

# **ITYS**

## **1 - 10 kVA**

安装及操作手册 (CN)

Installations- und bedienungsanleitung (DE)

Manual de instalación y uso (ES)

Manuel d'installation et d'utilisation (FR)

Installation and operating manual (GB)

Manuale di installazione e uso (IT)

Installatie- en bedieningshandleiding (NL)

Dokumentacja Techniczno-Ruchowa (PL)

Manual de instalação e funcionamento (PT)

Manual de instalare și utilizare (RO)

Руководство по установке и эксплуатации (RU)

Navodila za priključitev in uporabo (SI)

Kurulum ve kullanım kılavuzu (TR)

# WARRANTY CERTIFICATE AND CONDITIONS

This SOCOMEC appliance is guaranteed against manufacturing and material defects for a period of 12 months from the date of purchase (local warranty conditions are applicable in addition to the general conditions). This warranty certificate should NOT be e-mailed, but kept by the customer along with proof of purchase, for use in the event of a claim being made for repairs or replacement under warranty.

The warranty period commences on the date the new product was purchased by the end user at an authorised showroom (reference details are shown on the receipt).

Return-to-base warranty is provided: components and labour for repairs supplied free of charge, any products to be replaced must be returned to SOCOMEC or authorised service centres, at the customer's own risk and expense.

The warranty is recognized within national territory. If the UPS is exported out of national territory, the warranty shall be limited to the cover of the parts used to repair the fault.

To claim service under the warranty please observe the following:

- The product must be returned in the original packing. Any damage caused during shipping in packaging other than the original will not be covered by the warranty;
- The product must be accompanied by proof of purchase such as an invoice or receipt indicating the date of purchase and product ID information (model, serial number). The sender must also attach the reference number issued to authorise the return of the product, together with a detailed description of the defect. If any of this information is missing the warranty will be invalid. The authorisation number is issued by service centres over the telephone on receiving information on the malfunction in question;
- If it is not possible to provide proof of purchase the serial number and date of manufacture will be used to calculate the probable expiry date of the warranty; this could result in a reduction of the original warranty period.

The warranty on the product does not cover damage caused by carelessness (improper use: wrong input power, explosions, excessive humidity, temperature, poor ventilation, etc.), tampering or any unauthorised repair work.

During the warranty period, SOCOMEC reserves the right to decide whether the product should be repaired, or whether to replace defective parts with new parts, or used parts that are equivalent to new parts in terms of functionality and performance.

In the case of batteries, warranty is valid only if the battery has been recharged regularly in accordance with the manufacturer's instructions. On purchasing the product it is advisable to check that the next recharge date indicated on the packaging has not expired.

## Battery

- Batteries are treated as consumable parts and warranty only covers manufacturing defects.
- Batteries must be stored in compliance with Supplier recommendations.
- Warranty is valid only if the battery has been recharged regularly in accordance with the manufacturer's instructions. On purchasing the product it is advisable to check that the next recharge date indicated on the packaging has not expired.

## Optionals

A 12-month return-to-base warranty is provided on optionals.

## Software products

Software products are guaranteed for 90 days. The software is guaranteed to work as indicated in the manual accompanying the product. Hardware media or accessories (e.g. diskettes, cables, etc.) used with appliances are guaranteed free of material or manufacturing defects under normal conditions of use for a period of 12 months from the date of purchase.

SOCOMECEC will not be responsible for damages (including loss of income, interruption of business activity, loss of information or other financial losses, of any nature) arising from the use of the product.

These conditions are subject to Italian law. Disputes shall come under the jurisdiction of Court of Vicenza.

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This document is not a specification. SOCOMEC reserves the right to make any changes to data without prior notice.

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# 1. SAFETY STANDARDS

## 1.1. IMPORTANT

This manual should be kept in a safe place near the UPS, so it can be consulted by the operator at any time for information that may be needed regarding correct use of the unit. Read the manual carefully before connecting the unit to the a.c. mains supply and the downstream appliances. Before the UPS is put into commission the user should be completely familiar with its operation, the position of all the controls and the technical and functional characteristics of the unit, so as to ensure there will be no risk to people or the appliance itself.

- Before being started, the unit must be equipotentially bonded, in accordance with current safety regulations. The earth wire of the UPS must then be connected to an efficient earth system.
- If there is no earth connection, the appliances connected to the UPS will not be equipotentially bonded. In this situation, the manufacturer declines all liability for any damage or accidents that could result from failure to observe the requirements.
- Should a power outage occur (UPS in stand-alone mode), do not disconnect the power cord from the mains, as this will break the earth connection to bonded appliances.
- All subsequent maintenance operations must only be performed by authorised service engineers. The UPS generates high internal voltages that could be hazardous for a maintenance operative not in possession of the appropriate skills and training for this type of work.
- If a hazardous situation should arise at any time when the UPS is in use, isolate the unit from the power supply (by operating a switch at the upstream PDU if possible) and switch the appliance off completely by running the shutdown procedure.
- The UPS houses a source of electrical energy, i.e. its batteries. The output of the UPS may be powered even when the appliance is not connected to the a.c. mains supply.
- Never force, break or attempt to open the batteries. These batteries are sealed, maintenance-free components containing substances that are harmful to health and a source of environmental pollution. If liquid can be seen leaking from the battery, or a white powdery residue is noticeable, do not switch the UPS on.
- Avoid exposing the UPS to contact with water or any liquids generally. Do not insert foreign objects into the cabinet.
- Danger of explosion if the batteries are replaced with others of the wrong type.
- Replaced batteries must be disposed of at authorised waste disposal centres.



**It is very dangerous to touch any part of the batteries as there is no insulation between the batteries and the mains power source.**



**CAUTION!**  
**A battery can present a risk of electrical shock and high short circuit current.**

- If the appliance is to be disposed of it should only be entrusted to a specialist waste disposal company. These companies will dismantle and dispose of the various components in accordance with statutory regulations in the country of purchase.
- Use the UPS in accordance with the technical specifications indicated in this manual.
- To meet Emergency Switch Device (ESD) operating requirements, a specific input with remote ESD/EPO function is available.
- In the event that the equipment has no automatic backfeed protection contactor device, ensure that:
  - the user/installer attaches warning labels to all mains isolating switches located remotely from the area where the UPS is situated, in order to inform service personnel that the circuit is connected to a UPS.
  - an external isolating device is installed
- The product you have selected, given the specified conditions of use, capacity and performance limits, is designed exclusively for commercial and industrial operation. Using the product in critical applications could require compliance with statutory regulations and standards, specific local bylaws, or adaptation to SOCOMEC recommendations. For this type of use it is always advisable to contact SOCOMEC beforehand for confirmation regarding the capacity of products to meet required levels of safety, performance and reliability. Critical applications include, in particular, life support systems, medical applications, commercial transport, nuclear facilities or any other systems where failure of the product might on occasion cause serious damage to people or property.



**WARNING!**

This is a product for commercial and industrial applications in an industrial environment – installation restrictions or additional measures may be needed to prevent interference.



**CAUTION IF DAMAGED  
NON-SPILLABLE BATTERIES**

Torn, crushed or damaged packaging which exposes the contents should be set aside in an isolated area and inspected by a qualified person. If the package cannot be shipped the contents must be promptly collected, segregated, and either the sender or recipient contacted.

All packaging material must be recycled in compliance with the laws in force in the country where the system is installed.

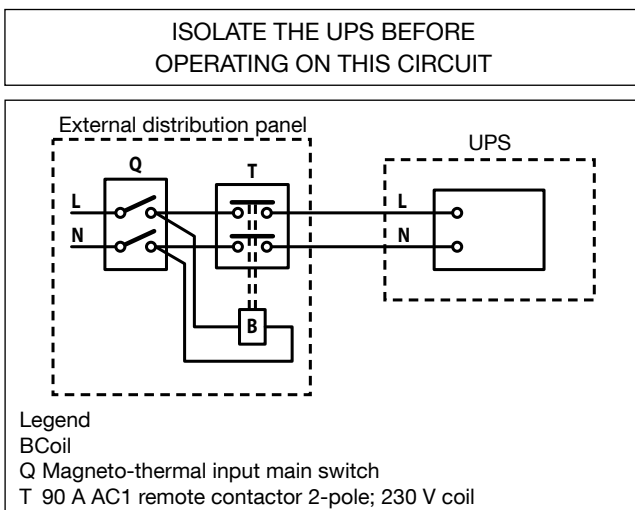
### 1.1.1. Only for ITYS 1-3 kVA

- Since the UPS power cord functions as an isolating device, ensure ready access to the mains power socket where the UPS is connected, and/or the rear panel of the UPS, so the unit can be easily unplugged.
- The UPS generates a leakage current of approximately 3 mA. To guarantee the maximum leakage current of 3.5 mA, ensure the leakage current generated by the load is no greater than 0.5 mA. Should the leakage current from the load exceed this limit, instruct a skilled engineer to install an industrial type connection (to IEC 309 standard) between the UPS and the a.c. mains supply, sized to handle a current compatible with the rating of the appliance.

### 1.1.2. Only for ITYS 6-10 kVA

If the UPS does not have an automatic protection device against current back feed, the operator/installer must:

- add warning labels to all the mains power disconnecting switches installed at a distance from the UPS area; this serves to remind technicians of the fact that the circuit is connected to a UPS.
- install an external isolating device as shown in figure.



## 1.2. DESCRIPTION OF THE SYMBOLS USED ON LABELS ATTACHED TO THE UNIT

Comply with all precautions and warnings on labels and plates on the inside and outside of the equipment.



**DANGER! HIGH VOLTAGE (BLACK/YELLOW)**



**GROUND TERMINAL**



**READ THE USER MANUAL BEFORE USING THE UNIT**

## 2. INSTALLATION

### 2.1. ENVIRONMENTAL REQUIREMENTS FOR INSTALLATION

Consult the following check list when installing the UPS:

- ITYS units are designed for use in enclosed environments.
- Position the UPS on a flat, stable surface in a properly ventilated room, well away from heat sources and avoiding direct exposure to sunlight.
- Ambient temperature should be kept between 0 to 45 °C, and relative humidity below 90% (without condensation); the optimum temperature to maximise battery lifetime is 15 to 20 °C.
- Check that the UPS will not be installed in a dusty environment.
- Ensure clearance of at least 20 cm on all sides of the unit to ensure adequate ventilation and provide access to the rear panel.
- Take care not to stand the UPS or any other heavy objects on cables.
- Check that the operating voltage and frequency settings are correct for the mains power supply at the installation site. Details for the UPS will be found on the data plate attached to the rear panel.
- When carrying out the RS232 serial connection, use only the cables and accessories supplied or specified by the manufacturer.
- When the UPS is first used, it is advisable to leave the battery on charge for a minimum of 8 hours.
- Condensation may occur if the UPS system is moved directly from a cold to a warm environment. The UPS system must be completely dry before being installed. Please allow at least two hours for the UPS system to become acclimatised to the environment.
- Do not install the UPS system near water or in damp environments.
- Do not connect appliances or devices which would overload the UPS system (e.g. laser printers) to the UPS output sockets.
- Ensure there is a reliable earth connection.
- Ensure external battery sources are earthed.



#### **PRECAUTIONS IN THE EVENT OF DAMAGE DO NOT TURN THE BATTERIES OVER**

Torn, crushed or damaged packaging which exposes the contents should be kept separate in a secure area, and inspected by qualified staff. Packing which cannot be shipped must be set aside immediately and kept secure, and the sender or recipient contacted.

#### 2.1.1. Only for 1-3 k

- Connect the UPS system to an earthed shockproof outlet only, which is easily accessible and close to the UPS system.
- Do not block ventilation openings on the UPS casing. Ensure the air vents on the front, side and rear of the UPS are not blocked. Allow at least 25cm of space on each side.

#### 2.1.2. Only for 6-10 k

- This is permanently connected equipment and must be installed by qualified maintenance personnel.
- The overload capacity would be de rated automatically in Line mode while the circumstance temperature is larger than 35 degree.
- Do not block ventilation openings on the UPS casing. Ensure at least 50 cm of space at the front and back of the UPS.

# ***ITYS***

1 - 3 kVA

## 3. ELECTRICAL REQUIREMENTS

### 3.1. ELECTRICAL REQUIREMENTS

The fixed power distribution unit must include protection and isolation for the utility supply and the back-up supply. In the event that a residual current device is installed on the UPS input line (optional), this must be located upstream of the power distribution unit.

