BATTERY BACKUP SYSTEMS

UPS 2000 & UPS 3000

Installation and operating guidelines

The Edincare UPS 2000 and UPS 3000 uninterruptible power supplies offer the highest levels of resilience and protection as battery backups for your pump system.
The units will provide power to one submersible pump in case of a loss of mains power allowing continued operation in the event of mains power failure.
They are quick and simple to install and operate.

Edincare UPS 2000 Edincare UPS 3000

edincare® PUMPS

www.edincare.com
01442 2115441

08/20/DM/3.0

1. Contents

2. Product summary

Thank you for purchasing the UPS 2000 / UPS 3000 system.

The UPS 2000 / UPS 3000 is an on-line double conversion uninterruptible power supply (UPS) offering the highest levels of resilience and protection. This provides power to one submersible pump in case of a loss of mains power allowing for continued pump operation.

The UPS 2000 system can operate continuously for 30mins, based on a 3.5m head of 1no EA31 pump.

The UPS 3000 system can operate continuously for 60mins based on a 3.5m head of 1no EA33 pump, or 30mins based on a 3.5m head of 1no EA33 pump.

3. Site preparation and installation

3.1 Advisory

All products are manufactured and developed to the highest standards and assembled with precision and care. Each product has been rigorously tested. We constantly strive to develop our products to provide you with the most innovative products possible.

Please read these installation and operating guidelines carefully prior to installation. These guidelines contain important information and hazard warnings, which will enable you to install and operate your product safely, economically, and reliably.

Only qualified personnel should carry out the installation in accordance with the latest IET wiring regulations BS7671. All works should be in line with the Health and Safety at Works Act 1974.

If you are unsure on any point, then please contact Edincare Helpdesk on 01442 211554 between 8.30am–5.30pm, Monday to Friday or via email info@edincare.com for further information.

3.1.1 Intended use

The UPS 2000 and UPS 3000 are designed for use indoors only. Under no circumstances should the product be installed outdoors.

Do not operate this UPS in direct sunlight, in contact with fluids, or where there is excessive dust or humidity.

Be sure the air vents on the UPS are not blocked. Allow adequate space for proper ventilation.

3.2 Installation

It is important to note that these instructions are for guidance only and it is the installer's responsibility to satisfy themselves that the installation procedure is in accordance with the site conditions and good building practice, to eliminate any potential damage to the system either during or after installation. The installer should also satisfy themselves that the system can be installed in conjunction with these guidelines, prior to work commencing.

Please read these instructions in full prior to commencement of the installation. If you are unsure on any part then please ask for advise before proceeding. Our technical helpdesk is available on 01442 211554 from 8.30am–5.30pm, Monday to Friday .

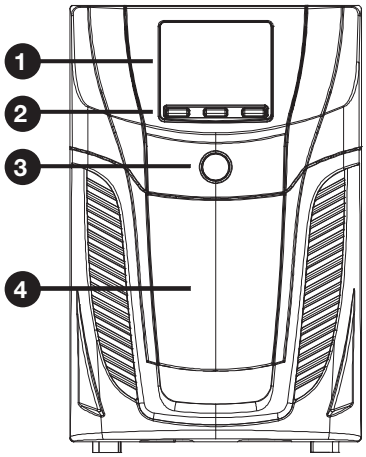
1. Remove all packaging and discard.
2. Wire female euro line socket to the single pump (see parts list in section 6).

PLEASE NOTE: the UPS 2000 is only suitable for providing battery backup to 1no EA31 pump.

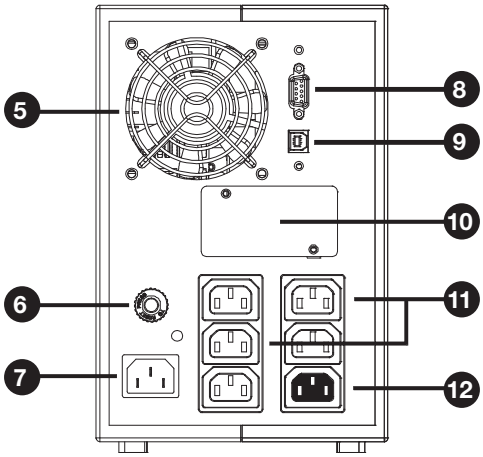
PLEASE NOTE: the UPS 3000 is suitable for providing battery backup to 1no EA31 pump or 1no EA33 pump.

3. Plug pump into UPS.
4. Connect mains power lead to the UPS.
5. Turn 240V power on at the mains connection, checking supply is present.
6. Turn on to the unit using the ON/OFF Button
7. Turn the unit on using the ON Button

