m	Not recommended	Not recommended	Acceptable	Recommended
151–200 m	Not recommended	Not recommended	Not recommended	Recommended

Weights and Dimensions

Classic Battery Cabinet Weights and Dimensions

Commercial reference	Weight kg	Height mm	Width mm	Depth mm
E3MCBC7A	736	1900	710	845
E3MCBC7B	909	1900	710	845
E3MCBC10A	1097	1900	1010	845
E3MCBC10B	1277	1900	1010	845
E3MCBC10C	1404	1900	1010	845
E3MCBC10D	1100	1900	1010	845
	1082	1900	1010	845
E3MCBC10E	1280	1900	1010	845
	1262	1900	1010	845

NOTE: E3MCBC10D and E3MCBC10E consist of two cabinets.

Classic Battery Cabinet Shipping Weights and Dimensions

Commercial reference	Weight kg	Height mm	Width mm	Depth mm
E3MCBC7A	756	1980	815	970
E3MCBC7B	929	1980	815	970
E3MCBC10A	1117	1980	1130	970
E3MCBC10B	1297	1980	1130	970
E3MCBC10C	1424	1980	1130	970
E3MCBC10D	1120	1980	1130	970
	1102	1980	1130	970
E3MCBC10E	1300	1980	1130	970
	1282	1980	1130	970

NOTE: E3MCBC10D and E3MCBC10E consist of two cabinets.

Battery Breaker Box Weight and Dimensions

Commercial reference	Weight kg	Height mm	Width mm	Depth mm
E3MBBB100K200H	38	800	500	280

Battery Breaker Box Shipping Weight and Dimensions

Commercial reference	Weight kg	Height mm	Width mm	Depth mm
E3MBBB100K200H	65	1200	825	530

Battery Breaker Kit Weight and Dimensions

Commercial reference	Weight kg	Height mm	Width mm	Depth mm
E3MBBK100K200H	13	530	320	230

Battery Breaker Kit Shipping Weight and Dimensions

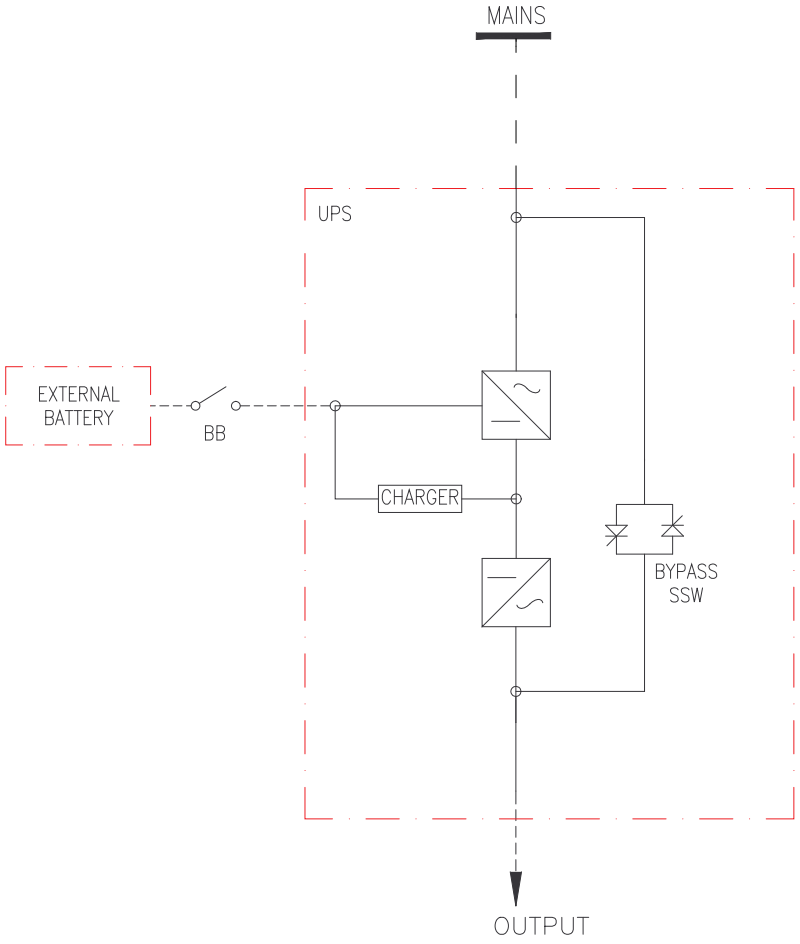
Commercial reference	Weight kg	Height mm	Width mm	Depth mm
E3MBBK100K200H	29	800	500	570