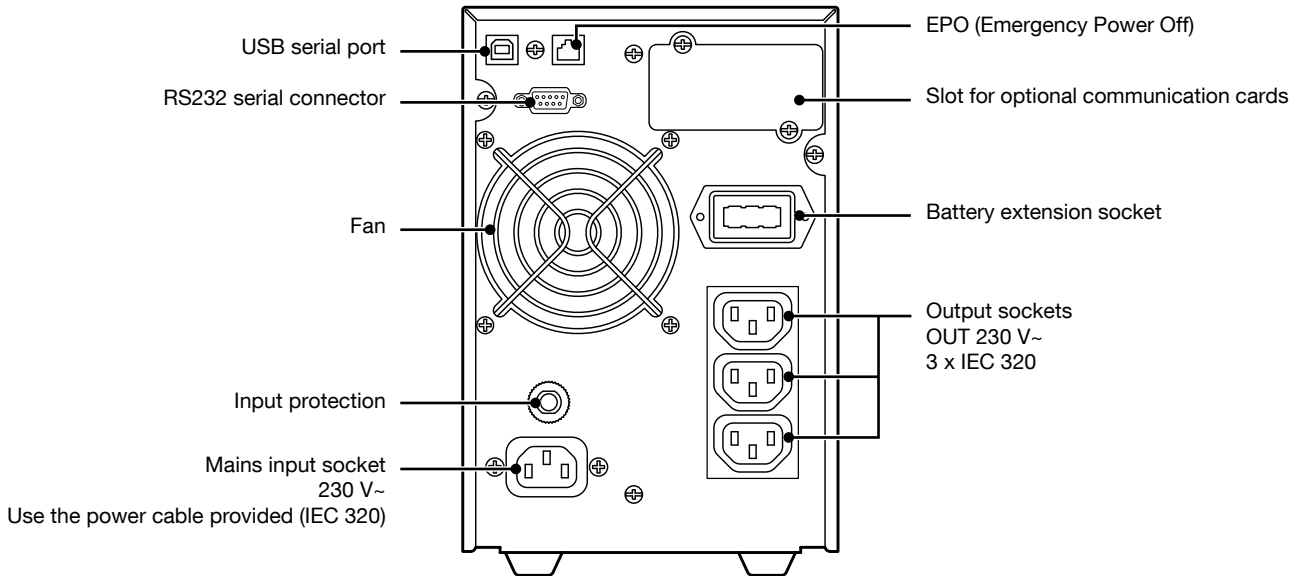
Electrical requirements			
UPS	Thermal-magnetic switch on input	Input leakage current	Cable section
1 kVA	10 C	< 3.5 mA	according to IEC
2 kVA	16 C	< 3.5 mA	according to IEC
3 kVA	20 C	< 3.5 mA	according to IEC



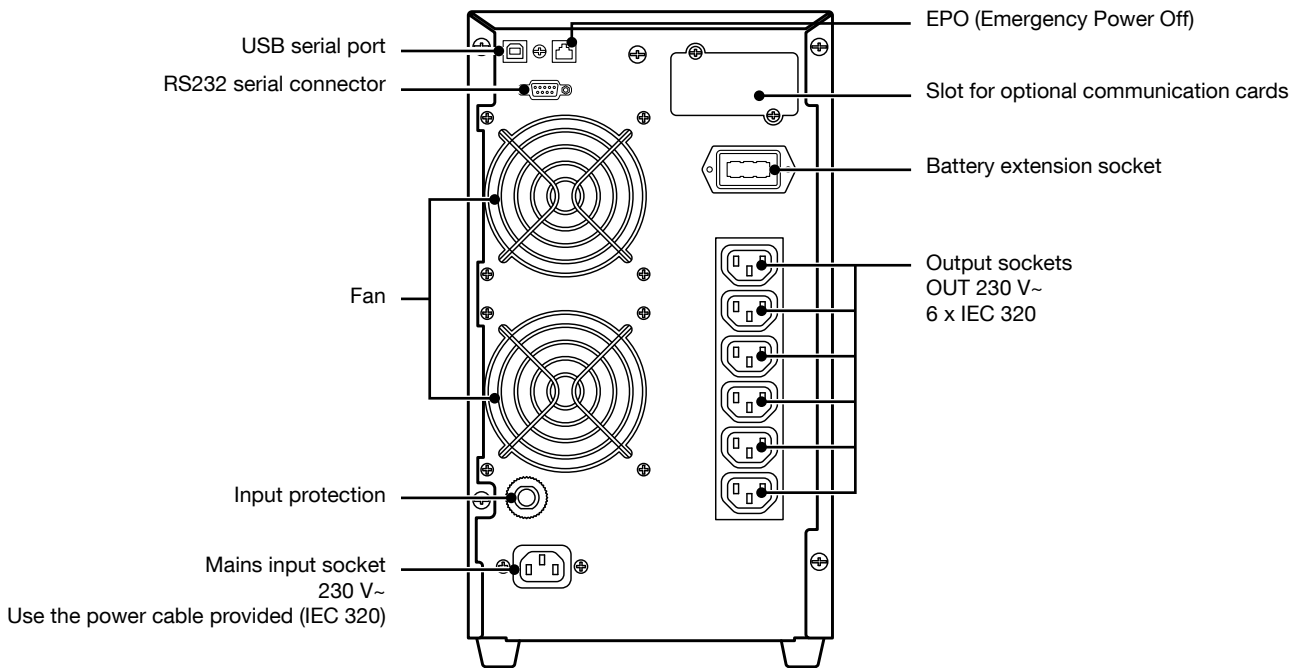
# 4. REAR VIEW

Connection to the mains power supply and to the load(s) must be made using cables of suitable cross section, in accordance with current standards.

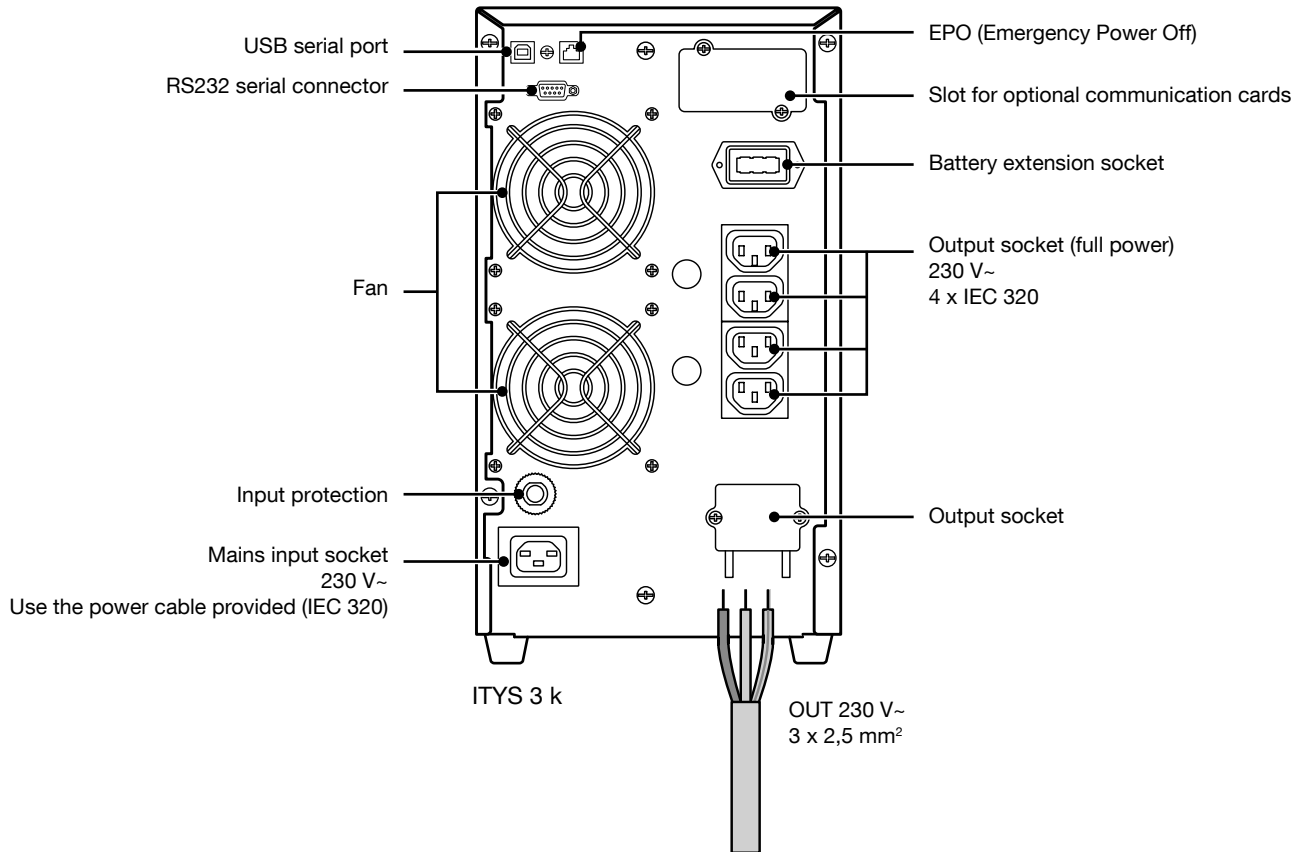
If not already provided, install a PDU panel allowing isolation of the mains supply upstream of the UPS. The panel must be equipped with an automatic switch rated high enough to handle the current draw on full load, and with a residual current device.



ITYS 1 k



ITYS 2 k



# 5. CONNECTION OF BATTERY EXTENSION

## 5.1. SAFETY WARNINGS

- Before connecting the battery extension, check that it is fully compatible with the model of UPS in use.
- The use of battery extensions not supplied by the manufacturer is inadvisable.



**WARNING!**  
There is a risk of explosion if battery modules are replaced with others of incorrect type.

- Depleted batteries are considered as toxic waste. When battery replacement becomes necessary, release all depleted batteries only to certified and licensed waste disposal companies. In accordance with local bylaws, it is absolutely forbidden to dispose of batteries together with other industrial waste or household refuse.



**WARNING!**  
It is extremely dangerous to touch any part of the battery storage unit.

## 5.2. CONNECTION OF BATTERY EXTENSION

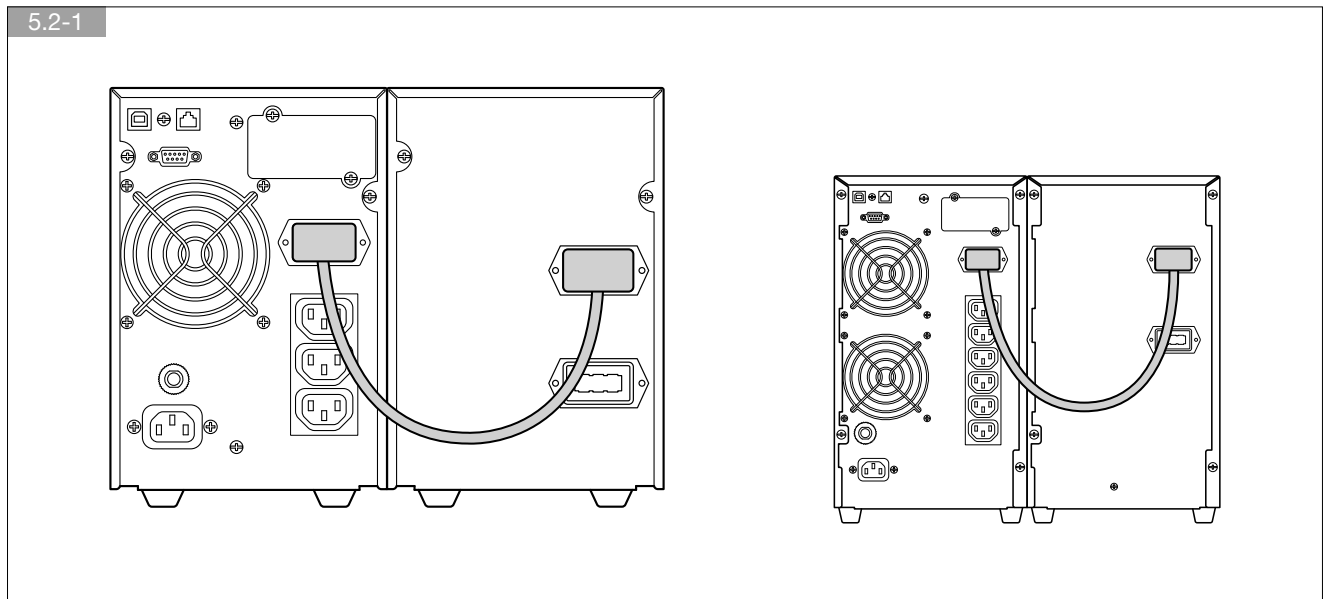


When connecting the UPS to the battery extension, use only the cable provided with the equipment.