3.2.1 Front and back

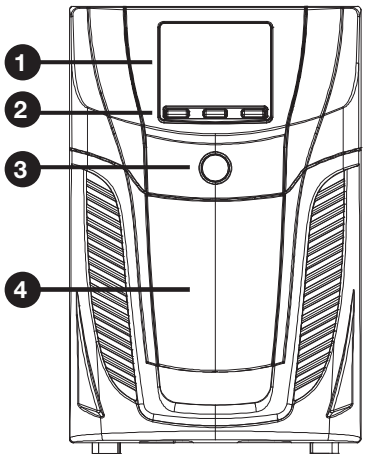


UPS 2000 Front

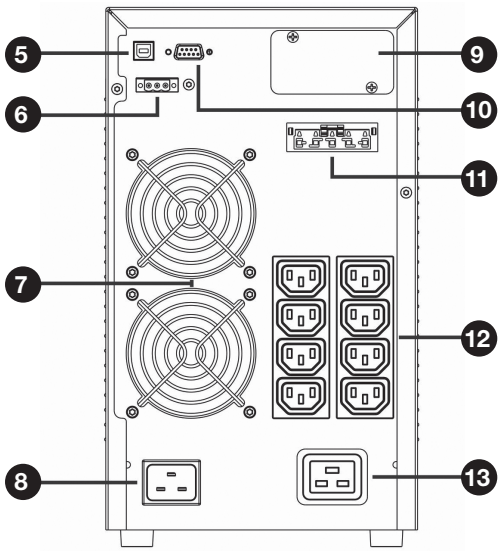


UPS 2000 Rear

1. Display
2. Multipurpose buttons
3. ON/OFF Switch
4. Removable front panel
5. Cooling fan
6. Circuit breaker
7. IEC 10A input plug
8. Communication port RS232
9. USB communication port
10. Communication card slots
11. IEC 10A output socket
12. Energyshare



UPS 3000 Front

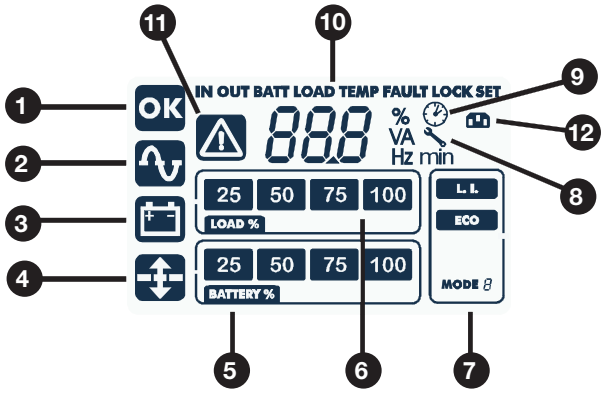


UPS 3000 Rear

1. Display
2. Multipurpose buttons
3. ON/OFF Switch
4. Removable front panel
5. USB communication port
6. Remote control terminal board
7. Cooling fan
8. IEC 16A input plug
9. Communication card slots
10. RS232 communication port and contacts
11. Battery expansion connector
12. IEC 10A output socket
13. IEC 16A output socket

3.2.1 Display panel

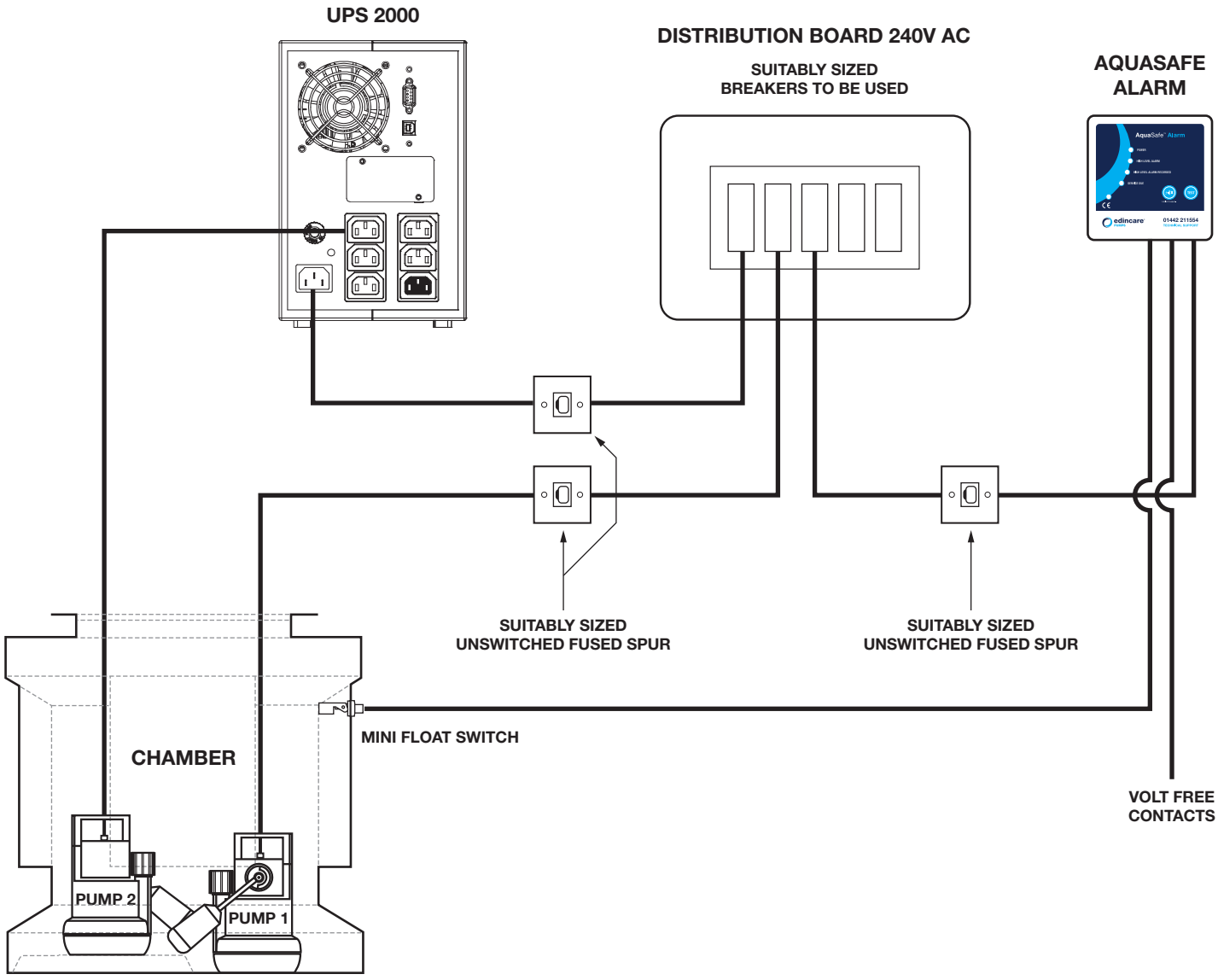
A. “SEL” button (Select)
B. “ON” button
C. “STAND-BY” button