Drawings

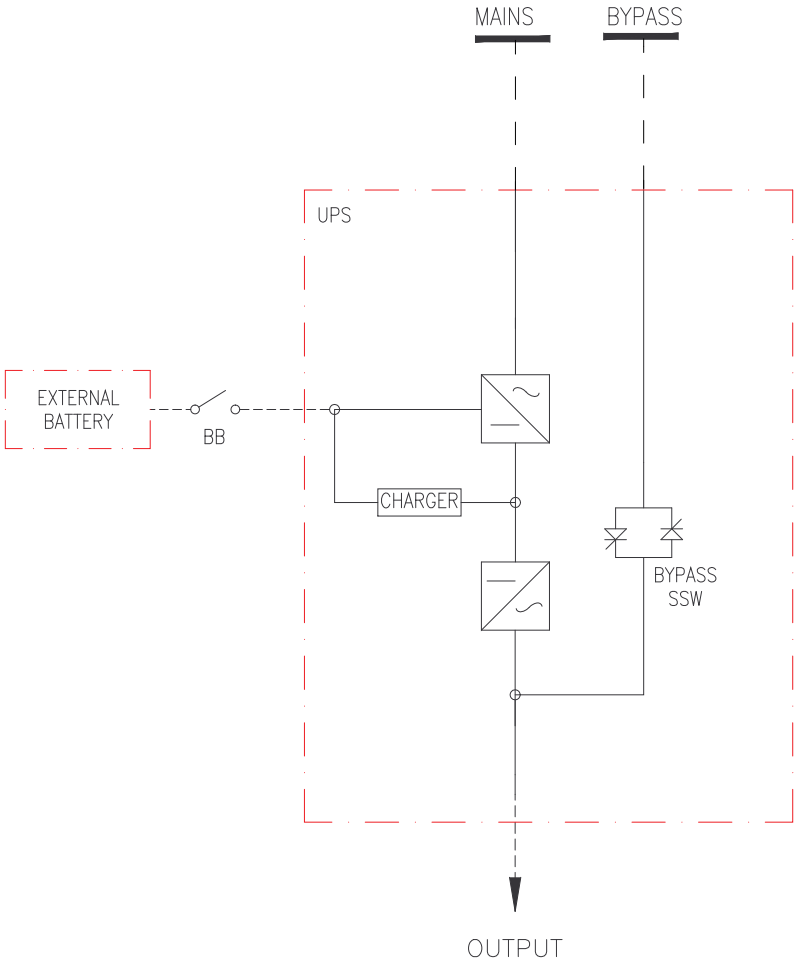
NOTE: A comprehensive set of drawings is available on www.schneider-electric.com.