Any wiring error that results in the polarity of the battery being inverted can cause permanent damage to the equipment.

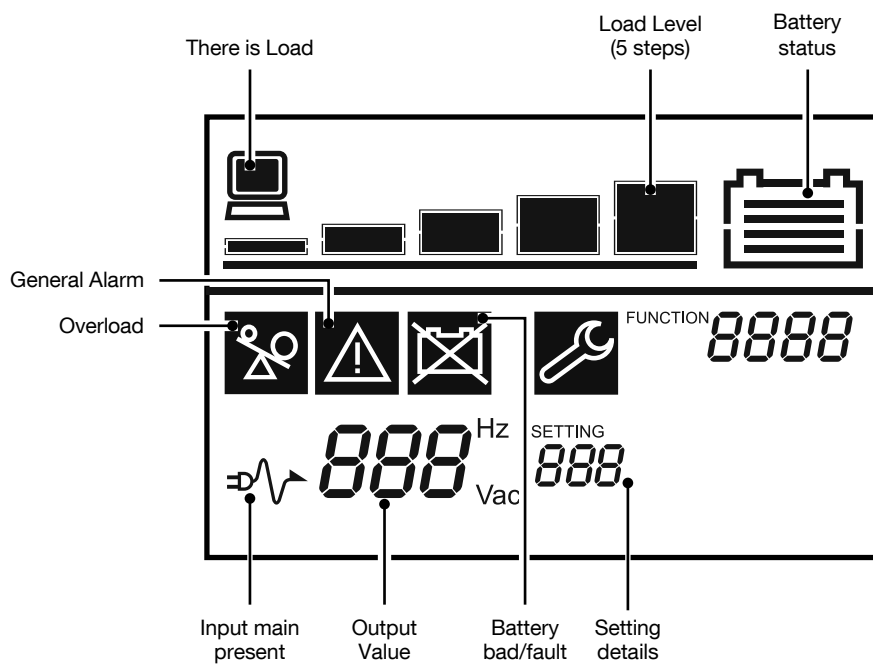
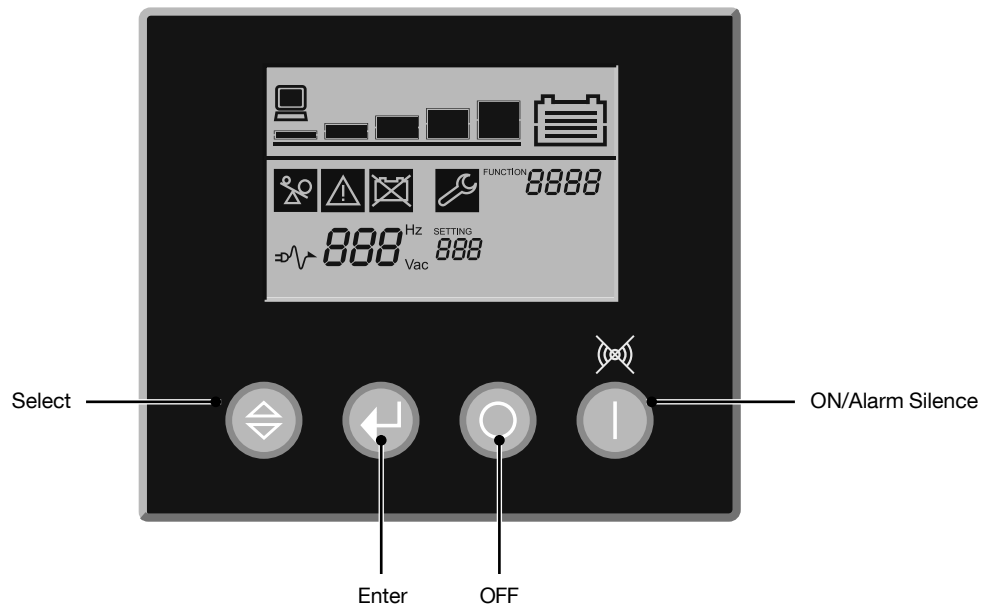
- Connect the External Battery cable on the rear of the UPS.



## 6. MIMIC PANEL

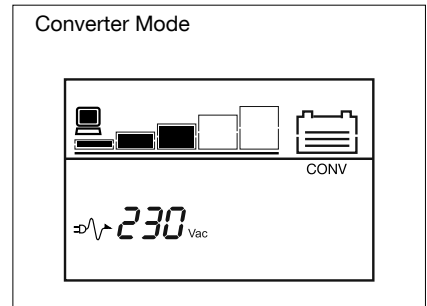
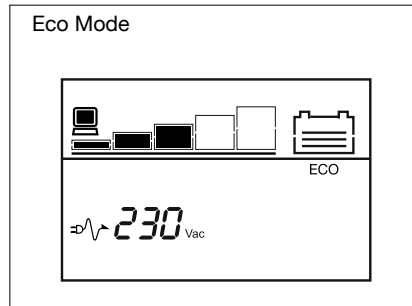
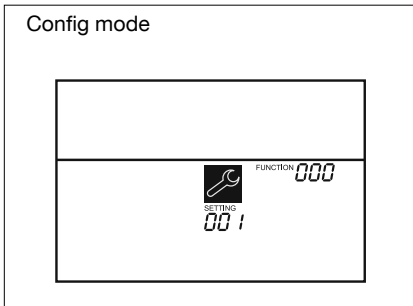
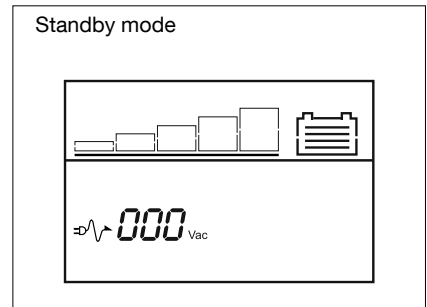
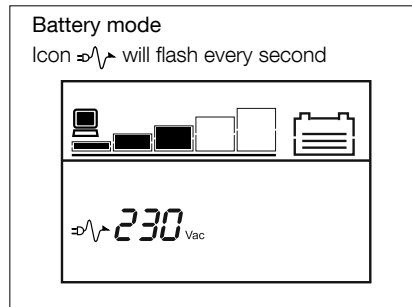
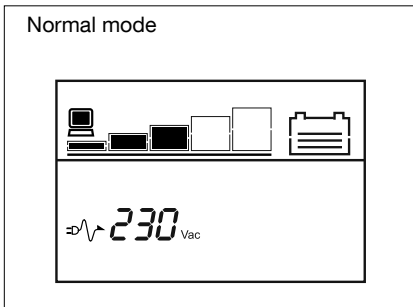
The mimic panel on the front of the UPS provides all essential information on the operating status of the appliance.

### 6.1. MIMIC PANEL FOR ITYS 1-3 kVA



# 7. OPERATING MODES

## 7.1. OPERATING MODES



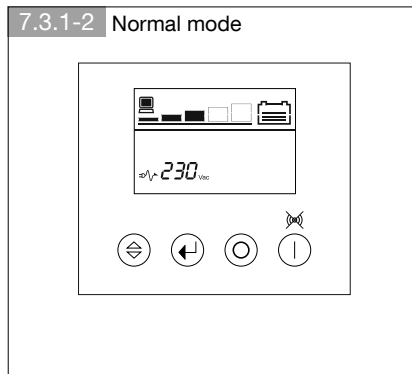
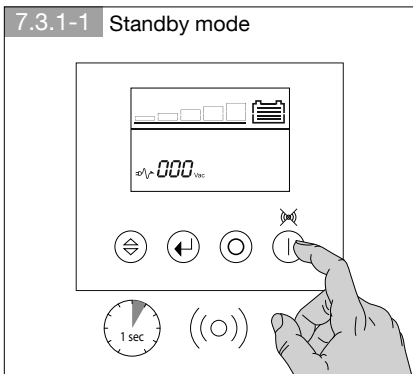
## 7.2. BATTERY RECHARGING

Connect the UPS to the mains voltage for approximately 8 hours to recharge the internal batteries.

The UPS can be used even with the batteries not fully charged, though if a power cut occurs backup duration will be shorter.

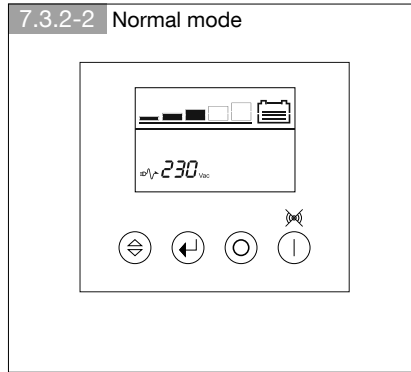
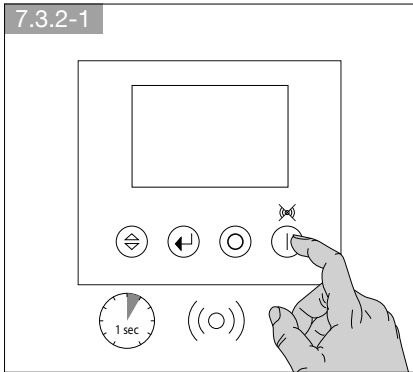
## 7.3. SWITCHING THE ITYS ON AND OFF

### 7.3.1. Switching on with mains present



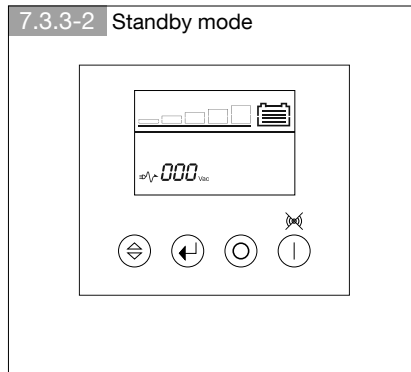
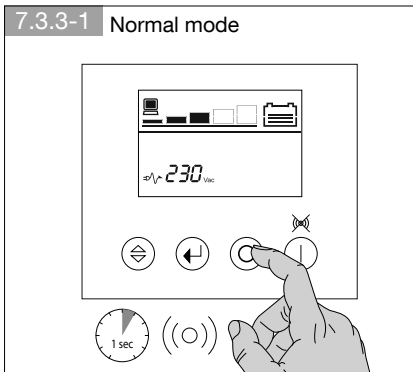
Power up all loads, one at a time.

### 7.3.2. Switching on with no mains power



Power up all loads, one at a time.

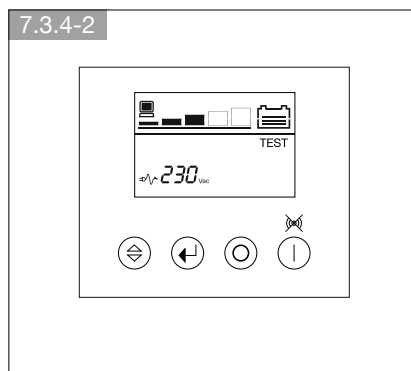
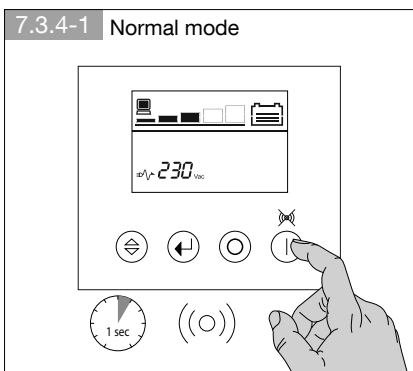
### 7.3.3. Switching off with mains present



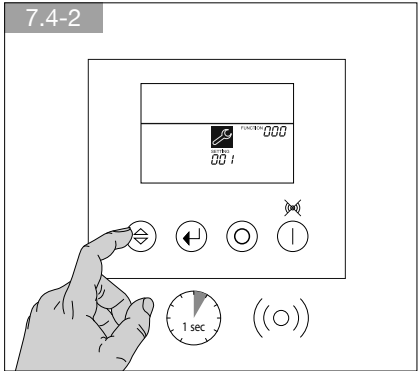
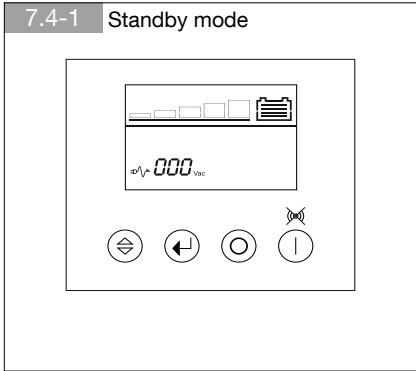
#### 7.3.3-3

- UPS is off but battery remains on charge
- Shut down all loads, one at a time.
- Switch off mains power to shut down completely.