1. Regular operation
2. Mains operation
3. Battery operation
4. AVR active
5. Battery charge indicator
6. Load level indicator
7. Configuration area
8. Maintenance request
9. Timer
10. Measurement display area
11. Stand-by / alarm
12. EnergyShare

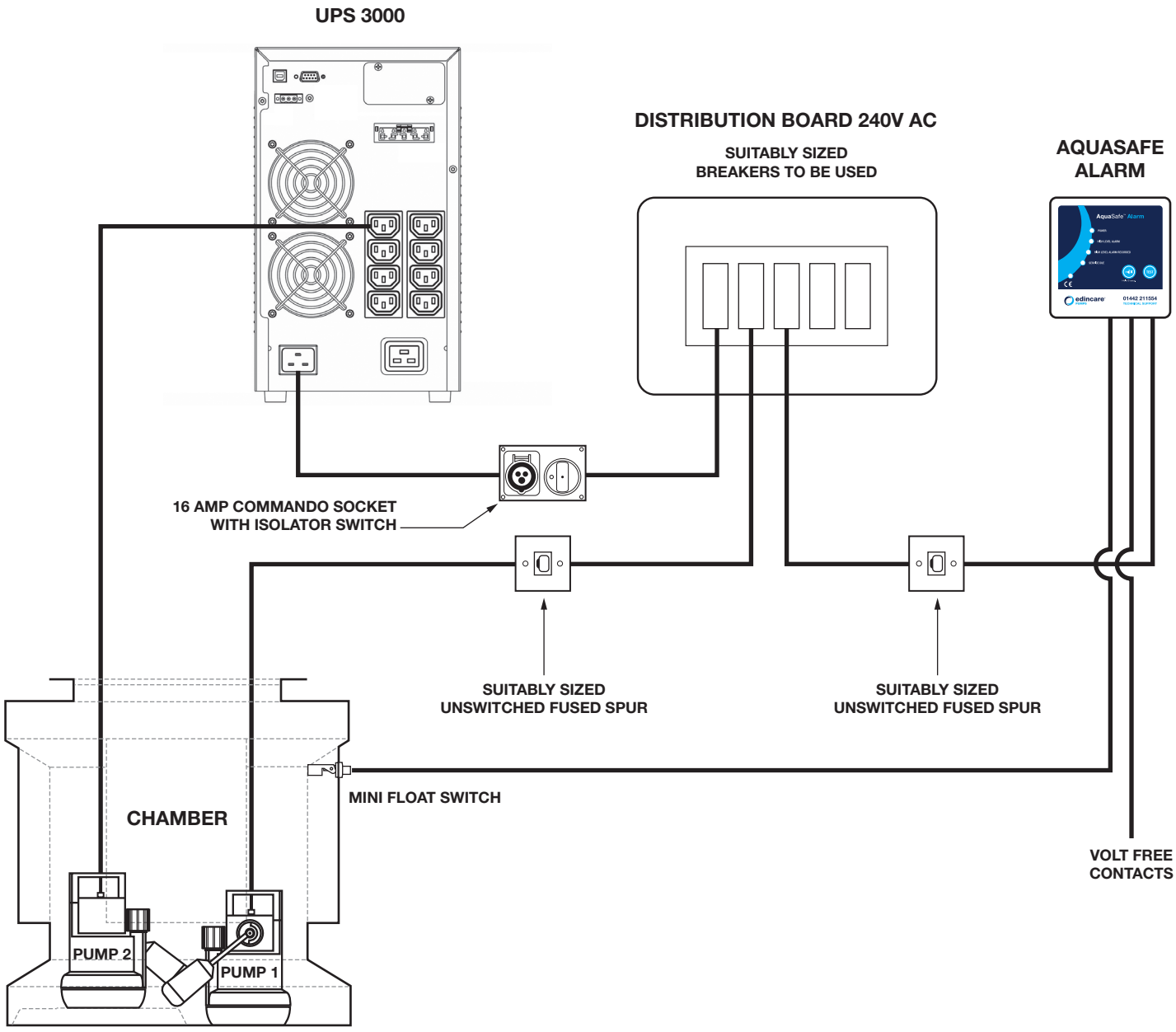
3.3 System setup

3.3.1 System setup for UPS 2000



UPS 2000 setup diagram

3.3.2 System setup for UPS 3000



UPS 3000 setup diagram

3.4 Switching on for the first time

1 Check that there is a protection device against overcurrents and short circuits in the system upstream from the UPS. The recommended protection value is 16A with a C trip curve.

