User Manual

Power **Shield**®

Commander Tower
PSCM1100/2000
Line Interactive Sinewave UPS
Uninterruptible Power Supply System

Power **Shield**®

NetGuard®

UPS Monitoring Software

IMPORTANT

Download the latest NetGuard Monitoring Software:

www.powershield.com.au/index.php/downloads

Default password is: administrator

Introduction

Thank you for choosing PowerShield.

PowerShield Commander UPS series are designed to provide the highest level of protection against disturbances found on electrical power supply lines. It is suitable for most applications including IT, security, telephone, broadcasting, medical etc.

The Commander UPS series are designed to provide the most comprehensive protection for your valuable electronic equipment, hardware, software and data from harmful disturbances found on AC power lines including blackouts, power sags, power surges, under voltage, over voltage, line noise, frequency variation, switching transients and harmonic distortions. The Commander will continuously protect your equipment by internally isolating your equipment from the utility power ensuring that all your equipment always receives clean, uninterrupted and stable power.

<u>Very Important !! : WARRANTY REGISTRATION</u>
In order to validate product warranty, it is essential that you register your UPS on line.

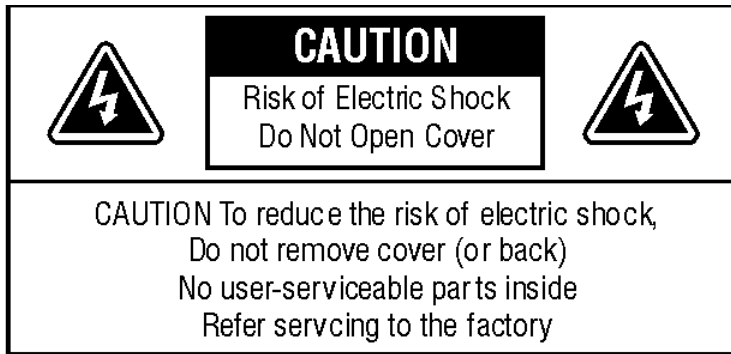Please Visit PowerShield on line product warranty web page

www.powershield.com.au/product-registration.php

This user manual contains instructions relating to safety, installation, operation, maintenance and warranty of this product.
Please keep this manual in a safe place for future references.

Special Symbols

The following are examples of symbols used on the UPS to alert you the important information.

CAUTION

Risk of Electric Shock
Do Not Open Cover

CAUTION To reduce the risk of electric shock,
Do not remove cover (or back)
No user-serviceable parts inside
Refer servcing to the factory

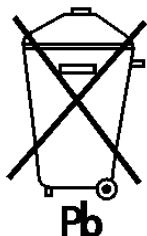|	
	RISK OF ELECTRIC SHOCK - Indicates that a risk of electric shock is present and the associated warning should be observed
	CAUTION; REFER TO OPERATOR'S MANUAL - Refer to your operator's manual for additional information, such as important operating and maintenance.
	SAFETY EARTHING TERMINAL - Indicates the primary safety ground.
	This symbol indicates that you should not discard the UPS or the UPS batteries in the trash. The UPS may contain sealed, lead-acid batteries. Batteries must be recycled.

Table of Contents

1. ⚠ Important Safety Warning

Please comply with all warnings and operating instructions in this manual. Save this manual properly and read carefully the following instructions before installing the unit. Do not operate this unit before reading through all safety information and operating instructions carefully

1-1. Transportation

- Please transport the UPS system only in the original package to protect against shock and impact.
- **Handling Safety**

⚠ Do not lift heavy loads without assistance.

This equipment is intended for installation in a controlled temperature indoor area free from conductive contaminants.

1-2. Preparation

- Condensation may occur if the UPS system is moved directly from cold to warm environment. The UPS system must be absolutely dry before being installed. Please allow at least two hours for the UPS system to acclimate to the environment.
- Do not install the UPS system near water or in moist environments.
- Do not install the UPS system where it would be exposed to direct sunlight or near heater.
- Do not block ventilation holes in the UPS housing.