### 7.3.4. Battery test



7.4. SETTING MENU

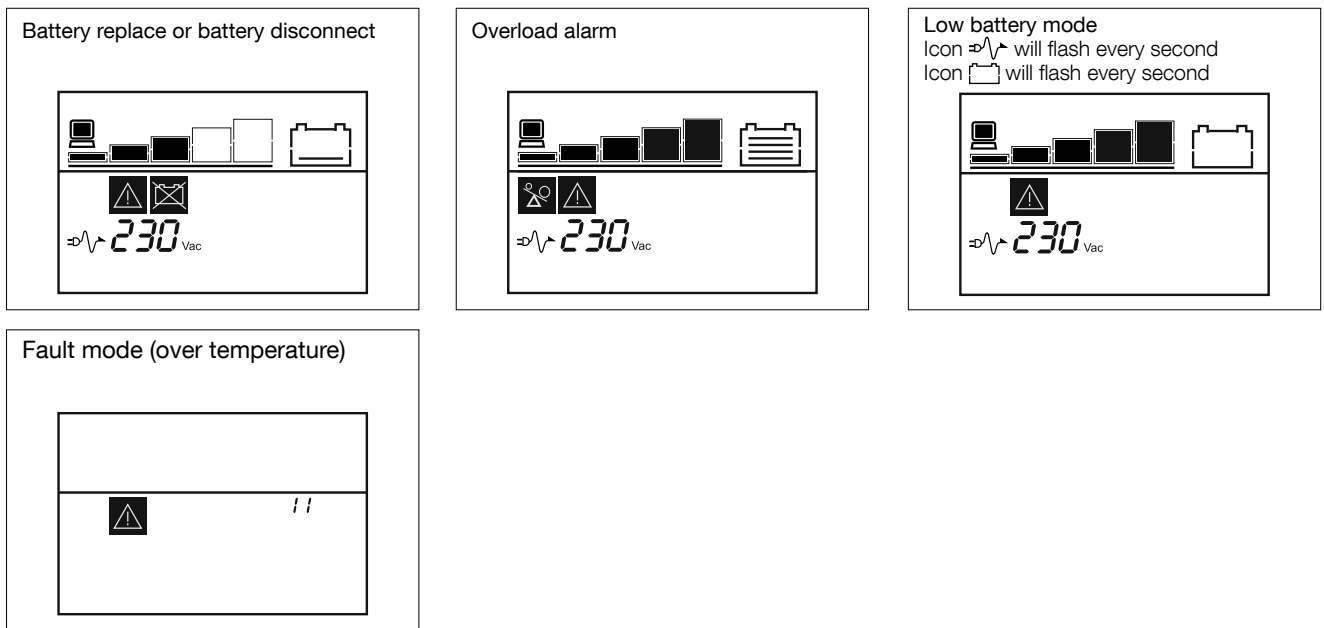


ENGLISH

Function	Description	Settings	Default settings
OPV	Output voltage selection	[208] = 208 V [220] = 220 V [230] = 230 V [240] = 240 V	[230]
OPF	Output frequency selection	[050] = 50 Hz [060] = 60 Hz	[050]
MODE	Work mode select	[UPS] = Normal [ECO] = ECO mode [CVF] = Converter mode	[UPS]
STY	Auto bypass enable disable	[000] = disable [001] = enable	[000]

# 8. VISUAL AND AUDIBLE WARNING SIGNALS

## 8.1. ALARM INDICATION (ITYS 1-3 kVA)



The following table shows the description of the LCD display string:

Warning	Code
Site fail	09
Fan fail	10
Battery over voltage (over charged)	11
Battery low	12
Charge fail	13
DC-DC temperature high	21
Inverter temperature high	24
Ambient temperature high	25
Line voltage high (OVCD action)	26
Battery open	27
Overload	29
EPO active	30

Fault	Code
Bus fault	05
Inverter fault	06
Overload fault	07
Over temperature fault	08
Inverter short	14
Bus short	28



## 9. COMMUNICATION

Communication software and accessories are available for monitoring the status of the UPS, with the end in view of optimizing normal operation and ensuring that shutdown at the end of backup time is managed correctly. Applications allow recording of all power outages and any depletion of battery power so as to enable the activation of an automatic procedure for closing programs in ordered sequence and shutting down the system.

ITYS no-break systems are equipped with RS232 serial communication interface, and slots for NetVision cards.

### 9.1. USB INTERFACE

The UPS can communicate with the server direct by way of the USB interface, if available on the computer operating system, without the need to install any additional software. Once connected, recognition of the UPS occurs in the same way as for any other peripheral, and the operating parameters can be managed by way of the OS service menu. Use the connecting cable provided.

### 9.2. WEB/SNMP CARD (OPTION)

With this card installed, the UPS can be connected directly to a LAN (RJ45 ethernet) and controlled remotely from a WEB browser using TCP/IP protocol. Reference should be made to the relevant literature for a full description of functionality.

### 9.3. RS232 INTERFACE

Communication with the server can take place directly via the RS232 interface.

In addition to local or networked shutdown it is possible to perform full monitoring of the electrical parameters regarding battery status and the automatic programming of the UPS start-up and shutdown procedures.

For a complete description of the software features, refer to the UniVision and UniVision Pro documentation.

# 10. TROUBLESHOOTING



**WARNING!**

If problems persist or recur frequently after following the procedures indicated in this section contact the SOCOMEC After Sales Service, providing a full description of the problem.

Problem	Possible cause	Solution
The UPS works in battery mode even if mains power is available	Poor connection to the input mains	Check the connection of the cable to the UPS and to the mains outlet
	The mains voltage is out of range	No solution because mode of operation is correct
	Input protection triggered (blown fuse or automatic switch)	Replace the input fuse with another of the same type or reset the automatic switch
Back-up time shorter than expected	Batteries not fully charged	Leave the batteries to charge for 8 hours consecutively
	Batteries not working properly	Have the batteries replaced by authorised personnel
The UPS stalls/goes into overload alarm	Overload on the load line	Check that the load applied is not greater than the maximum permitted or reduce the load power requirement



If the UPS system does not operate correctly use the table below to try and resolve the problem.

Problem	Possible cause	Remedy
No indication, no warning tone even though system is connected to mains power supply	No input voltage	Check building wiring socket outlet and input cable.
Displays battery modes, and alarm sounds every 4 seconds	Mains power supply has failed, or input power and/or frequency are outside tolerance limits	Switching to battery mode automatically. Check input power source.
Backup time shorter than nominal value	Batteries not fully charged / batteries defect	Charge the batteries for at least 5 - 8 hours and then check capacity. If the problem still persists, consult your dealer.
Fan failure	Fan abnormal	Check if the fan is running
Battery over voltage	Battery is over charged	Switch to battery mode automatically, and after the battery voltage is normal and the mains is normal, the UPS should switch to line mode automatically again.
Battery low	Battery voltage is low	When alarm sounds every second battery is almost empty.
Charge failure	The charge is broken	Notify dealer.
DC-DC temperature high	Internal UPS temperature too high	Check UPS ventilation of the UPS, check the ambient temperature.
Inverter temperature high	Inside temperature of the UPS is too high	Check the ventilation, check ambient temperature.
Ambient temperature high	The ambient temperature is too high	Check room ventilation.
Line voltage high (OVCD action)	Input power voltage is too high	Switch to battery mode automatically, after the mains is normal the UPS should switch to line mode automatically again.
Battery open	Battery pack is not connected correctly	Do the battery test to confirm. Check the battery bank is connected to the UPS. Check the battery breaker is turned on.
Overload	Overload	Check the loads and remove some non-critical loads. Check whether some loads have failed.
Site failure	Phase and neutral conductor at input of UPS system are reversed	Rotate mains power socket by 180° or connect UPS system.
EPO active	EPO function is enabled	Turn off the EPO switch.
Bus fault	UPS internal fault	Notify dealer
Inverter fault	UPS internal fault	Notify dealer
Over temperature fault	Over temperature	Check UPS ventilation, check ambient temperature and ventilation.
Inverter short	Output short circuit	Remove all the loads. Turn off the UPS. Check whether the output of UPS and loads have short circuited. Make sure the short circuit is removed, and the UPS has no internal faults before turning on again.
Bus short	UPS internal fault	Notify dealer

# 11. TECHNICAL SPECIFICATION

Models							
		1	1 (LB)	2	2 (LB)	3	3 (LB)
Nominal Power	VA/W	1000/800		2000/1600		3000/2400	
Input/Output phases		1/1		1/1		1/1	
Electrical Specifications - Input							
Mains voltage (Vin)	Vin	110 to 300 V Derating to 50 % @ 110 V input					
Input frequency	Hz	45 to 55/54 - 66					
Input power factor		≥ 0.99					
THDI		< 5 % with full load					
Electrical Specifications - Output							
Output Voltage	V	208/220/230/240 V ± 2 % Output power must derating to 90 % when the output voltage rate be set with 208 V					
Frequency	Hz	45-55/54 to 66 Hz (50/60 Hz ± 0.2 Hz in Battery Mode or Converter Mode)					
Overload – Normal Mode (@ 25°C)	1 m 30 s 10 s 1 s	%	105 to 110 110 to 125 125 to 150 > 150				
Crest Factor		3:1					
Voltage distortion	%	< 5 % Non Linear Load; < 3 % Linear Load					
Electrical Specificationsn - Battery							
Type		Sealed lead acid maintenance free-expected life 3/5 years					
Voltage		36		96		96	
BUT		> 5 min	-	> 9 min	-	> 5 min	-
Charger		-	8 A	-	8 A	-	8 A
Enviroment							
Operating temperature	°C	0 to 40 <sup>1</sup>					
Relative humidity	%	20 to 90 No Condensing					
Max. altitude	m	< 1000 m without derating					
Acoustic noise	dBA	up to 50 dB at front 1 m					
Standards							
Safety		EN 62040-1, EN 60950-1					
EMC		EN 62040-2					
Product Certification		CE					
Protection Level		IP20					
Mechanical Characteristics with standard batteries							
Dimensions (W x D x H)	mm	145 x 400 x 220		192 x 460 x 347		192 x 460 x 347	
Weight	kg	13	7	31	13	31	13

1. 15-25 °C for a longer battery life.

***ITYS***

6 - 10 kVA

# 12. SAFETY STANDARDS

## 12.1. ELECTRICAL REQUIREMENTS

The installation and the system must comply with pertinent national statutory regulations.

The fixed power distribution unit must include protection and isolation for the utility supply and the back-up supply. In the event that a residual current device is installed on the UPS input line (optional), this must be located upstream of the power distribution unit.

