The British Power Conversion Company

BPC635-01
POWEROFFICE 1000
USER MANUAL

CONTENTS

CHAPTER 1 – SAFETY WARNINGS

Read the following safety information carefully before you install or operate the BPC PowerOffice 1000 UPS equipment and keep this manual within easy access of the equipment for future reference.

1.1 DESCRIPTION OF SYMBOLS USED IN THIS MANUAL

WARNING: The warning symbol is used where there is danger of an electrical shock, equipment damage or personal injury.

CAUTION: The caution symbol is used to highlight important information to avoid possible equipment malfunction or damage.

1.2 GENERAL WARNINGS

WARNING: Be aware that the output from this equipment can be energized when the unit is not connected to a mains supply, even when the input AC power is disconnected

WARNING: The PowerOffice 1000 assembly and peripheral equipment must be installed and commissioned by suitably qualified and trained personnel who are aware of the potential shock hazards.

WARNING: The PowerOffice 1000 must be supplied by a grounded outlet. Do not operate the unit without a ground source.

WARNING: To reduce the risk of electric shock:

- Do not insert any object into ventilation holes or other openings
- Do not remove any equipment cover – the unit does not contain any user-serviceable parts. Refer all servicing requirements to qualified service personnel.

WARNING: To reduce the risk of fire:

- Install this equipment in a temperature and humidity controlled indoor area free of conductive contaminants.
- If a fuse ruptures always replace it with a fuse of the same type and rating.

1.3 BATTERY SAFETY

WARNING: The battery is not isolated from the mains voltage. Hazardous voltage may occur between the battery terminals and ground.

WARNING: A battery can present a risk of electric shock or burn from high short circuit currents. Always take the following precautions when working on batteries:

- Remove watches, rings or other metal objects.
- Use tools with insulated handles.

WARNING: The PowerOffice 1000 system uses recyclable batteries:

- The batteries contain lead and pose a hazard to the environment and human health if not disposed of properly.
- If you replace the batteries you must dispose of the used batteries in accordance with local environmental laws and regulations.

WARNING: Heed the following warnings concerning battery handling:

- Do not dispose of batteries in a fire. The batteries may explode.
- Do not open or mutilate the batteries. They contain an electrolyte which is toxic and harmful to the skin and eyes.
- If electrolyte comes into contact with the skin, the affected area should be washed immediately with clean flowing water.
- The internal energy source (the battery) cannot be de-energized by the user.

WARNING: When changing the batteries, install the same number and type of batteries.

CHAPTER 2 – GENERAL DESCRIPTION

2.1 INTRODUCTION

BPC PowerOffice 1000 UPS systems are line interactive topology, producing simulated sine wave output when operating from battery.

BPC PowerOffice 1000 Series units are 1-phase in/1-phase out devices, and they are installed between a single-phase load, and a 1-phase+N mains supply.

The advantages of using PowerOffice 1000:

Power blackout protection:
If the mains power fails, the PowerOffice 1000 continues to supply the critical load using the energy stored in its batteries, keeping the load immune from power disturbances.

Increased power quality:
The PowerOffice 1000 has its own internal voltage regulating transformer, which ensures that its output to the critical load is maintained within close tolerances, independent of voltage on the mains power lines.