2 Power the UPS using the input cable provided.

3 Press the ON/OFF switch located on the front panel.

4 After a few moments, the UPS will switch on, the display will light up, there will be a beep and the ⚠ icon will start to flash. The UPS is in stand-by mode: meaning that it is only consuming a small amount of power. The microcontroller is powered which supervises the self-diagnoses; the batteries are charging; everything is ready for UPS activation. Battery operation is also in stand-by mode provided that the timer is active.

5 Connect the pump to be powered to the sockets on the back of the UPS, using the cable and plug supplied.

6 Check which operating mode is set on the display and, if necessary, see the “Configuring operating modes” paragraph to set the required mode.

If you are unsure on any point, then please contact Edincare Pumps Helpdesk on 01442 211554 from 8.30am–5.30pm, Monday to Friday or via email info@edincare.com for further information.

3.5 Switching on from the mains

1 Press the “ON” button for 1 second. After pressing it, all the icons on the display light up for 1 second and the UPS beeps.

2 Switch on the equipment connected to the UPS.

When switching on for the first time only: after 30 seconds, check that the UPS is operating correctly:

- Simulate a mains power failure by disconnecting power to the UPS.
- The load must continue to be powered, the 🔋 icon on the display must light up and there must be a beep every 4 seconds.

When power is reconnected, the UPS must go back to operating from the mains.

3.6 Switching on from the battery

1 Press the ON/OFF switch located on the front panel.

2 Hold down the “ON” button for at least 5 seconds. All the icons on the display light up for 1 second.

3 Switch on the equipment connected to the UPS.

3.7 Internal battery

The battery typically lasts for two to five years. Environmental factors impact battery life. Elevated ambient temperatures, poor quality utility power, and frequent short duration discharges will shorten battery life.

This can be ordered from Edincare Pumps Sales on 01442 211554 from 8.30am–5.30pm, Monday to Friday or via email sales@edincare.com. See section 7 for more information.

DO NOT access the internals of the system. This should only be completed by a competent repairer. Any unregistered access to the internals of the system may void any warranty claim should this be raised.

Should you find a battery fault, please call Edincare Pumps Sales on 01442 211554 from 8.30am–5.30pm, Monday to Friday or via email sales@edincare.com.

3.8 Switching on from the UPS

In order to switch off the UPS, hold down the “STBY” button for at least 2 seconds. The UPS goes back to stand-by mode and the  icon starts to flash:

1 If the mains power is present, the ON/OFF switch must be pressed to completely turn off the UPS.

During battery mode operation with the timer not set, the UPS automatically switches off after 30 seconds. If, on the contrary, the timer is set, press and hold down the “STBY” key for at least 5 seconds to turn off the UPS. For complete shutdown, press the ON/OFF switch.

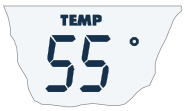
3.9 display panel messages

This details the various information that can be displayed on the LCD.

OUTPUT	STATUS	DESCRIPTION
	Fixed	Indicates a fault
	Flashing	The UPS is in stand-by mode
	Fixed	Indicates regular operation
	Fixed	The UPS is operating from the mains
	Flashing	The UPS is operating from the mains, but the output voltage is not synchronised with the mains voltage
	Fixed	The UPS is operating from the battery. In this condition, the UPS emits an acoustic signal (beep) at regular 4-second intervals.
	Flashing	Low battery pre-alarm. Indicates that battery autonomy is coming to an end. In this condition, the UPS emits a beep at regular 1-second intervals.
	Fixed	Indicates that the loads connected to the UPS are powered by the bypass
	Dynamic	Indicates the estimated percentage charge of the batteries
	Dynamic	Indicates the percentage of charge applied to the UPS compared with the nominal value.
	Flashing	Maintenance is required. Contact the support centre.
	Fixed	Indicates that the timer is active (programmed switch-on and switch-off). The timer can be activated/deactivated using the software provided.
	Flashing	1 minute until the UPS switches back on or 3 minutes until it switches off

3.10 Display panel messages

	Mains voltage
	Mains frequency
	UPS output voltage
	Output voltage frequency
	Residual battery autonomy
	Fault / Alarm [2]: the corresponding code is displayed

	Battery charge percentage
	Total battery voltage
	Applied load percentage
	Current absorbed by the load
	Temperature of the electronics cooling system inside the UPS
	Lock [2]: the corresponding code is displayed

(1) The values shown in the images in the table are purely as an indication.

(2) The FAULT / LOCK codes can only be displayed if they are active (presence of a fault/alarm or a lock).

3.10 Configuring the operating mode

The area of the display shown in the figure displays the active operating mode and allows the user to choose other modes directly from the display panel.