Electrical requirements			
UPS	Thermal-magnetic switch on input	Input leakage current	Cable section
6 kVA	40 C	0.1 A type A	6 mm <sup>2</sup>
10 kVA	63 C	0.1 A type A	10 mm <sup>2</sup>



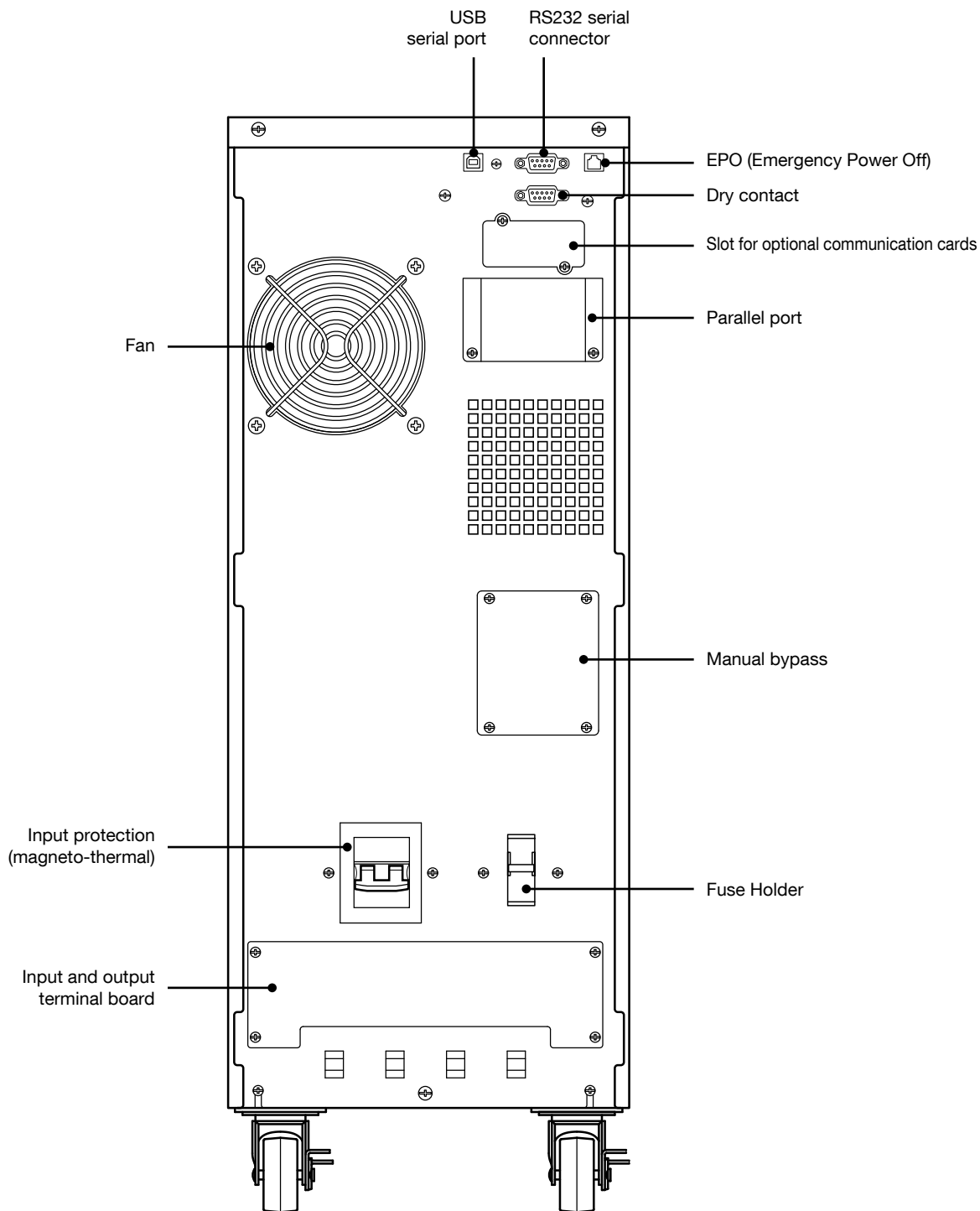
**WARNING!**

Use type A two-pole selective (S) RCDs. Any leakage currents at the loads will be added to that of the UPS, so that current peaks can occur during transients (loss and restoration of mains supply), although these will be of very short duration. Where loads generate high leakage current, ensure the rating of the RCD is suitably matched. Always conduct a preliminary test for current leakage to earth. When connecting the UPS to the mains and the load, it is strongly recommended that protective devices are installed. The protective devices must use approved components that meet safety standards.

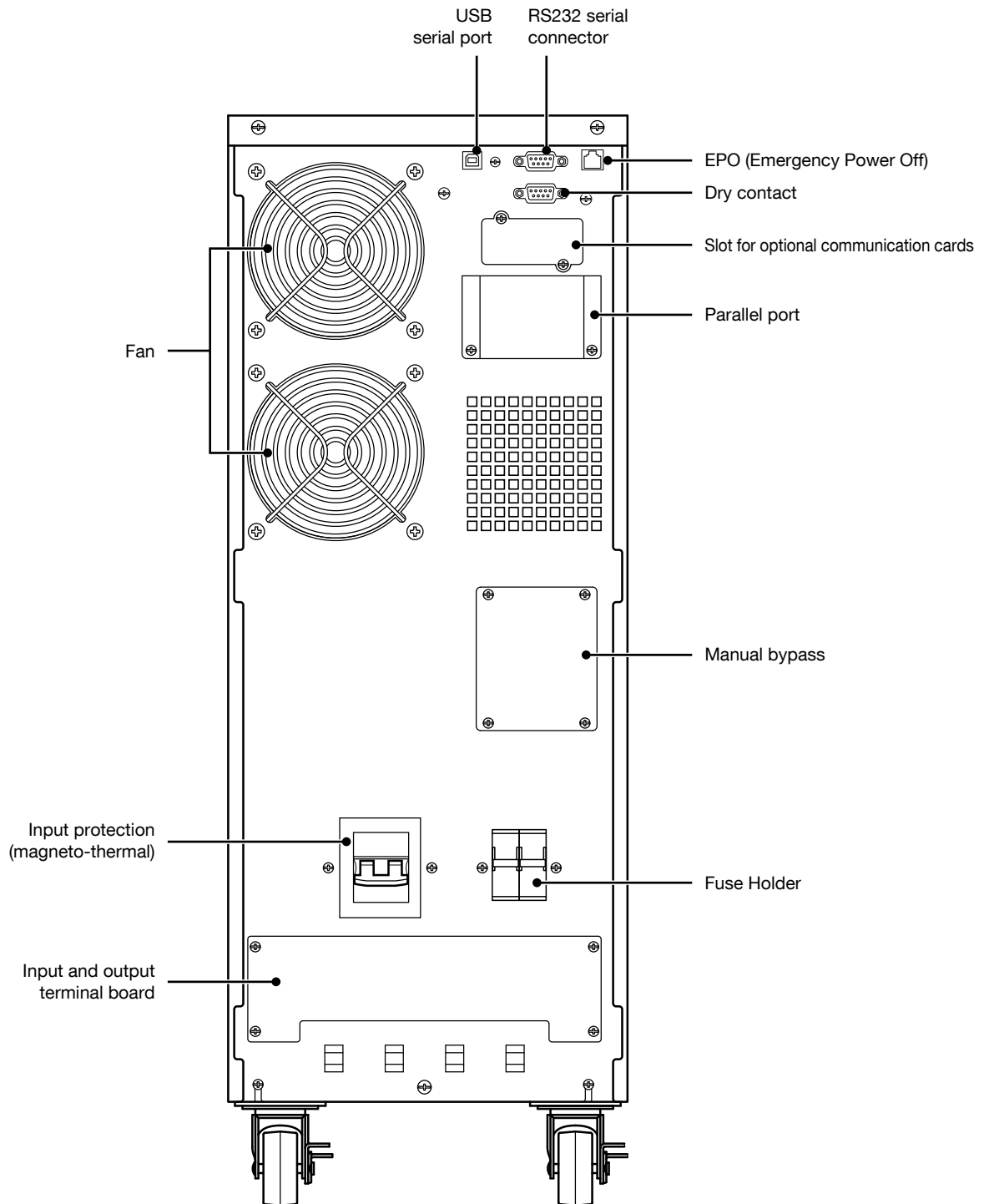


Always refer to local wiring regulations for correct cable sizes and protective device ratings depending on installation environment.

# 13. REAR VIEW



ITYS 6 k



ITYS 10 k



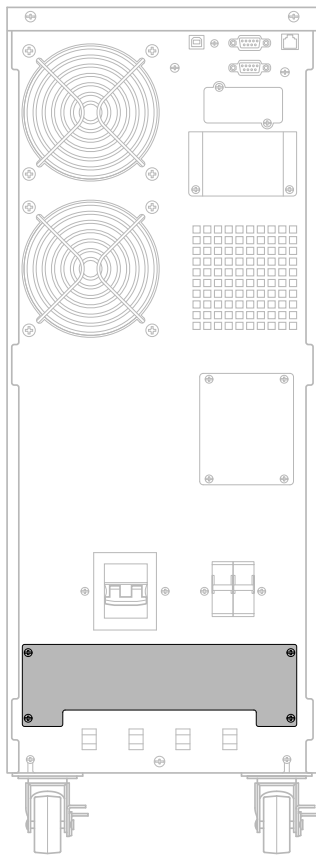
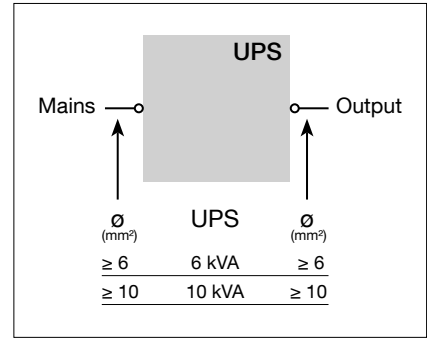
# 14. CONNECTIONS

The installation and the system must comply with national plant regulations. If a differential switch is installed on the mains power switch (optional), it must be inserted upstream from the distribution panel.

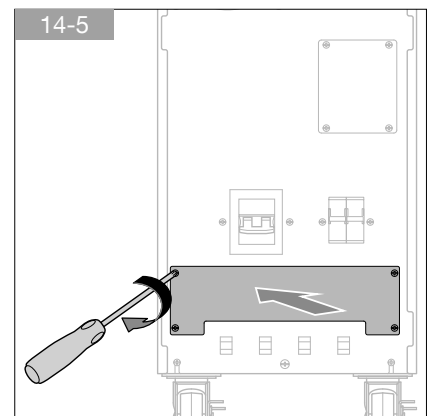
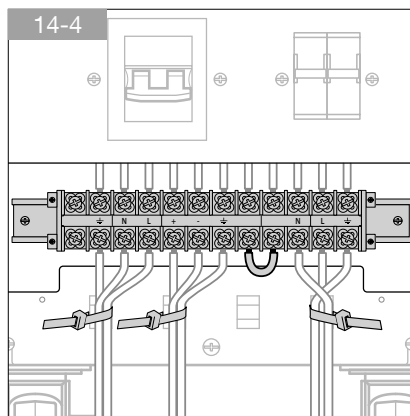
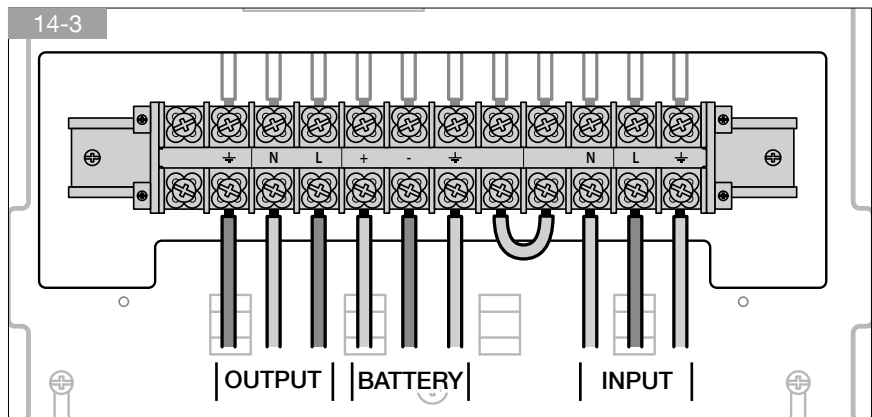
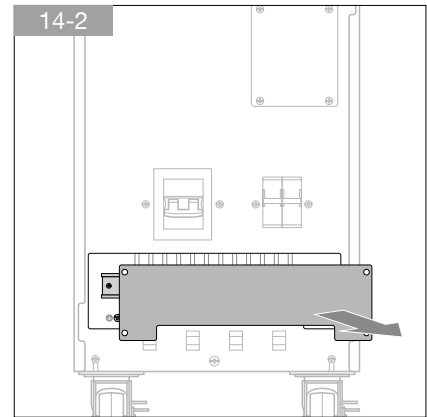
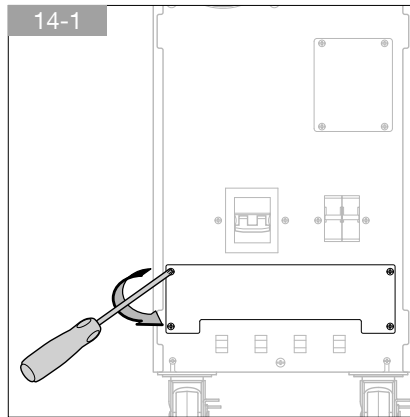


**CAUTION!**

Use selective type differentials. Any current dispersed by the loads will be summed to that of the UPS. The differential protection must be regulated in cases of loads with high current dispersion.