1-3. Installation

- Do not connect appliances or devices which would overload the UPS system (e.g. laser printers) to the UPS output sockets.
- Place cables in such a way that no one can step on or trip over them.
- Do not connect domestic appliances such as hair dryers to UPS output sockets.
- The UPS can be operated by any individuals with no previous experience.
- Connect the UPS system only to an earthed shockproof outlet which must be easily accessible and close to the UPS system.
- Please use only VDE-tested, CE-marked mains cable (e.g. the mains cable of your computer) to connect the UPS system to the building wiring outlet (shockproof outlet).
- Please use only VDE-tested, CE-marked power cables to connect the loads to the UPS system.
- Pluggable equipment includes a protective earth conductor that carries the leakage current from the load devices (computer equipment). Total leakage current must not exceed 3.5mA.

1-4. Operation

- Do not disconnect the mains cable on the UPS system or the building wiring outlet (shockproof socket outlet) during operations since this would cancel the protective earthing of the UPS system and of all connected loads.
- The UPS system features its own, internal current source (batteries). The UPS output sockets or output terminals block may be electrically live even if the UPS system is not connected to the building wiring outlet.
- In order to fully disconnect the UPS system, first press the OFF/Enter button to disconnect the mains.
- Prevent no fluids or other foreign objects from inside of the UPS system.

1-5. Maintenance, service and faults

- The UPS system operates with hazardous voltages. Repairs may be carried out only by qualified maintenance personnel.
- **Caution -** risk of electric shock. Even after the unit is disconnected from the mains (building wiring outlet), components inside the UPS system are still connected to the battery and electrically live and dangerous.
- Before carrying out any kind of service and/or maintenance, disconnect the batteries and verify that no current is present and no hazardous voltage exists in the terminals of high capability capacitor such as BUS-capacitors.
- Only persons are adequately familiar with batteries and with the required precautionary measures may replace batteries and supervise operations. Unauthorized persons must be kept well away from the batteries.
- **Caution -** risk of electric shock. The battery circuit is not isolated from the input voltage. Hazardous voltages may occur between the battery terminals and the ground. Before touching, please verify that no voltage is present!
- Batteries may cause electric shock and have a high short-circuit current. Please take the precautionary measures specified below and any other measures necessary when working with batteries:
  - remove wristwatches, rings and other metal objects
  - use only tools with insulated grips and handles.
- When changing batteries, install the same number and same type of batteries.
- Do not attempt to dispose of batteries by burning them. This could cause battery explosion.
- Do not open or destroy batteries. Escaping electrolyte can cause injury to the skin and eyes. It is toxic.
- Please replace the fuse only with the same type and amperage in order to avoid fire hazards.
- Do not dismantle the UPS system.

2. Installation And Setup

NOTE: Before installation, please inspect the unit. Be sure that nothing inside the package is damaged. Please keep the original package in a safe place for future use.