3.11.1 How to proceed

- To access the configuration area, hold down the “SEL” button for at least 3 seconds.
- The icon corresponding to the mode currently set lights up.
- To change the mode, press the “ON” button.
- To confirm the mode chosen, hold down the “SEL” button for at least 3 seconds.

3.11.2 Possible settings

The UPS is designed to be configured in various operating modes:

- **ON-LINE** is the mode with the greatest load protection and the best quality of the output waveform (*)
- **ECO** is the mode with which the UPS consumes the least power, so is therefore the most efficient (**)
- **SMART ACTIVE**: in this mode, the UPS decides whether to operate in ON-LINE or ECO mode according to a statistic about the quality of the mains power.
- **STAND-BY OFF** [Mode 1]: the UPS operates as an emergency power supply. If mains power is present, the load is not powered, however should the mains supply fail, the load is powered by the UPS.

(*) The effective value (rms) of the output frequency and voltage is constantly controlled by the microprocessor, independently from the waveform of the mains voltage, maintaining the output frequency synchronised to the mains within a configurable range.

Outside this range, the UPS output de-synchronises from the mains supply, moving to the nominal frequency; in this condition, the UPS cannot use the bypass.

(**) In order to optimise performance, in ECO mode, the load is normally powered by the bypass. If the mains goes out of the permitted tolerance range, the UPS switches to ON LINE operation. If the mains returns within the permitted tolerance range for at least five minutes, the UPS goes back to powering the load from the bypass.

3.11.3 Additional functions

Manual bypass

Using the Manual Bypass feature, the UPS can be switched to bypass. In this condition the load is powered directly by the input mains, any disruption in the mains directly affects the load.

CAUTION: BEFORE CARRYING OUT THE FOLLOWING SEQUENCE OF OPERATIONS, ENSURE THAT THE UPS'S INPUT AND OUTPUT FREQUENCY COINCIDE AND THAT THE UPS IS NOT OPERATING FROM THE BATTERY

Attention: even when the UPS is switched on, the load is disconnected in the event of a mains power failure.

- If the input mains deviates from the established tolerances, the UPS automatically switches to Stdby mode and disconnects the load.
- To force the UPS into manual bypass mode, press and hold down the ON and SEL keys simultaneously for at least 4 seconds.
- The code "C02" appears on the display.
- To return to the normal operation mode press the ON and SEL keys again for at least 4 sec

3.12 UPS configuration

The table below illustrates all the possible configurations available to the user in order to best adapt the UPS to individual requirements.

Function	Description	Default	Possible configuration
Output frequency	Selects the nominal output frequency	Auto	• 50 Hz • 60 Hz • Auto: automatic learning of the input frequency
Output voltage	Selects the nominal output voltage	230V	220–240 in 1V increments
Operating mode	Selects one of the 4 different operating modes	ON LINE	• ON LINE • ECO • SMART ACTIVE • STAND-BY OFF (MODE 1)
Bypass operation	Selects the mode of use of the bypass line	Normal	• Normal • Disabled with input/output synchronization • Disabled without input/output synchronization
Power-off due to minimum charge	Automatic UPS power-off in battery operation mode if the charge is lower than 5%	Disabled	• Enabled • Disabled
Autonomy limit	Maximum battery operation time	Disabled	• Disabled complete battery discharge) • (1–65000) sec. in 1 sec steps

Function	Description	Default	Possible configuration
Battery low warning	Estimated autonomy time remaining for the battery low warning	3 min	• (1–255) min. in 1 min steps
Battery test	Interval of time for the automatic battery test	40 hours	• Disabled • (1–1000) h in 1 hour steps
Maximum charge alarm threshold	Selects the user overcharge limit	Disabled	• Disabled • (0–103) % in 1% steps
Input frequency tolerance range	Selects the permitted range for the input frequency for switching to the bypass and for the synchronization of the output	±5%	• (±3 – ±10) % in 1% steps
Bypass voltage thresholds	Selects the permitted voltage range for switching to the bypass	Low: 180V High: 264V	• Low: 180–200 in 1V steps • High: 250–264 in 1V steps
Bypass voltage threshold for ECO	Selects the permitted voltage range for operation in ECO mode	Low: 200V High:253V	• Low: 180–220 in 1V steps • High: 240–264 in 1V steps
Intervention sensitivity for ECO	Selects the intervention sensitivity during operation in ECO mode	Normal	• Low • Normal • High
Power-on delay	Waiting time for automatic switching back on after mains power returns	5 sec.	• Disabled • (1–255) sec. in 1 sec steps
Remote poweron/ off function	Selects the function associated with the RS232 connector.	Disabled	• Disabled • Remote ON • Remote OFF • Remote ON/OFF

* For configurations of the Fout = 50, 60Hz or if the sync is disabled with the input, the UPS downgrades the output power.

4. Alarm codes

Using a sophisticated self-diagnosis system, the UPS is able to check its own status and any anomalies and/or faults which may occur during normal operation and display them on the display panel. If there is a problem, the UPS signals the event by showing the code and the type of active alarm on the display (FAULT and/or LOCK).

4.1 Fault

FAULT alerts can be divided into three categories:

Anomalies: these are “minor” problems which do not cause the lock of the UPS but reduce performance or prevent certain functions from being used.