6 to 10 kVA



# 15. CONNECTION OF BATTERY EXTENSION

## 15.1. SAFETY WARNINGS

- Before connecting the battery extension, check that it is fully compatible with the model of UPS in use.
- The use of battery extensions not supplied by the manufacturer is inadvisable.



**WARNING!**

There is a risk of explosion if battery modules are replaced with others of incorrect type.

- Depleted batteries are considered as toxic waste. When battery replacement becomes necessary, release all depleted batteries only to certified and licensed waste disposal companies. In accordance with local bylaws, it is absolutely forbidden to dispose of batteries together with other industrial waste or household refuse.



**WARNING!**

It is extremely dangerous to touch any part of the battery storage unit.

## 15.2. CONNECTION OF BATTERY EXTENSION

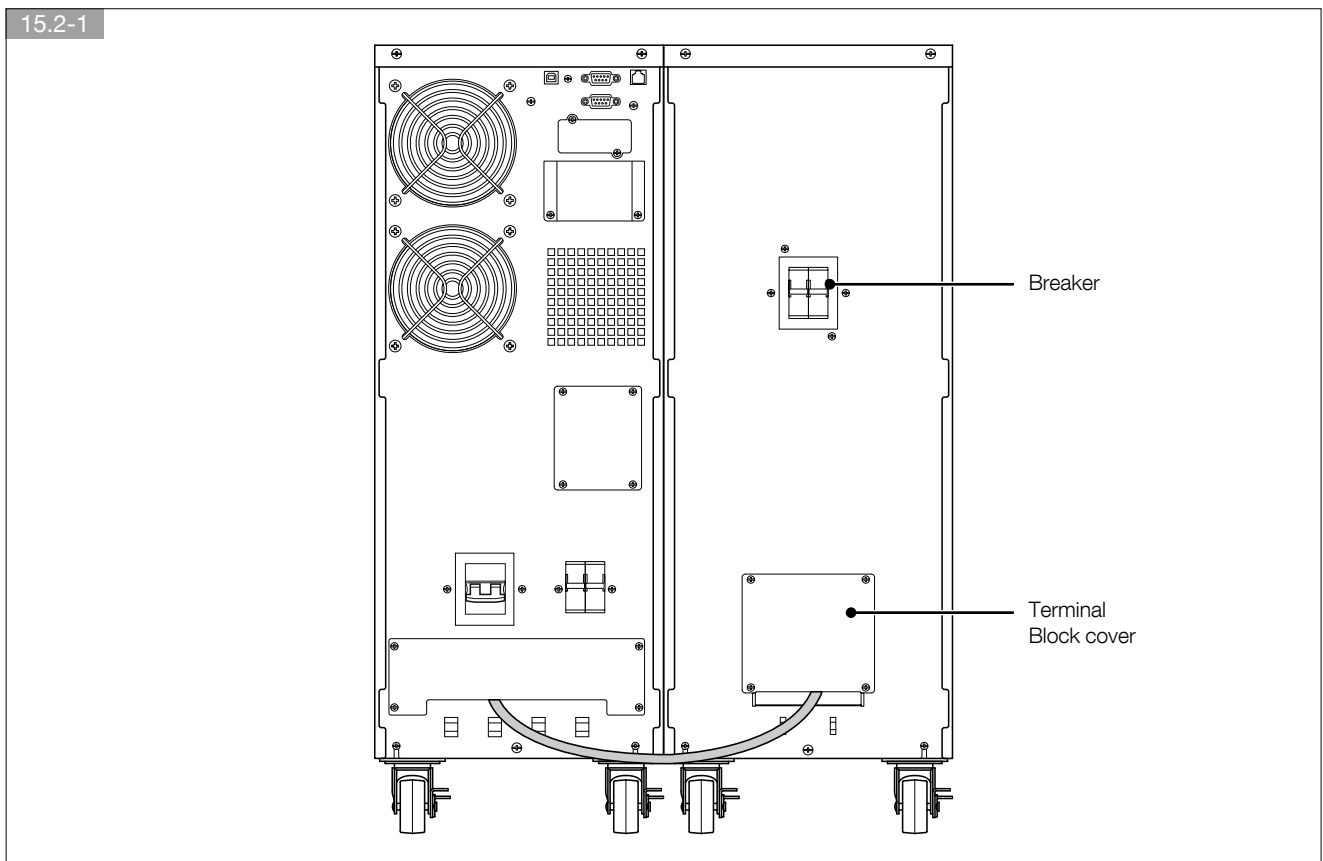


When connecting the UPS to the battery extension, use only the cable provided with the equipment.

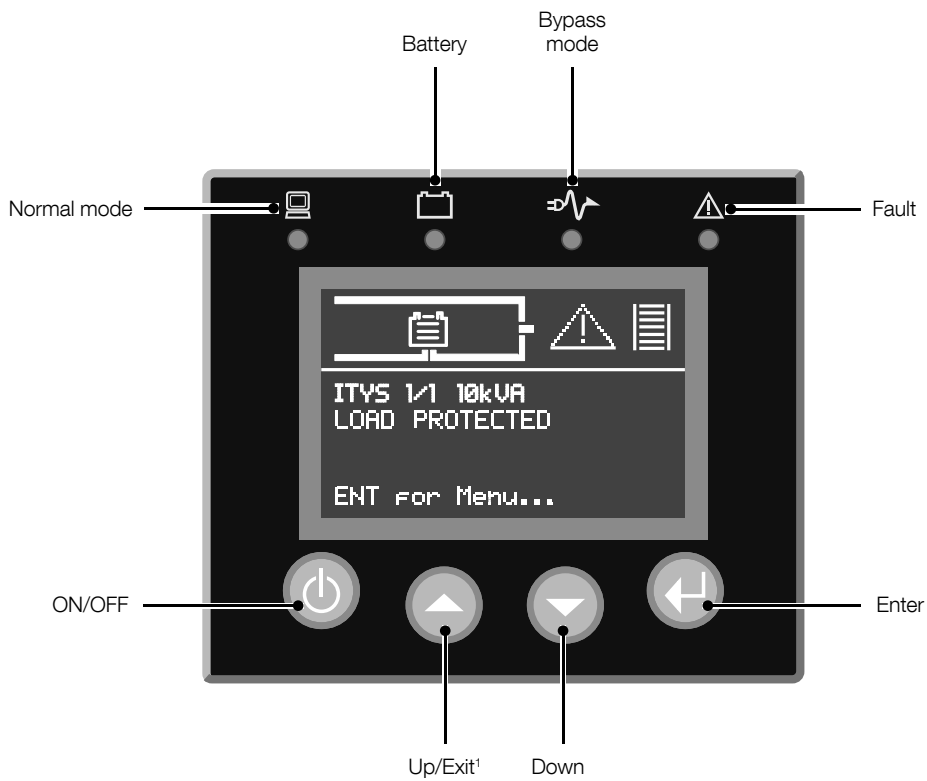


Any wiring error that results in the polarity of the battery being inverted can cause permanent damage to the equipment.

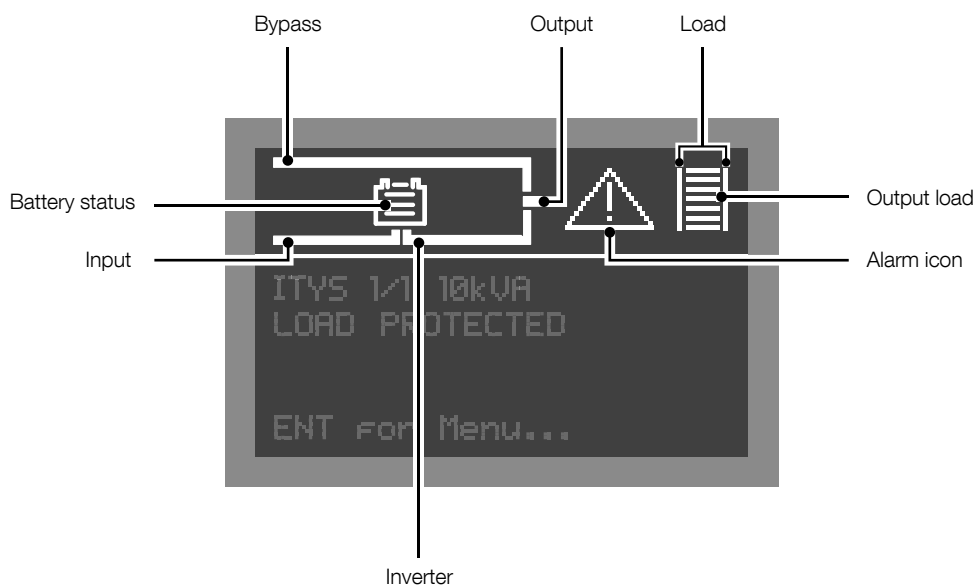
- Connect the battery cabinet to ground.
- Connect the External Battery cable on the rear of the UPS.
- Connect the cables to the battery cabinet terminals, respecting polarity very carefully.



# 16. MIMIC PANEL

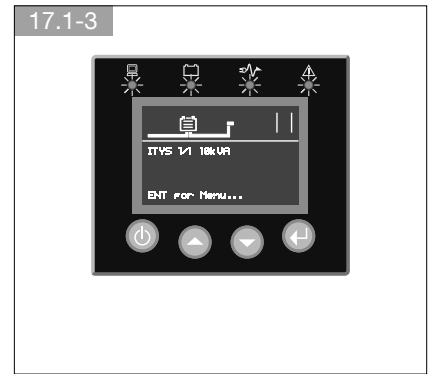
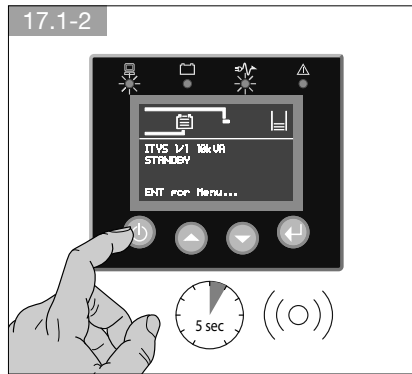
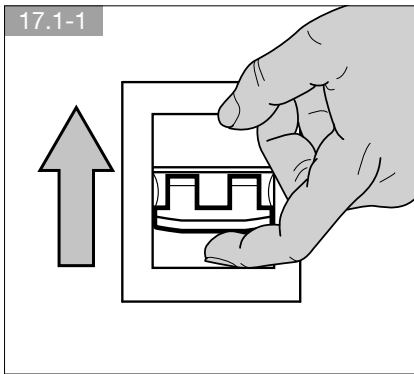