2-1. Rear Panel View


PSCM1100   **PSCM2000**
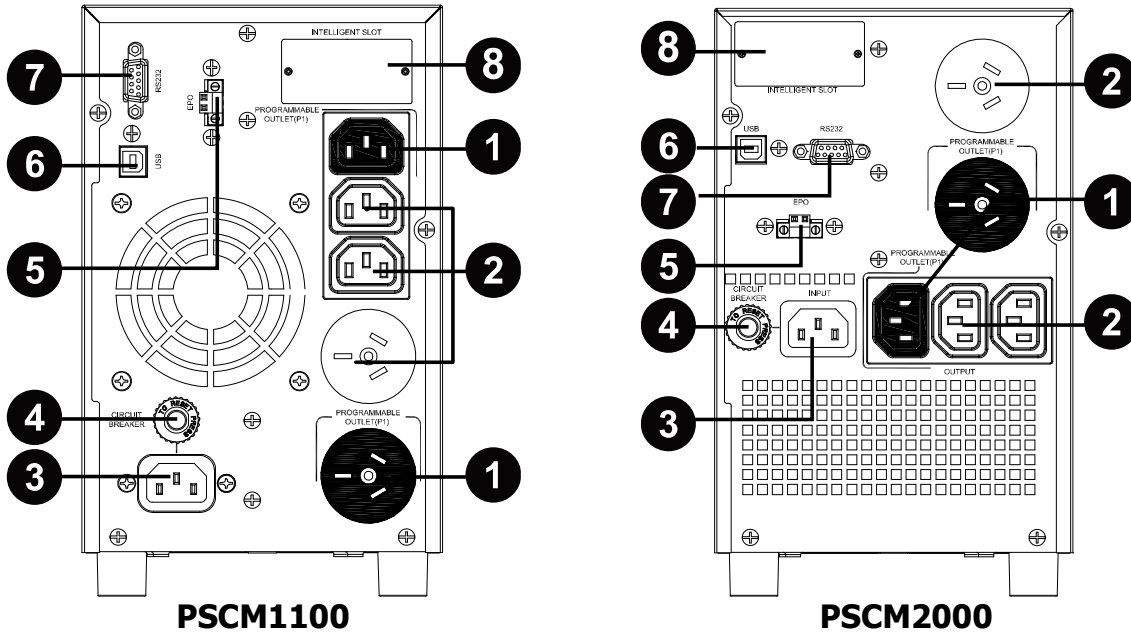
1. Programmable outlets: connect to non-critical loads.
2. Output receptacles: connect to mission-critical loads.
3. AC input
4. Input circuit breaker
5. Emergency power off function connector (EPO)
6. USB communication port
7. RS-232 communication port
8. SNMP intelligent slot

2-2. Setup the UPS

Before installing the UPS, please read below to select proper location to install UPS.

1. UPS should be placed on the flat and clean surface. Place it in an area away from vibration, dust, humidity, high temperature, flammable liquids, gases, corrosive and conductive contaminants. Install the UPS indoors in a clean environment, where it is away from window and door. Maintain minimum clearance of 100mm in the bottom of the UPS to avoid dust and high temperature.
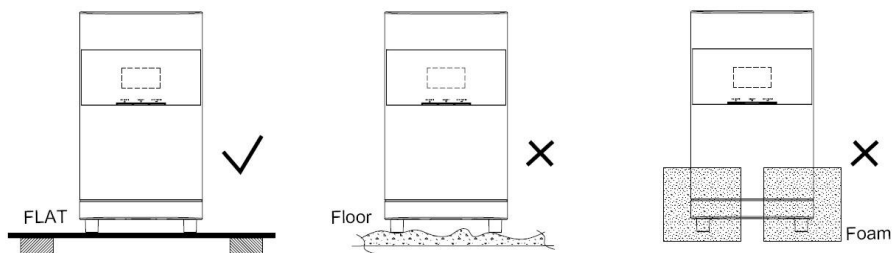
2. Maintain an ambient temperature range of 0ºC to 40ºC for UPS optimal operation.
3. It's required to maintain maximum altitude of 1000m to keep UPS normal operation at full load UPS. If it's used in high altitude area, please reduce connected load. Altitude derating power with connected loads for UPS normal operation is listed as below:
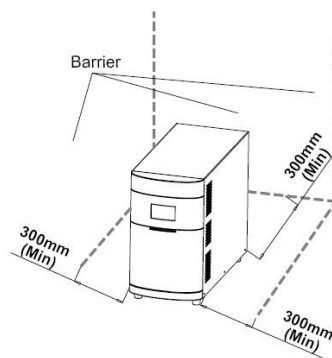
Altitude m	Derating factor [1]
1 000	1.0
1 500	0.95
2 000	0.91
2 500	0.86
3 000	0.82
3 500	0.78
4 000	0.74
4 500	0.7
5 000	0.67
NOTE - Note to table 1	
Based on density of dry air = 1.225 kg/m³ at sea-level, +15 °C.	
[1] Since fans lose efficiency with altitude, forced air-cooled equipment will have a smaller derating	

4. Place UPS:

It's equipped with fan for cooling. Therefore, place the UPS in a well-ventilated area. It's required to maintain minimum clearance of 100mm in the front of the UPS and 300mm in the back and two sides of the UPS for heat dissipation and easy-maintenance.