Code	Description
A06	Sensor1 temperature under 0°C
A08	Sensor2 temperature under 0°C
A54	Load percentage greater than the user threshold set
A61	Replace batteries
A62	Batteries missing or Battery Box missing or not connected
A63	Waiting for battery charging

Alarms: these are more critical problems than anomalies because, if they persist, they could cause the UPS to lock in a very short time.

Code	Description
F03	Incorrect auxiliary power supply
F04	Dissipator over temperature
F05	Temperature sensor1 faulty
F07	Temperature sensor2 faulty
F11	Input relay faulty
F13	Capacitor pre-charge failed
F21	Capacitor bank overvoltage
F40	Inverter overvoltage
F41	Continuous output voltage
F42	Incorrect inverter voltage
F43	Inverter undervoltage
F50	Overload: load > 103%
F51	Overload: load >110%
F52	Overload: load > 150%
F53	Short circuit
F55	Waiting for load reduction to return to inverter
F60	Battery overvoltage

Active commands: Indicates the presence of an active remote command.

Code	Description
C01	Remote control 1 (Switch On/Off)
C02	Remote control 2 (load on bypass or manual bypass command)
C03	Remote control 3 (Switch On/Off)
C04	Battery test in progress

4.2 Lock

LOCK alerts are normally preceded by an alarm signal and their scale leads to the power-off of the inverter and the load being powered by the bypass line (this procedure is excluded for locks due to serious, persistent overloads and short circuits).

Code	Description
L02	Control card is not inserted correctly
L03	Incorrect auxiliary power supply
L04	Dissipater over temperature
L05	Temperature sensor1 faulty
L07	Temperature sensor2 faulty
L10	Input fuse broken or input relay stuck (does not close)
L11	Input relay faulty
L13	Capacitor pre-charge failed
L20	Capacitor bank under-voltage
L21	Capacitor bank over-voltage
L40	Inverter over-voltage
L41	Continuous output voltage
L42	Incorrect inverter voltage
L43	Inverter under-voltage
L50	Overload: load > 103%
L51	Overload: load > 110%
L52	Overload: load > 150%
L53	Short circuit

5. Technical specification

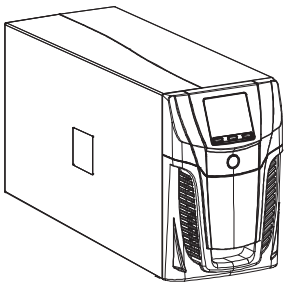
Model	UPS 2000	UPS 3000
Input		
Nominal voltage	220–240VAC	220–240VAC
Nominal frequency	50Hz	50Hz
Nominal current	9.7A	14A
Battery		
Usage	EA31pump, 30 mins continuous *All calculations based on a 3.5m head*	EA31pump, 60 mins continuous EA33pump, 30 mins continuous *All calculations based on a 3.5m head*
Output		
Nominal voltage	230VAC	230VAC
Frequency	50Hz	50Hz
Nominal power	2000VA	3000VA
Nominal power	1600W	2700W
Other		
Ambient temperature (3)	0°C to +40°C	0°C to +40°C
Humidity	< 90% without condensation	< 90% without condensation
Protection devices	excessively low batteries - overcurrent - short circuit - overvoltage - undervoltage - circuit breaker	excessively low batteries - overcurrent - short circuit - overvoltage - undervoltage - circuit breaker
Weight	19kg	28kg

6. Dimensions

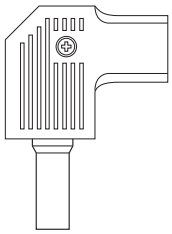
Model	UPS 2000	UPS 3000
Type	Tower	Tower
Height	250mm	335mm
Width	160mm	190mm
Depth	450mm	450mm

7. Parts lists

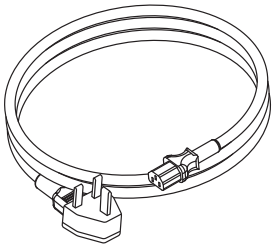
UPS 2000 parts list



UPS 2000

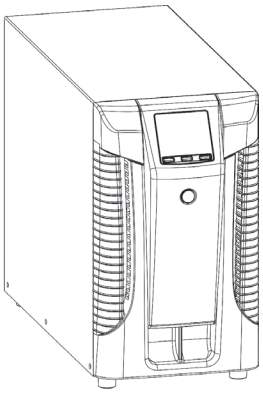


10A pump connector plug

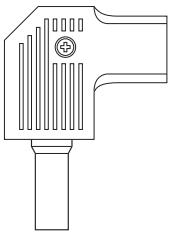


10A fused kettle lead

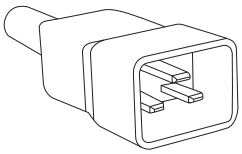
UPS 3000 parts list



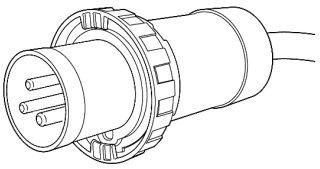
UPS 3000



10A pump connector plug



16A IEC kettle head plug.