2.2 PANEL VIEW

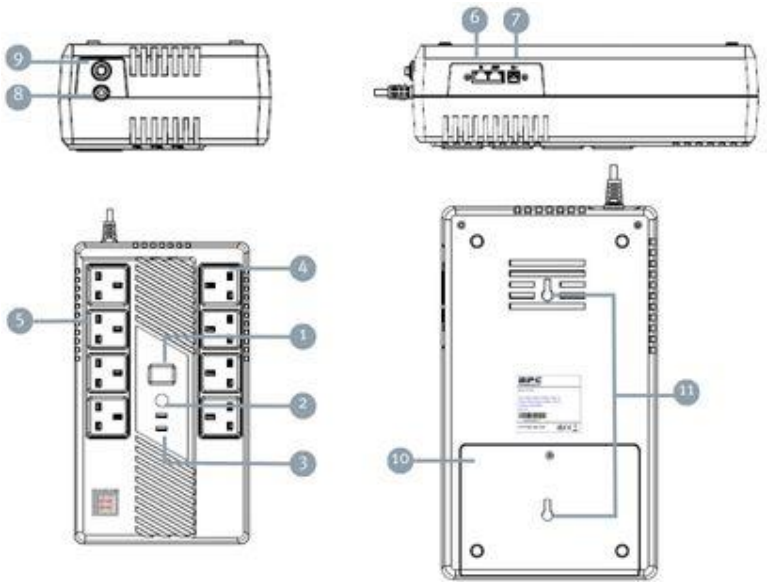


Figure 2.1 – PO1000 Panel

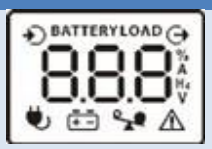
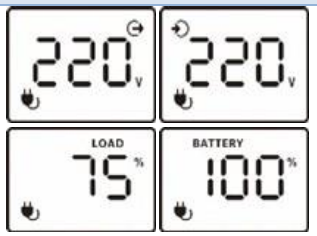
1-lcd touch screen display
2-Power Switch
3-USB Charger Port
4-Battery Backup Outlets
5-Surge Protection Outlets
6-Data Line Protection
7-USB Communications port
8-AC Power Cord
9-Circuit Breaker
10-Easy Battery replacement
11-Wall mounting

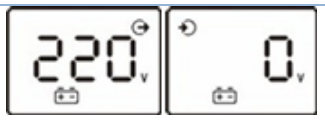
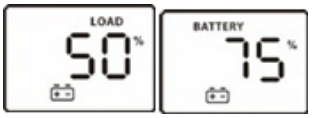
2.3 DISPLAY PANEL

The operation and display panel shown in the below chart, is on the front panel of the UPS. It includes a LCD touch display, indicating the operating status and input/output power information.

Figure 2.2 – PO1000 Display

2.3.1 LCD OPERATION

UPS Mode	LCD	Description
UPS Power on		When UPS is powered on, it will show all items for 4 seconds.
AC Mode	 When AVR is functioning, icon will flash every second.	LCD information will be displayed in the following order when LCD is touched. 1. Output voltage 2. Input voltage 3. Load level 4. Battery capacity
Overload in AC mode	 icon will flash.	When overload occurs, alarm will beep every 0.5 second.

Battery Mode	  When battery level is low,  icon will flash.	Alarm will beep every 10 seconds and LCD information will be displayed in the following order when LCD is touched. 1. Output voltage 2. Input voltage 3. Load level 4. Battery capacity
Overload in battery mode	  icon will flash.	When overload occurs, alarm will beep every 0.5 second.

NOTE: If backlight shuts off, you may activate it by touching the screen

2.4 OUTLET DESCRIPTION

There are two sets of available output from the PowerOffice 1000, specified by the description located at the bottom of the sockets.

" ϟ Surge Only" outlet sockets will include only surge protection, where the output will be lost in the event of a major mains failure and will not be supplied by battery, but will otherwise be protected from minor surges.

Battery backup sockets will include surge protection and battery backup, where the output will be maintained in the event of a total mains failure through the use of the internal battery.

Figure 2.3 – Outlet Sockets

2.5 DATALINE PROTECTION

Connect a single modem/phone/fax line into surge-protected “IN” outlet on the back panel of the UPS unit. Connect from “OUT” outlet to the equipment with another modem/fax/phone line cable.

2.6 USB CHARGING PORTS

There are two 5V / 2.15A USB A charging ports located on the front of the system.

Figure 2.4 USB sockets

CHAPTER 3 – INSTALLATION

3.1 ACCEPTING DELIVERY

The PowerOffice 1000 UPS cabinet is shipped in a purpose-built box that is easy to move by hand or a pallet truck. The accessories are shipped separately.

CAUTION: *Observe the following precautions when off-loading and moving the cabinet:*
- *Always keep the packages in an upright position.*
- *Do not drop the equipment.*
- *Do not stack the pallets.*

The cabinet is packed in a cardboard box that is designed to protect it from mechanical and environmental damage. Further protection is provided by wrapping the equipment with a plastic sheet.

Before you accept the shipment, ensure that the received package(s) correspond to the description shown in the delivery documentation, and carefully examine the packing containers for signs of physical damage.

3.1.1 REPORTING DAMAGE

Claims for shipping damage must be filed immediately when found, and the carrier must be informed of ALL claims within seven days of receipt of the equipment. If the equipment is to be stored for longer than seven days before it is installed, you should unpack it and inspect it for signs of internal damage before you put it into storage. Note that some optional equipment packages might be shipped inside the cabinet, and these too should be checked for damage.

If the equipment is damaged, you should store the packing materials for further investigation.

3.1.2 STORAGE

If you plan to store the PowerOffice 1000 prior to its installation it should be kept upright (preferably in its original shipping packaging) in a clean, dry environment, with a temperature between -25°C to +60°C and RH <93%.

If the storage period is likely to exceed seven days, the packaging should be removed and the cabinet inspected for shipping damage before it is placed into storage. If there is no apparent damage, you should refit the packaging or cover the cabinet with a dustcover to prevent the ingress of dust and dirt.