Step 1: UPS input connection
Plug the UPS into a two-pole, three-wire, grounded receptacle only. Avoid using extension cords.

Step 2: UPS output connection
There two kinds of outputs: programmable outlets(**white coloured outlets**)and general outlets (**black coloured outlets**).
Please connect **non-critical devices to the programmable outlets** and **critical devices to the general outlets.**
During power failure, you may extend the backup time to critical devices by setting shorter backup time for non-critical devices.
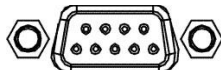
Step 3: Communication connection
Interface ports:
USB port   *RS-232 port*   *Intelligent slot*

To allow for unattended UPS shutdown/start-up and status monitoring, connect the communication cable one end to the USB/RS-232 port and the other to the communication port of your PC. With the monitoring software installed, you can schedule UPS shutdown/start-up and monitor UPS status through PC.

The Commander series are equipped with intelligent slot perfect for either SNMP or AS400 card. When installing either SNMP or AS400 card in the UPS, it will provide advanced communication and monitoring options.

Step 4: EPO (Emergency Power OFF) function

This UPS is equipped with EPO function. By default, the UPS is delivered from factory with Pin 1 and pin 2 closed (a metal plate is connected to Pin 1 and Pin2) for UPS normal operation. To activate EPO function, remove two screws on EPO port and green connector will be removed.
Note: The EPO function logic can be set up via LCD setting. Please refer to program 8 in UPS setting for the details.

To activate EPO function, remove these two screws.

It's in closed status for UPS normal operation as default.
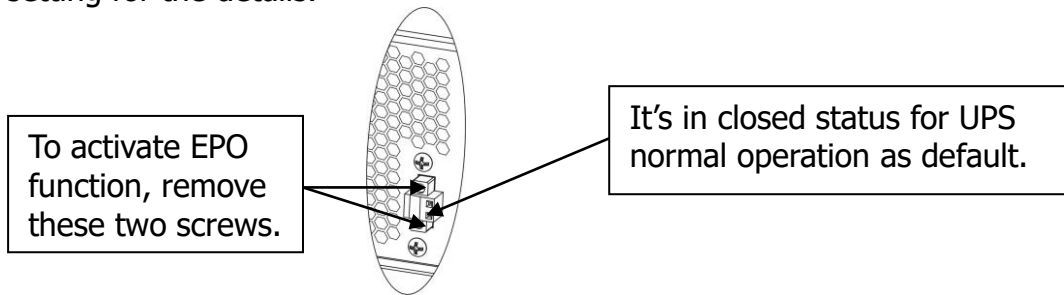
Step 5: Turn on the UPS

Press the ON/Mute button on the front panel for two seconds to power on the UPS.
   Note: The battery charges fully during the first five hours of normal operation. Do not expect full battery run capability during this initial charge period.

Step 6: Install software

Install NetGuard UPS monitoring software to fully configure UPS shutdown. Please follow steps below to download and install monitoring software:
1. Go to the website **http://www.powershield.com.au/downloads**
2. Click NetGuard software icon and then choose your required OS to download the software.
3. Follow the on-screen instructions to install the software.
4. When your computer restarts, the monitoring software will appear as an orange plug icon located in the system tray, near the clock.
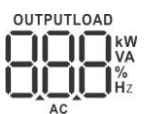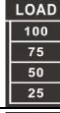
3. Operations