16A 3-pin commando plug

8. Wiring

A qualified person in accordance with the Institute of Electrical Engineers Regulations should connect the UPS system to the mains supply, taking into account all the electrical information provided.

8.1 UPS 2000

The device should be connected to its own 230V unswitched fuse spur. Fuse to be suitably sized based on the electrical specifications as detailed under the Technical Specification, (see Section 5).

The unswitched fuse spur is to be powered from its own dedicated breaker within the distribution board. Ensure that the appropriate breaker within the distribution board is clearly marked for isolation of the connected device.

This work should be entrusted to a qualified electrician in accordance with the latest IET wiring regulations BS7671.

Keep the connection isolated until you are ready to test the system.

Please refer to Section 3.3.1 for the electrical configuration.

8.2 UPS 3000

The device should be connected to its own 230V 16A commando socket.

The commando socket is to be powered from its own dedicated breaker within the distribution board. Ensure that the appropriate breaker within the distribution board is clearly marked for isolation of the connected device.

This work should be entrusted to a qualified electrician in accordance with the latest IET wiring regulations BS7671.

Keep the connection isolated until you are ready to test the system.

Please refer to Section 3.3.2 for the electrical configuration.

9. Transport

Remove the UPS system from its packaging and inspect for any signs of damage. Should there be any damage or missing parts this must be reported immediately (no claim will be considered after 24 hours from time of delivery). Please see the parts list as shown in section 7.

10. Maintenance

IMPORTANT – All maintenance works (inspections and services) MUST be undertaken by a technically qualified/ competent company/engineer.

Before carrying out any maintenance work the system MUST be completely disconnected from the mains power supply and measures should be taken to prevent the system from being inadvertently switched back on.

When undertaking works within the chamber/sump suitable measures MUST to taken to ensure safe access in accordance with current safety regulations. (See section 12 health and safety).

- The product should be inspected quarterly. When installed in conjunction with a pump system, please refer to the product installation and operating guidelines for pump station maintenance requirements.

In addition to the above it is important that the product undergoes a full service at a minimum frequency of once yearly (increased servicing frequency is subject to site and product specific details. Where a product is serving more than a single residential dwelling and/or there is a risk of flooding as a result of product failure the servicing frequency should be increased accordingly).

To arrange a service please call the Edincare Pumps Aftersales helpdesk on 01442 211554 from 8.30am - 5.30pm, Monday to Friday or via email aftersales@edincare.com

11. Fault finding

Irregular UPS operation is most likely not an indication of a fault but due to simple problems or distraction. It is therefore advisable to consult the table below carefully as it summarises information which is useful for solving the most common problems.

Problem	Cause	Solution
The display does not light up	On/off switch not pressed	Press the ON/OFF switch on the front panel.
The display does not light up	Main connection cable missing	Check that the power cable is connected correctly.
The display does not light up	No mains voltage (mains power failure)	Check that the power reaches the socket where the UPS is connected (try it with a table lamp, for example).
The display does not light up	Intervention of the input circuit breaker	If present, reset the circuit breaker by pressing the button on the back of the UPS. CAUTION: Check that there is no output overload to the UPS.
The display is on but the load is not powered	The ups is in stand-by mode	Press the “ON” button on the front panel to power the loads.
The display is on but the load is not powered	The stand-by off mode is selected	It is necessary to change mode. The STAND-BY OFF (emergency power supply) mode, in fact, only powers the loads in the event of a mains power failure.
The display is on but the load is not powered	No connection to the load	Check the connection to the load.
The UPS is operating from the battery despite the presence of mains voltage	The input voltage is outside the permitted tolerance range for mains operation	Problem with the mains. Wait until the input mains voltage returns within the tolerance range. The UPS will automatically return to mains operation.
The UPS is operating from the battery despite the presence of mains voltage	Intervention of the input circuit breaker	If present, reset the circuit breaker by pressing the button on the back of the UPS. CAUTION: Check that there is no output overload to the UPS.
The UPS does not come on and the display shows the code: A06, A08	The temperature of the ups is lower than 0°C	Check the temperature of the environment in which the UPS is located; if it is too low, bring it past the minimum threshold (0°C).
The display shows the follow codes: L10, L11, F11	Input relay faulty	Switch off and disconnect the UPS from the power supply and contact Edincare Pumps
The display shows the follow code: L02	Control card is not inserted correctly	Switch off and disconnect the UPS from the power supply and contact Edincare Pumps.