If the storage period is likely to exceed six months, the system must be put onto charge for 48Hours.

3.2 INSTALLATION

3.2.1 ENVIRONMENTAL CONSIDERATIONS

A certain amount of pre-planning will help provide a trouble-free installation process. You should consider the following guidelines when planning the installation location and operating environment.

1. The cabinet requires sufficient front and rear clearance to enable cooling airflow, as described below.
2. An ambient temperature of 20-22°C is necessary to achieve the recommended battery life span.

In summary, the system should be installed in a location where:

a) Humidity (< 93%) and temperature is ideally 20°C.

b) Fire protection standards are respected.

c) Cabling can be performed easily.

d) A minimum 600mm front accessibility is available for service or periodic maintenance.

e) Adequate cooling air flow is available.

f) No dust or corrosive/explosive gases are present.

3.2.2 CLEARANCES

The UPS system has natural vent holes on the front of the chassis.

200mm clearance is required at the front of the UPS.

3.2.3 INTERNAL BATTERY CONNECTION

NOTE: All UPS ARE SUPPLIED WITH INTERNAL BATTERY CONNECTED

To replace the internal battery:

1. Ensure UPS system is switched OFF and disconnected from mains supply.
2. Remove the rear cover via the single central screw. (see Fig.3.1)
3. Disconnect battery via pos/neg leads
4. Ensure replacement battery is same type/make/model
5. Fit new battery
6. Reattach battery lid
7. Turn on unit and test operation.

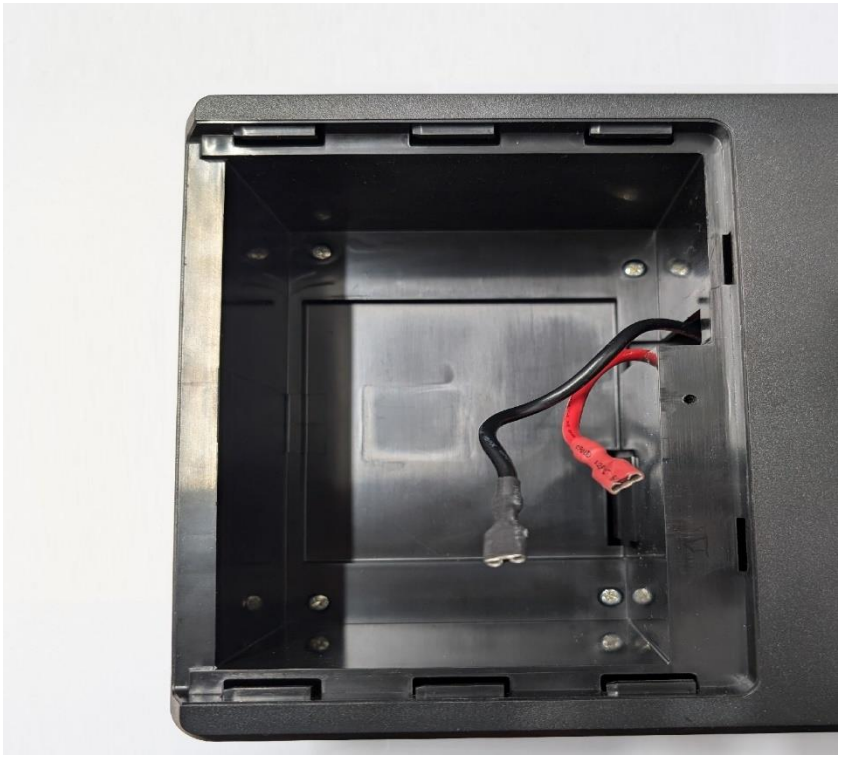


Figure 3.1 Removing rear cover

WARNING: A small amount of arcing may occur when connecting the internal batteries. This is normal and will not harm personnel. Connect the cables quickly and firmly.

CHAPTER 4 – OPERATION INSTRUCTIONS

4.1 START UP

4.1.1 START UP UPS FROM MAINS

1. Turn on the input mains supply.
2. Press the silver POWER button to turn on the inverter. It will show all details for 4 seconds:

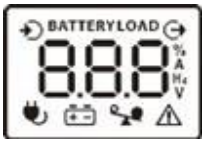


Figure 4.1 Start-up display

3. The UPS will begin to charge the battery, the LCD shows that the output voltage is 230, which means the UPS is active and both sets of output sockets will be on.