3-1. Button Operation

Button	Function
ON/MUTE Button	➢ Turn on the UPS: Press and hold ON/Mute button for at least 2 seconds to turn on the UPS. ➢ Mute the alarm: After the UPS is turned on in battery mode, press and hold this button for at least 3 seconds to disable or enable the alarm system. But it's not applied to the situations when warnings or errors occur. ➢ Up key: Press this button to display previous selection in UPS setting mode. ➢ Switch to UPS self-test mode: Press and hold ON/Mute button for 3 seconds to enter UPS self-testing while in AC mode
OFF/ENTER Button	➢ Turn off the UPS: Press and hold this button at least 2 seconds to turn off the UPS ➢ Confirm selection key: Press this button to confirm selection in UPS setting mode.
SELECT Button	➢ Switch LCD message: Press this button to change the LCD message for input voltage, input frequency, battery voltage, battery capacity, ambient temperature, output voltage, output frequency, load current and load percentage. ➢ Setting mode: Press and hold this button for 3 seconds to enter UPS setting mode when UPS is off. ➢ Down key: Press this button to display next selection in UPS setting mode.

3-2. LCD Panel
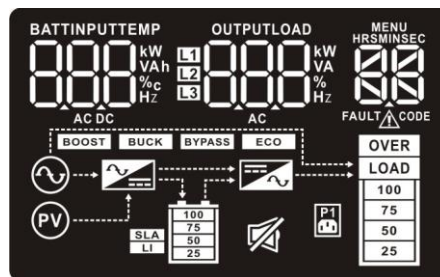
Display	Function
Backup time information	
HRSMINSEC	Indicates the backup time in numbers. HRS: hours, MIN: minutes, SEC: seconds
Warning & Fault information	
⚠	Indicates that the warning and fault occurs.
FAULT CODE	Indicates the warning and fault codes, and the codes are listed in details in 3-5 section.
Setting Operation	

MENU	Indicates the setting operation.

Battery, Input, Temperature, Output and Load information

BATT INPUT TEMP kW VAh %c Hz AC DC	Indicates the input voltage, input frequency, battery voltage, battery capacity and ambient temperature. k: kilo, W: watt, V: voltage, A: ampere, %: percent, ℃: centigrade degree, Hz: frequency, AC: alternating current, DC: direct current
OUTPUT LOAD kW VA % Hz AC	Indicate the output voltage, output frequency, load current and load percentage. k: kilo, W: watt, V: voltage, A: ampere, %: percent, Hz: frequency, AC: alternating current

Load information

LOAD 100 75 50 25	Indicates the load level by 0-25%, 26-50%, 51-75%, and 76-100%.
OVER LOAD	Indicates overload.

UPS status

P1	Indicates that programmable management outlets are working.
(icon)	Indicates that the UPS alarm is disabled.
ECO	Indicates the UPS powers the output directly from the mains
BOOST	Indicates the UPS is working in boost mode
BUCK	Indicates the UPS is working in buck mode
(icon)	Indicates the UPS connects to the mains.
PV	Indicates the UPS connects to the PV
(icon)	Indicates the AC to DC circuit is working
(icon)	Indicates the inverter circuit is working

Battery information

100 75 50 25	Indicates the Battery level by 0-25%, 26-50%, 51-75%, and 76-100%.

3-3. Audible Alarm

Battery Mode	2 beeps every 30 seconds
Low Battery	Rapid one beep every second
Overload	2 short beeps every 2 seconds
Fault	Continuously sounding

3-4. LCD Display Wordings Index

Abbreviation	Display content	Meaning
ENA	ENA	Enable
DIS	dIS	Disable
ST1	St1	Sensitive 1
ST2	St2	Sensitive 2
ST3	St3	Sensitive 3
AUT	AUt	Automatic
AON	AON	Always on
BAH	bAH	Battery AH
EPO	EPO	Emergency Power Off
AC	AO	Active Close
AO	AC	Active Open
ESC	ESC	Escape
ON	On	ON
OK	OK	OK
EP	EP	EPO
TP	tP	Temperature
CH	CH	Charger
BF	bF	Battery Fault
BR	bR	Battery Replace
EE	EE	EEPROM error
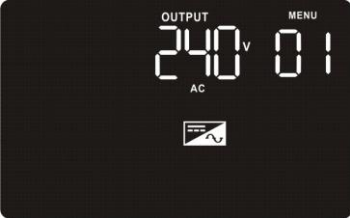
3-5. UPS Setting