Problem	Cause	Solution
The buzzer sounds continuously and the display shows one of the following codes: A54, F50, F51, F52, F55, L50, L51, L52	The load applied to the UPS is too high	Reduce the load to within the threshold of 100% (or user threshold in the case of code A54). If the display shows a lock: remove the load and switch the UPS off and back on again.
The display shows the follow code: A61	Replace the batteries	Contact Edincare Pumps for battery replacement.
The display shows the follow code: A62	Batteries missing or battery box missing or not connected	On the versions with an additional battery charger in place of the batteries, check that the battery box is inserted and connected to the UPS correctly.
The display shows the follow code: A63	The batteries are flat; the UPS is waiting for the battery voltage to exceed the set threshold	Wait until the batteries have recharged or force power- on manually by holding down the “ON” button for at least 2 seconds.
The buzzer sounds continuously and the display shows one of the following codes: F03, F05, F07, F13, F21, F40, F41, F42, F43	The UPS is malfunctioning; it will probably lock soon	If possible, disconnect the power to the load, switch the UPS off and back on again; if the problem occurs again, call Edincare Pumps.
The buzzer sounds continuously and the display shows one of the following codes: F04, L04	The temperature of the dissipators inside the UPS is too high	Check that the temperature of the environment in which the UPS is located does not exceed 40°C.
The buzzer sounds continuously and the display shows one of the following codes: F53, L53	There is a fault on one or more of the utilities powered by the UPS	Disconnect all the utilities, switch the UPS off and back on again, reconnect the utilities one at a time to identify which one is faulty.
The buzzer sounds continuously and the display shows one of the following codes: F60, L03, L05, L07, L13, L20, L21, L40, L41, L42, L43	The UPS is malfunctioning	If possible, disconnect the power to the load, switch the UPS off and back on again; if the problem occurs again, call Edincare Pumps
The display shows one of the following codes: C01, C02, C03	A remote command is active	If unwanted, check the status of the command inputs on any optional contact card.
The display shows C02	The manual bypass function is active	To exit manual bypass mode, press the ON+SEL buttons at the same time for at least 4 seconds.

If you continue to experience problems, please contact Edincare Pumps 01442 211554 from 8.30am–5.30pm, Monday to Friday info@edincare.com for further information.

12.0 Health and safety

Please pay attention to the following regulations when installing the pump(s) or ask your qualified electrician/distributor.

12.1 Safety precautions

In order to minimise the risk of accidents in connection with the service and installation work the following guidelines should be followed:

- Make sure there are no poisonous gases within the work area.
- Check the explosion risk before using electric hand tools.
- Do not ignore health hazards.
- Observe strict cleanliness.
- Bear in mind the risk of electrical accidents.
- Make sure you have a clear path of retreat.
- Use a safety helmet, safety goggles and protective shoes.
- If working at height or in confined spaces, please ensure you meet the current health and safety regulations.
- A first aid kit must be close to hand.
- No unauthorised modifications should be made.
- Operation should be in accordance with this guide.

12.2 Electrical connections

Anyone carrying out electrical work must ensure that reasonable provision has been made in the design and installation of the electrical installations in order to protect any persons who might use, maintain or alter the electrical installation of that dwelling from fire and injury, including electric shock, this should be done in accordance with the latest IET wiring regulations BS7671.

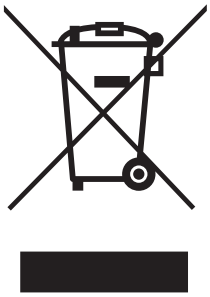
- The following works should only be done by qualified and authorized electricians.
- Edincare Pumps disclaims all responsibility for work done by untrained or/and unauthorized personnel.
- Heed operating voltage (as shown in section 5) and any additional labels)
- Take out the main fuses to isolate the mains power supply from the control system before repairs or any other works and ensure it cannot be energized again.
- Before starting check the efficiency of the protective arrangements of the pump and the monitoring equipment. Failure to heed this warning may cause a lethal accident.
- Do not put the lead ends into water! Irruption of water may cause malfunctions.
- If persons are likely to come into physical contact with the pump or pumped media, the earthed (grounded) socket must have an additional connection to an earth (ground) fault protection device (GFI). (See earthing)
- Connection only to a mains power supply installed in accordance to the local regulations. Please consider the voltage drop of long supply cables.
- Replace the cable if the cable jacket is damaged. Do not pinch the cable or pull it around sharp bends.
- Always install the control system in a dry and well-ventilated room above the back pressure level. Never install the control system within the chamber/sump.

Earthing

For safety reasons, the earth conductor should be approximately 50mm (2”) longer than the phase conductors. If the motor cable is jerked loose by mistake, the earth conductor should be the last conductor to come loose from the first terminal. This applies to both ends of the cable. Ensure the correct earthing of the pump and control system.

12.3 DECLARATIONS

12.3.1 The European Union Waste Electrical and Electronic Regulations 2013



In the development of its products, the company devotes abundant resources to analysing the environmental aspects. All our products pursue the objectives defined in the environmental management system developed by the company in compliance with applicable standards.

No hazardous materials such as CFCs, HCFCs or asbestos are used in this product. When evaluating packaging, the choice of material has been made favouring recyclable materials.

This product assembly is classified as Electrical or Electronic equipment and should not be disposed of in normal domestic or commercial waste. The mandatory crossed out wheeled bin symbol (see above) on the product indicates that the product shall not be mixed or disposed of in household or commercial waste. Under the WEEE Directive, the equipment should be recycled using the best possible techniques to minimise environmental impact and avoid unnecessary landfill.

For further information, visit,- http://www.legislation.gov.uk/uksi/2013/3113/contents/made

12.3.2 Risk of electric shock

Caution 230V

DO NOT OPEN THIS UNIT IF NOT QUALIFIED TO DO SO

To reduce the risk of electric shock, do not remove cover. No user-serviceable parts inside. Refer servicing to qualified service personnel.

Disconnect from mains before removing cover.

13. Guarantee

12-month guarantee. Please refer to our Terms and Conditions for further information.

edincare PUMPS

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