Figure 4.2 Input display in AC mode

4.1.2 START UP UPS FROM BATTERY

1. When mains power is disconnected, press and hold the silver POWER button for more than half a second to start UPS.
2. The UPS will beep and display the battery symbol to show it is operating on battery:

Figure 4.3 Output display in Battery mode

4.1.3 SHUTDOWN OPERATION

1. Press the silver POWER button for more than half a second to turn off the UPS and inverter. 4.1.3 shutdown op
2. After the UPS shutdown, the LCD will turn off and there is no output.
3. Disconnect the incoming supply

CHAPTER 5 – TROUBLE SHOOTING

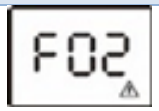
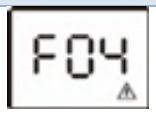
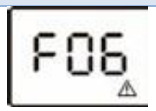
The PowerOffice 1000 will generate an audible warning if a fault or abnormal operating condition is detected and will indicate the source of the triggered alarm on the LCD panel.

There are no user-serviceable parts in the PowerOffice 1000, so the degree of rectification that can be carried out by the operator is minimal.

Ensure that the system's AC and DC power supplies are available and within specification, and the load connected to the UPS OUTPUT is within the cabinet rating.

An internal fault can usually be attributed to a faulty PCB or control panel, all of which require the attention of a trained engineer who will exchange the faulty assembly in most instances.

5.1 ALARMS AND WARNING MESSAGES

Fault condition	LCD	Solutions
Output short circuited		Disconnect short-circuited loads and restart the UPS again.
Overload fault		Disconnect all output loads and restart the UPS again. Remove some unnecessary loads. Before reconnecting equipment, please verify that the load matches the UPS capability specified in the specs.
Overcharge		Call for service immediately.
Bad or severely discharged battery		Please replace the battery.
High output voltage fault		Call for service immediately.
Over-temperature		1. Turn off the unit and wait for cooling. 2. Or remove excessive loads and wait for cooling.

5.2 TROUBLESHOOTING PROCEDURES

Problem	Possible Cause	Solutions
Nothing is displayed on LCD panel.	The UPS is not on.	Press the power switch again to turn on the UPS.
	Battery voltage is too low.	Charge the battery at least 6 hours.
	Battery fault.	Replace the battery.
The UPS always on battery mode.	Power cord loose.	Re-plug the power cord.
The UPS continuously beeps.	Please check the fault code for the details.	Please check the fault code for the details.
Backup time too short.	Battery voltage is too low.	Charge the battery at least 6 hours.
	Overload.	Remove some unnecessary loads. Before reconnecting equipment, please verify that the load matches the UPS capability specified in the specs.
	Battery defect.	Replace the battery.

CHAPTER 6 – COMMUNICATION

The following external connections are available.

- USB Port.

USB port

The USB port can be used to connect the UPS system to a PC. Connect to the PC using a USB Cable (Not Provided).
Viewpower software can be then downloaded to enable full monitoring and control of the PC system.
Monitoring Software “ViewPower HTML” is available for download from BPC Website (UPS Software (bpc-ups.com)

CHAPTER 7 – TECHNICAL SPECIFICATION

Power Rating VA / Watts	1000VA / 600W
INPUT	
Nominal Voltage Range	170V - 280V
OUTPUT	
Output Operation Voltage	230V ±10% (Battery Mode)
Output Frequency	50 ± 1Hz (Battery Mode)
Transfer Time	Typical 6ms, 10ms max
Waveform	Simulated Sinewave
EFFICIENCY	
Efficiency	>95% @ 230V
BATTERY	
Battery Type	VRLA AGM Sealed Lead Acid Maintenance Free Batteries
Hot-Swap Battery	Yes
Typical Back-Up Time	≥10min @ Typical Computer Load
Battery Recharge Time	6 hours recover to 90% capacity
Intelligent Off-Mode Charging	Intelligent off-mode charging to continue to charge
GENERAL	
Temperature/Humidity	0°C - 40°C non-condensing 0-90% RH
Acoustic Noise Level	≤40dB
Cable Length	≤1.83m
Cold Start	Yes
Plug-In Outlet Sockets	8UK BS1363 plug-in outlet sockets UK 3 Pin Plug (4 with battery backup / surge protection and 4 with surge protection)
USB Charging Sockets	2 x Type A USBs

Mains Surge Protection	310 Joules
Data Line Protection	Phone/ Fax/ Modem/ DSL/ Network Data Line Protection 1000m ensures complete protection of your equipment from surges
Diagnostic Testing	Automatic diagnostic testing: automatic periodic battery self-testing to provide an early battery replacement indication
Control Panel	LCD touchscreen status display with Online, On battery, Replace battery and Overload indicators
Interface Communication Ports	USB
Audible Alarm	Alarm when on battery/a distinctive low battery alarm/overload continuous tone alarm/temperature alarm /high voltage alarm
Colour	RAL9057 (Black)
Dimensions (mm) WxDxH	200 x 345 x 100
Weight (kgs)	6.4