Parameter 2   Parameter 3   Parameter 1
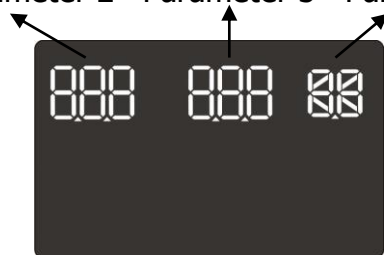
There are three parameters to set up the UPS.
Parameter 1: It's for program alternatives. Refer to below table.
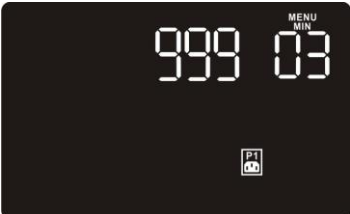Parameter 2&3: It's is the setting options or values for program.

● 01: Output voltage setting

Interface	Setting
OUTPUT · MENU · 240 v · 01 · AC	For 208/220/230/240 VAC models, you may choose the following output voltage: 208: presents output voltage is 208Vac 220: presents output voltage is 220Vac 230: presents output voltage is 230Vac 240: presents output voltage is 240Vac (Default setting)

● 02: Programmable outlets enable/disable

Interface	Setting
MENU · d IS 02 · P1	ENA: Programmable outlets enable DIS: Programmable outlets disable (Default setting)

● 03: Programmable outlets setting

Interface	Setting
MENU MIN · 999 03 · P1	Set up the backup time limits in minutes from 0-999 for programmable outlets which connect to non-critical devices on battery mode. (Default setting: 999)

● 04: Input Waveform Sensitivity setting

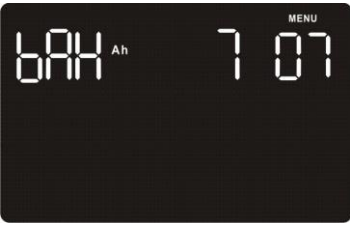| Interface	Setting
INPUT · MENU · St2 04	Set up input waveform sensitivity. St1: Input voltage waveform detection is highly sensitive. St2: Input voltage waveform detection is middle sensitive. (Default setting) St3: Input voltage waveform detection is low sensitive.

● 05: LCD display backlight setting

Interface	Setting
MENU · Aut 05	Set up the working mode for the LCD display backlight. Aon: LCD display backlight is on all the time Aut: LCD display backlight will be off after pressing the buttons 60seconds. (Default setting)

● 06: Autonomy limitation setting

Interface	Setting
MENU · d S 06 · 100 75 50 25	Set up backup time on battery mode for general outlets. 0-999: setting the backup time in minutes from 0-999 for general outlets on battery mode. DIS: Disable the autonomy limitation and the backup time will depend on battery capacity. (Default setting) Note: When setting as "0", the backup time will be only 10 seconds.

● 07: Battery total AH setting

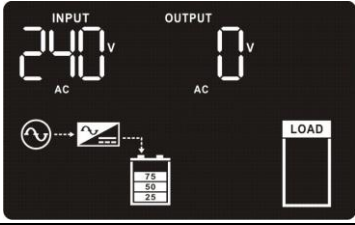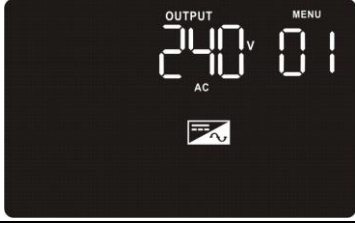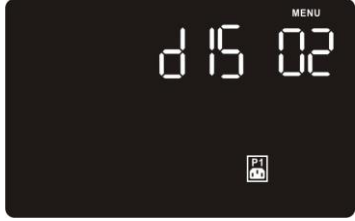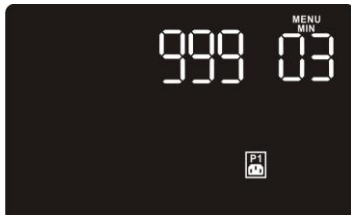| Interface	Setting
bAH Ah 7 07	Set up the battery total AH of the UPS. 7-999: setting the battery total capacity from 7-999 in AH. Please set the correct battery total capacity if external battery bank is connected.