1. Press for 1 second

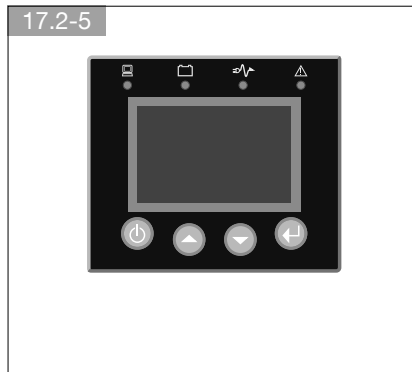
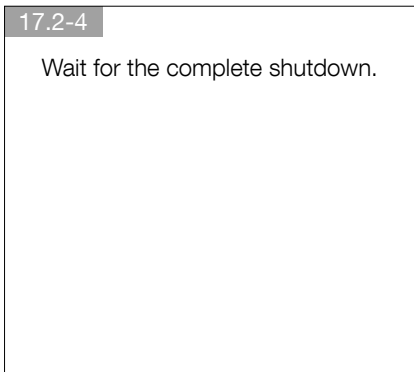
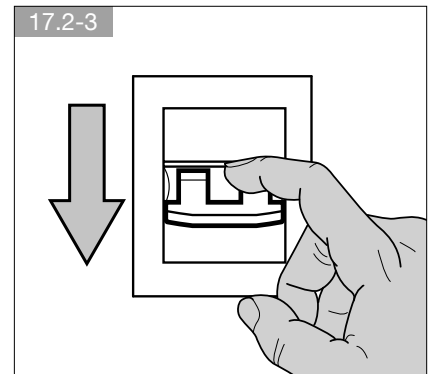
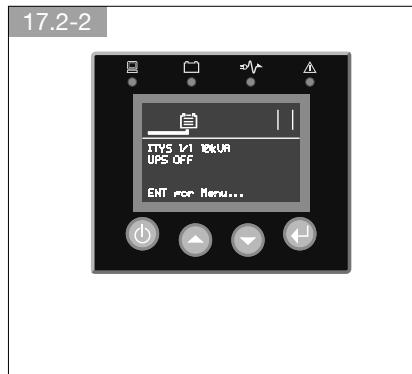
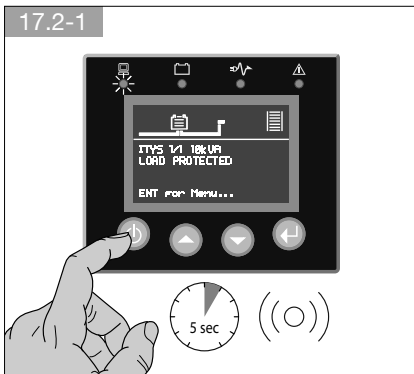


# 17. OPERATING MODES

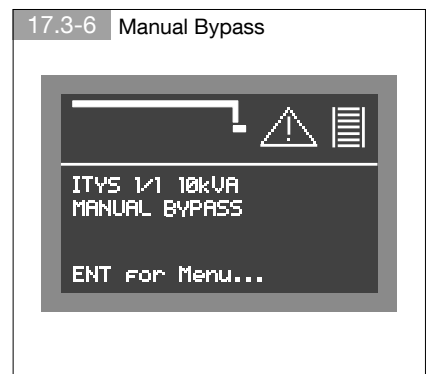
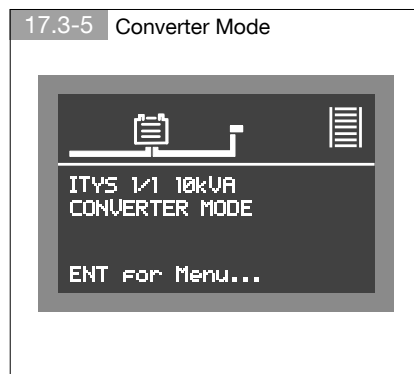
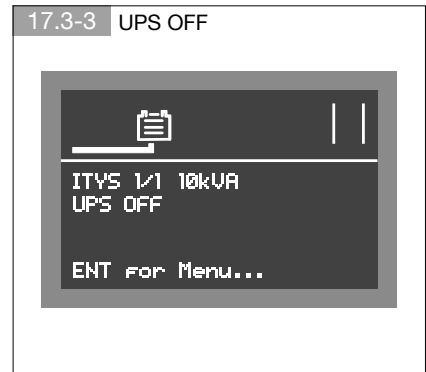
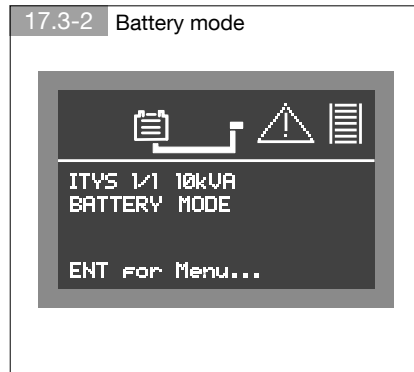
## 17.1. SWITCHING THE ITYS ON



## 17.2. SWITCHING THE ITYS OFF



17.3. OPERATING MODE



ENGLISH

## 17.4. MENU TREE

FIRST LEVEL	SECOND LEVEL	THIRD LEVEL
UPS STATUS		
EVENT LOG		
MEASUREMENTS		
COMMANDS	BUZZER MUTE	Buzzer Mute: no
	SINGLE UPS BATTERY TEST	Status: battery test Schedule battery test: no
	CLEAR EPO STATUS	Status EPO active Clear: no
	RESET FAULT STATE	Status: Fault active Reset fault: no
	CLEAR EVENT LOG	Total events: 50 Clear event log: no
	RESTORE FACTORY SETTINGS	Reset: no
IDENTIFICATION		
SERVICE	USER PASSWORD	enabled/disabled
	AUDIO ALARM	enabled/disabled
	RATED OUTPUT VOLTAGE	208/220/230/240 V
	OUTPUT FREQUENCY	autosensing 50/60 Hz
	POWER STRATEGY	normal/high efficiency/ converter
	DC START	enabled/disabled
	SITE WIRING ALARM	enabled/disabled
	AMBIENT TEMPERATURE WARNING	enabled/disabled
	AUTOMATIC BATTERY TESTS PERIOD	0 to 31 days
	AUTO RESTART	enabled/disabled
	AUTOMATIC OVERLOAD RESTART	enabled/disabled
	AUTO BYPASS	enabled/disabled
	SHORT CIRCUIT CLEARANCE	enabled/disabled
	BYPASS VOLTAGE LOW LIMIT	110 to 215 V
	BYPASS VOLTAGE HIGH LIMIT	245 to 276 V
	BYPASS FREQUENCY LOW LIMIT	1 to 10 %
	BYPASS FREQUENCY HIGH LIMIT	1 to 10 %
	HE VOLTAGE LOW LIMIT	1 to 10 %
	HE VOLTAGE HIGH LIMIT	1 to 10 %
	HE FREQUENCY LOW LIMIT	1 to 10 %
	HE FREQUENCY HIGH LIMIT	1 to 10 %
	BATTERY QUANTITY	19/20/21
	SET RUNNING TIME	Day:hour:minute:second 0000:0000:00~9999:23:59:59
	LCD CONTRAST	-5 to +5

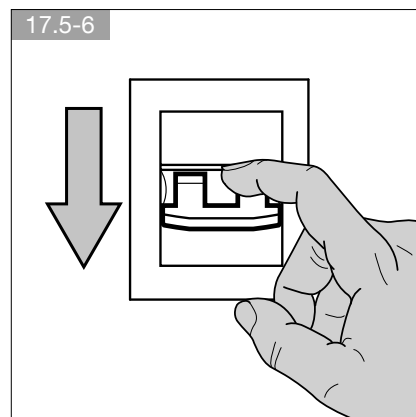
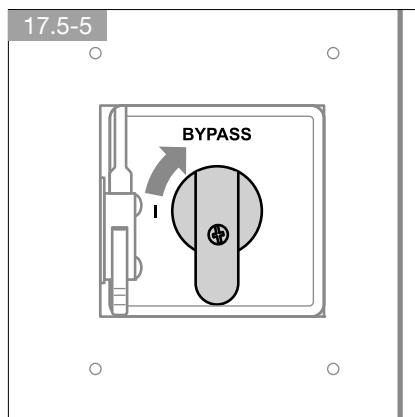
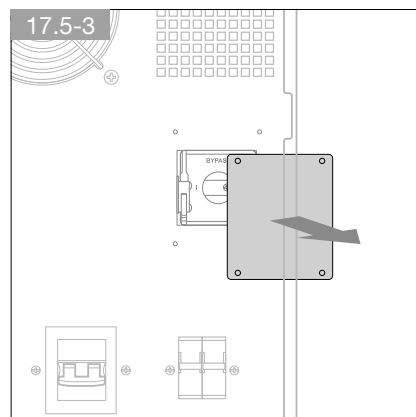
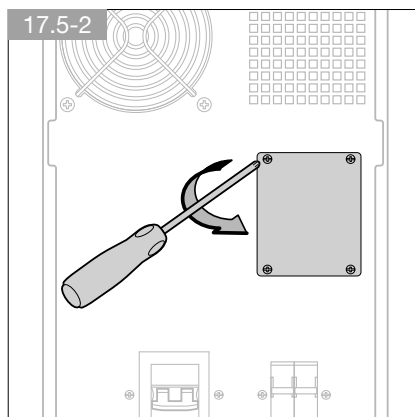
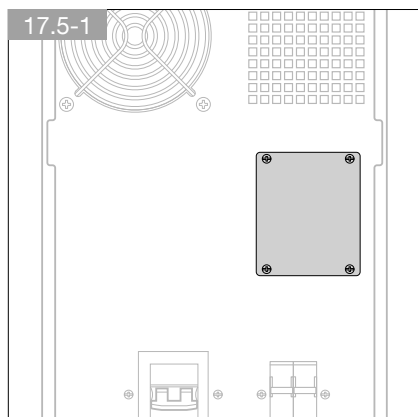
## 17.5. OPERATION WITH MANUAL BY-PASS

If the maintenance bypass is activated using the appropriate procedure, the load is powered directly from the maintenance bypass, while the UPS is separated from the power supply.



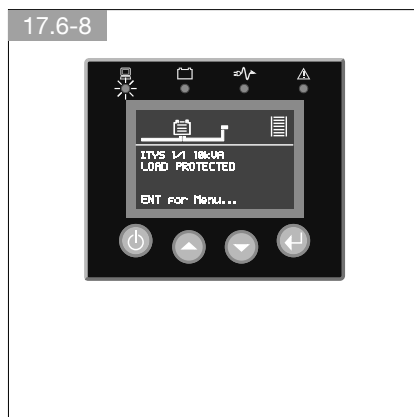
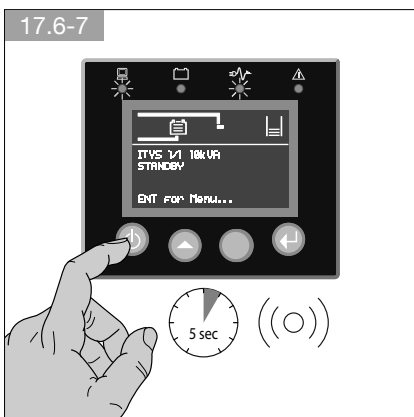
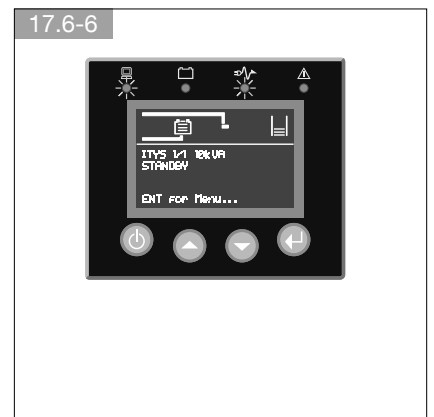
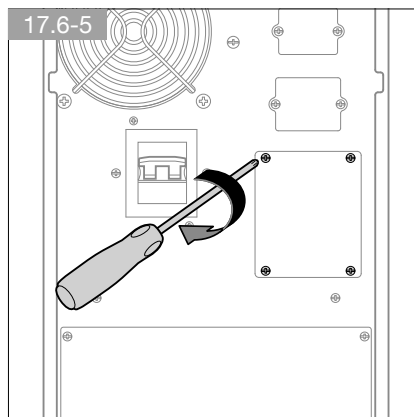
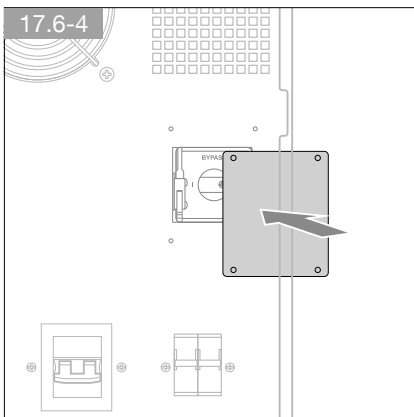
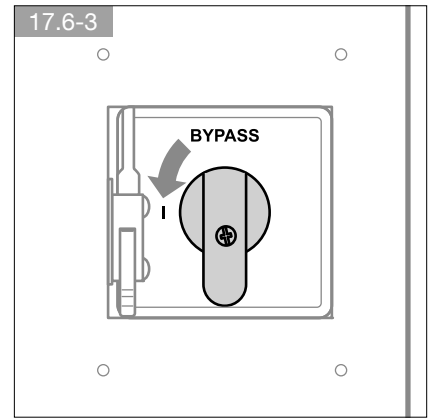
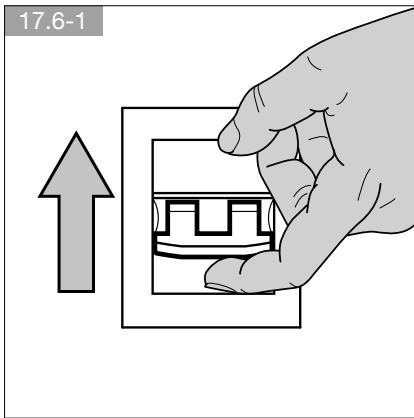
**WARNING!**  
In this mode continuity is not guaranteed in the event of a mains power failure.