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

Easy UPS 3L UPS for External Batteries – Single Mains System



Easy UPS 3L UPS for External Batteries – Dual Mains System



Options

Configuration Options

- Single or dual mains
- Up to 4+1 UPSs in parallel
- ECO mode

Default Settings

Setting	Default Value	Available Settings
Display brightness	63	1-63
Backlight timeout (sec)	60	10-255
Device ID	1	1-255
Baud rate	9600	2400, 4800, 9600, 14400, 19200
Password timeout (minutes)	3	0-120
Date	2015-01-01	
Time	00:00:00	
Operation mode	**Single mode**	**Single mode**, **ECO mode**
Autostart	**Enable**	**Enable**, **Disable**
Self-aging load rate (%)	60	18-100
Frequency converter mode	**Disable**	**Disable**, **Enable**
LBS operation	**LBS disabled**	**LBS disabled**, **LBS master**, **LBS slave**
Transfer delay (sec)	1	0- 20
Par. transfer delay (sec)	10	0 -200
EPO transfers to bypass	**Disable**	**Disable**, **Enable**
Output frequency (Hz)	50	50, 60
Output voltage (V)	400	380, 400, 415
Output volt. compensation (%)	0.0	-5.0, -4.5, -4.0, -3.5, -3.0, -2.5, -2.0, -1.5, -1.0, -0.5, 0.0, 0.5, 1.0, 1.5, 2.0, 2.5, 3.0, 3.5, 4.0, 4.5, 5.0
Min. bypass RMS voltage (%)	-45	-10, -15, -20, -30, -45
Max. bypass RMS voltage (%)	15 at 415 V, 20 at 400 V, 25 at 380 V	10, 15, 20, 25
Bypass frequency range (%)	10	1, 2, 4, 5, 10
Output slew rate (Hz/sec)	0.5	0.5-2.0
Use bypass ON with overheated SCR	**Disable**	**Disable**, **Enable**
Allowed transfers to bypass	10	3-10
Parallel ID	1	1-6
Number of parallel UPSs	2	2-6
Number of par. redundant UPSs	0	0, 1, 2, 3, 4, 5
Strings in battery bank 1	1	1-4
Strings in battery bank 2	1	1-4
Strings in battery bank 3	1	1-4
Battery blocks per string	36	36, 38, 40, 42, 44, 46, 48, 50

Setting	Default Value	Available Settings
Battery block capacity (Ah)	7	7-2000
Periodic boost charge (M)	0	0-24
Maximum charge current	0.1	0.05-0.15
Float voltage (V)	2.25	2.20-2.29
Boost voltage (V)	2.30	2.30-2.40
Boost charge duration (minutes)	240	0-999
Float charge temp. compensation	0.000	0.000-0.007
Boost charge	**Disable**	**Enable**, **Disable**
Alarm for no battery connected	**Enable**	**Enable**, **Disable**
Common battery bank	**No**	**Yes**, **No**
External batt. breaker 1 status	**Enable**	**Disable**, **Enable**
External batt. breaker 2 status	**Enable**	**Disable**, **Enable**
External batt. breaker 3 status	**Enable**	**Disable**, **Enable**
Battery breaker trip	**Enable**	**Disable**, **Enable**
Backfeed on input	**Enable**	**Disable**, **Enable**
Backfeed on bypass	**Enable**	**Disable**, **Enable**
External MBB status	**Disable**	**Disable**, **Enable**
External SPD status	**Enable**	**Disable**, **Enable**
OUT 01	**Disable**	**Disable**, **Common alarm**, **In normal operation**, **On battery**, **Static bypass**, **Maintenance bypass**, **Output overload**, **Fan inoperable**, **Battery inoperable**, **Battery disconnected**, **Battery voltage low**, **Input out of tol.**, **Bypass out of tol.**, **EPO active**
OUT 02	**Disable**	
OUT 03	**Disable**	
OUT 04	**Disable**	
OUT 05	**Disable**	
OUT 06	**Disable**	
IN 01	**Disable**	**Disable**, **INV ON**, **INV OFF**, **Battery inoperable**, **Genset on**, **Custom alarm 3**, **Custom alarm 4**, **Disable ECO**, **Force INV OFF**
IN 02	**Disable**	
IN 03	**Disable**	
IN 04	**Disable**	
IN 05	**Disable**	
IN 06	**Disable**	
Self-test settings	**Disable auto self-test**	**Disable auto self-test**, **self-test every month**, **self-test every week**
Self-test every	**0 Day 0 hour 0 minute**	
Self-test type	**Customize**	**10 seconds**, **10 minutes**, **EOD**, **-10%**, **Customize**
Air filter check (months)	3	0, 3, 4, 5, 12
Air filter counter (days)	0	

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 and occurs within six months of the Schneider Electric shipment date. 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. For Schneider Electric cooling solutions, this warranty does not cover circuit breaker resetting, loss of refrigerant, consumables, or preventive maintenance items. Repair or replacement of a defective product or part thereof does not extend the original warranty period. Any parts furnished under this warranty may be new or factory-remanufactured.

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

990-6289A-001

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

© 2020 – 2020 Schneider Electric. All rights reserved.

990-6289A-001