● 08: **EPO logic setting**

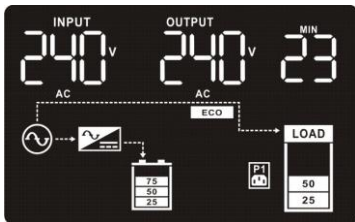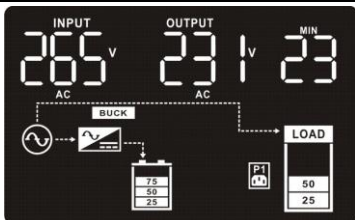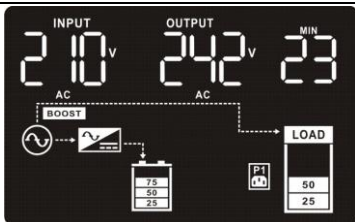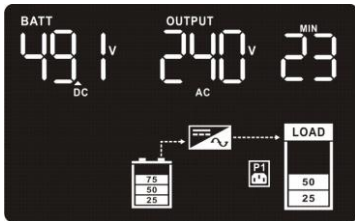| Interface	Setting
EPO AO 08	Set up the EPO function control logic. **AO:** Active Open. When AO is selected as EPO logic, it will activate EPO function with Pin 1 and Pin 2 in open status. (Default setting) **AC:** Active Close. When AC is selected as EPO logic, it will activate EPO function with Pin 1 and Pin 2 in close status.

● 00: Exit setting
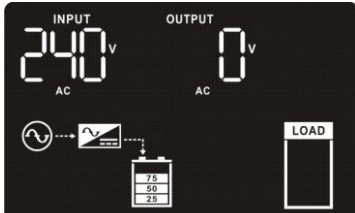
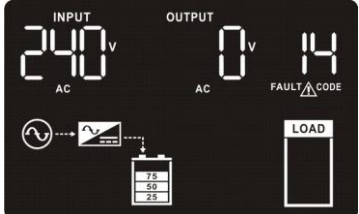| Interface	Setting
ESC 00	Exit the setting mode

Steps for setting programmable outlet (White Coloured Outlets)

Step 1: Before entering setting mode, the UPS should be in Stand-by mode (off-charging) and make sure the battery is connected. The LCD display is shown as right.	
Step 2: Press and hold the "Selection" button for 5 seconds to enter Setting mode.	
Step 3: Press the "Up" button (ON/MUTE) to switch to "02" of program list. Then press "Enter" button to enter value setting of parameter 2. Press the "Up" button to change the value to "ENA" to enable the programmable outlet function. Then press "Enter" button again to confirm the setting.	

Step 4:	
Press the "Up" button (ON/MUTE) again to switch to "03" of program list. Then press "Enter" button for setting programmable outlet time. Push "Up" button to change the value of backup time according your demand. Then press "Enter" to confirm the setting.	999 03

Step 5:
Press "Up" button (ON/MUTE) to switch to "00" of program list. Then press "Enter" button to exit setting menu.

Step 6:
Disconnect AC input and wait until the LCD display is off. The new setting will be activated when turning on the UPS again.

3-6. Operating Mode Description
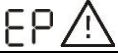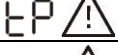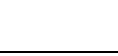
Operating mode	Description	LCD display
ECO mode	When the input voltage is within voltage regulated range, UPS will power the output directly from the mains. ECO is an abbreviation of **Efficiency Corrective Optimizer mode.** In this mode, when battery is fully charged, the fan will stop working for energy saving.	
Buck mode when AC is normal.	When the input voltage is higher than the voltage regulation range but lower than high loss point, the buck AVR will be activated.	
Boost mode when AC is normal.	When the input voltage is lower than the voltage regulation range but higher than low loss point, the boost AVR will be activated.	
Battery mode	When the input voltage is beyond the acceptable range or power failure and alarm is sounding 2 beeps every 30 seconds, UPS will backup power from battery.	
Standby mode	UPS is powered off and no output supply power, but still can charge batteries.	