This operating mode can be selected for maintenance to be carried out on the system so that the necessary actions can be performed by service personnel without having to disconnect the power supply to the load.



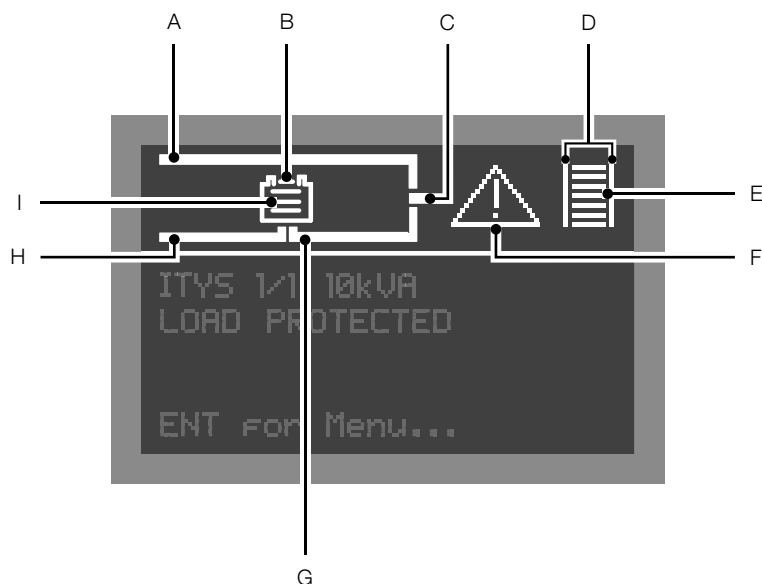
17.5-7  
Wait for the complete shutdown.

17.6. OPERATION FROM MANUAL BY-PASS TO NORMAL OPERATION





## 18. VISUAL AND AUDIBLE WARNING SIGNALS



ENGLISH

Key	Description	Condition
A	Load on bypass, in Eco-mode or Maintenance bypass closed	Steady
	Automatic bypass alarm	Flashing
B	Battery OK	Steady
	Battery alarm	Flashing
C	Output voltage present	Steady
D	Load present	Steady
	Overload	Flashing
E	Output load indicator	Steps of 10%
F	Activation code alarm	Steady
	General alarm	Flashing
G	Inverter on	Steady
	Inverter general alarm	Flashing
H	Input rectifier active, input mains OK	Steady
	Input rectifier general alarm/Input mains alarm	Flashing
I	Remaining battery capacity	Steps of 25%
	Battery recharging	Sequence

# 19. COMMUNICATION

Communication software and accessories are available for monitoring the status of the UPS, with the end in view of optimizing normal operation and ensuring that shutdown at the end of backup time is managed correctly. Applications allow recording of all power outages and any depletion of battery power so as to enable the activation of an automatic procedure for closing programs in ordered sequence and shutting down the system.

ITYS no-break systems are equipped with RS232 serial communication interface, and slots for NetVision cards.

## 19.1. USB INTERFACE

The UPS can communicate with the server direct by way of the USB interface, if available on the computer operating system, without the need to install any additional software. Once connected, recognition of the UPS occurs in the same way as for any other peripheral, and the operating parameters can be managed by way of the OS service menu. Use the connecting cable provided.

## 19.2. WEB/SNMP CARD (OPTION)

With this card installed, the UPS can be connected directly to a LAN (RJ45 ethernet) and controlled remotely from a WEB browser using TCP/IP protocol. Reference should be made to the relevant literature for a full description of functionality.

## 19.3. RS232 INTERFACE

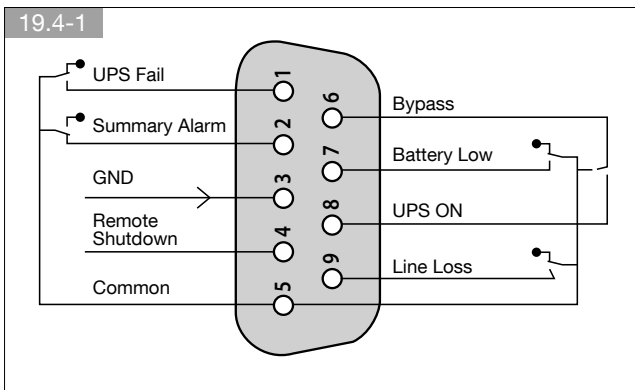
Communication with the server can take place directly via the RS232 interface.

In addition to local or networked shutdown it is possible to perform full monitoring of the electrical parameters regarding battery status and the automatic programming of the UPS start-up and shutdown procedures.

For a complete description of the software features, refer to the UniVision and UniVision Pro documentation.

## 19.4. DRY CONTACT INTERFACE

This series UPS has an independent dry contact interface. Please contact your local distributor for details. The following is the pin assignment and description of the DB-9 connector.



Pin	Description	I/O
1	UPS Fail	Output
2	Summary Alarm	Output
3	GND	Input
4	Remote Shutdown	Input
5	Common	Input
6	Bypass	Output
7	Battery Low	Output
8	UPS ON	Output
9	Line Loss	Output

## 20. TROUBLESHOOTING

Please have the following information at hand before calling the After-Sales Service Department:

- Model number, serial number
- Date on which the problem occurred
- LCD display status, Buzzer alarm status
- Utility power condition, load type and capacity, ambient temperature, ventilation conditions
- The information (battery capacity, quantity) of external battery pack if the UPS is an S model
- Other information for a complete description of the problem



### IMPORTANT!

If problems persist or recur frequently after following the instructions in this chapter call the technical service centre providing a full description of the problem.

WARNING		
Problem Displayed	Possible cause	Remedy
Read EEPROM Error	UPS internal fault	Consult dealer.
Epo Active	EPO connector is open	Check the EPO connector status
On Maintain Bypass	Maintain bypass switch is open	Check the maintain bypass switch status
IP softstart failed	UPS internal fault	Consult dealer
Site Wiring Fault	Phase and neutral conductor at input of UPS system are reversed	Reverse mains power wiring.
Battery Disconnect	Battery pack is not connected correctly	Do the battery test to confirm.
		Check the battery bank is connected to the UPS
		Check the battery breaker is turned on.
Battery low	Battery voltage is low	When alarm sounds every second battery is almost empty.
Output Overload	Overload	Check the loads and remove some non-critical loads.
		Check if some loads have failed.
Fan Failure	Fan abnormal	Check if the fan is running normally.
Charger failure	The charge fails	Consult dealer.
Battery Over Voltage	Battery voltage is higher than normal value	Check if the battery quantity is right.
Over Charge	Battery is over charged	The UPS will turn off the charger until the battery voltage is normal
Model Pin Error	Internal UPS fault	Consult dealer.
Ambient Over Temperature	The ambient temperature is too high	Check the environment ventilation.
Heatsink Over Temperature	Inside temperature of UPS is too high	Check the ventilation of UPS and the ambient temperature.
Ambient NTC abnormal	UPS internal fault	Consult dealer.
Para Bat Differ	The battery packs of some UPSs are disconnected	Check if all the battery pack is connected.
Para Line Differ	The mains input of some UPSs is disconnected	Check the building wiring and input cable.
		Check if the input breaker is closed.
		Ensure the UPSs are connected to same input source.
IP Fuse Open	Input fuse break	Check the input fuse status

FAULT		
Problem Displayed	Possible cause	Remedy
Inv Overload Fault	Overload	Check the loads and remove some non-critical loads.
		Check if some loads have failed.
Byp Overload Fault	Overload	Check the loads and remove some non-critical loads.
		Check if some loads are failed.
Output Short Circuit	Output short circuit	Remove all the loads. Turn off the UPS.
		Check if UPS output and loads have short circuited
		Ensure short circuit is removed before turning on again.
Heatsink Over Temperature Fault	Internal UPS temperature of UPS high	Check UPS ventilation of UPS and ambient temperature.
Bus Over Voltage	Internal UPS fault	Consult dealer.
Bus Under Voltage	Internal UPS fault	Consult dealer.
Bus Unbalance	Internal UPS fault	Consult dealer.
Bus short	Internal UPS fault	Consult dealer.
Bus Softstart Fail	Internal UPS fault	Consult dealer.
Inv Over Voltage	Internal UPS fault	Consult dealer.
Inv Under Voltage	Internal UPS fault	Consult dealer.
Inv Softstart Fail	Internal UPS fault	Consult dealer.
Negative Power Fault	The load is pure inductive and capacitive	Remove some non-critical loads.
		Bypass supplies the load first, ensure there is no overload, then turn on UPS.
Fan lock fault	Fan blocked or disconnected over time	Check the fan status
Backfeed	Output voltage has returned to input	Consult dealer

OTHER CASES		
Problem Displayed	Possible cause	Remedy
No indication, no warning tone even though system is connected to mains power supply	No input voltage	Check the building wiring and input cable.
		Check if the input breaker is closed.
BYPASS LED lights up even though the power supply is available	Inverter not switched on	Press On-Switch "I" to turn on UPS.
BATTERY LED lights up, and alarm sounds every 4 seconds	Input voltage and/or frequency are out of tolerance	Check input power source.
		Check the building wiring and input cable.
		Check if the input breaker is closed.
Emergency supply period shorter than nominal value	Batteries not fully charged / battery defect	Charge the batteries for at least 12 hours and then check capacity.

# 21. TECHNICAL SPECIFICATION

Models					
		6	6 (LB)	10	10 (LB)
Nominal Power	VA/W	6000/5400		10000/9000	
Input/Output phases		1/1		1/1	
Electrical Specifications - Input					
Mains voltage (Vin)	Vin	220/230/240 V; 1 Ph (L/N) + PE, 3-wire			
Input frequency	Hz	50/60			
Input power factor		≥ 0.99			
THDI		< 5 % with full load			
Electrical Specifications - Output					
Output Voltage	V	208/220/230/240 V ± 1 %; 1 Ph (L/N) + PE, 3-Wire Output power must derating to 90 % when the output voltage rate be set with 208 V, and 80 % for 200 V			
Frequency	Hz	50/60 ± 0.05 %			
Overload – Normal Mode (@ 25°C)	10 m	kW	105 to 125		
	1 m		125 to 150		
	10 s		> 150		
	100 ms		> 170		
Overload – Battery Mode (@25°C)	2 m	kW	105 to 125		
	30 s		125 to 150		
	100 ms		> 150		
Crest Factor		3:1			
Voltage distortion		< 5 % Non Linear Load; < 2 % Linear Load			
Electrical Specificationsn - Battery					
Type		Sealed lead acid maintenance free-expected life 3/5 years			
Voltage		240 V			
BUT		> 5 min	-	> 4 min	-
Charger		-	4 A	-	4 A
Enviroment					
Operating temperature	°C	0 to 40 °C <sup>1</sup>			
Relative humidity	%	0 to 95 % No Condensing			
Max. altitude	m	< 1000 m without derating			
Acoustic noise	dBA	50 dB at front 1 m		55 dB at front 1 m	
Standards					
Safety		EN 62040-1, EN 60950-1			
EMC		EN 62040-2 C3			
Product Certification		CE			
Protection Level		IP20			
Mechanical Characteristics with standard batteries					
Dimensions (W x D x H)	mm	428 x 970 x 720			
Weight	kg	73	25,5	84	29,5

1. 15-25 °C for a longer battery life.





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