Fault mode	When a fault has occurred, the ERROR icon and the fault code will be displayed.	

3-7. Faults Reference Code

Fault event	Fault code	Icon	Fault event	Fault code	Icon
Bus start fail	01	x	Inverter output short	14	x
Bus over	02	x	Battery voltage too high	27	x
Bus under	03	x	Battery voltage too low	28	x
Inverter soft start fail	11	x	Over temperature	41	x
Inverter voltage high	12	x	Over load	43	OVER LOAD
Inverter voltage Low	13	x	Charger failure	45	x

3-8. Warning Indicator

Warning	Icon (flashing)	Alarm
Low Battery	⚠ 25	Rapid one beep every second
Overload	OVER LOAD ⚠	2 short beeps every 2 seconds
Battery is not connected	100 75 50 25 ⚠	2 short beeps every 2 seconds
Overcharge	100 75 50 25 ⚠	Continuously sounding
Site wiring fault	⊘ ⚠	2 short beeps every 2 seconds
EPO enable	EP ⚠	2 short beeps every 2 seconds
Over temperature	tP ⚠	Continuously sounding
Charger failure	CH ⚠	Continuously sounding
Battery Fault	bF ⚠	Continuously sounding (At this time, UPS is off to remind users of something wrong with battery)
Replace Battery	bR ⚠	2 short beeps every 2 seconds
EEPROM error	EE ⚠	2 short beeps every 2 seconds

4. Troubleshooting

If Commander series do not operate correctly, please solve the problem by using the table below.

Symptom	Possible cause	Remedy
No indication and alarm even though the mains is normal.	The AC input power is not connected well.	Check if input power cord firmly connected to the mains.
	The AC input is connected to the UPS output.	Plug AC input power cord to AC input correctly.
The icon ⚠ and the warning code ⌐P flashing on LCD display and alarm is sounding 2 short beeps every 2 seconds	EPO function is activated.	Set the circuit in close position to disable EPO function.
The icon ⚠ and ～ flashing on LCD display and alarm is sounding 2 short beeps every 2 seconds.	Line and neutral conductors of UPS input are reversed.	Rotate mains power socket by 180° and then connect to UPS system.
The icon ⚠ and 🔋 flashing on LCD display and alarm is sounding 2 short beeps every 2 seconds.	The external or internal battery is incorrectly connected.	Check if all batteries are connected well.
Fault code is shown as 27 and alarm is continuously sounding.	Battery voltage is too high or the charger is fault.	Contact your dealer.
Fault code is shown as 28 and alarm is continuously sounding.	Battery voltage is too low or the charger is fault.	Contact your dealer.
The icon ⚠ and OVER LOAD are flashing on LCD display and alarm is sounding 2 short beeps every 2 seconds.	UPS is overload	Remove excess loads from UPS output.
Fault code is shown as 43 and The icon OVER LOAD is lighting on LCD display and alarm is continuously sounding.	The UPS shut down automatically because of overload at the UPS output.	Remove excess loads from UPS output and restart it.
Fault code is shown as 14 and alarm is continuously sounding.	The UPS shut down automatically because short circuit occurs on the UPS output.	Check output wiring and if connected devices are in short circuit status.

Symptom	Possible cause	Remedy
Fault code is shown as 01, 02, 03, 11, 12, 13 and 41 on LCD display and alarm is continuously sounding.	A UPS internal fault has occurred.	Contact your dealer
Battery backup time is shorter than nominal value	Batteries are not fully charged	Charge the batteries for at least 5 hours and then check capacity. If the problem still persists, consult your dealer.
	Batteries defect	Contact your dealer to replace the battery.
Fault code is shown as 45 on LCD display. At the same time, alarm is continuously sounding.	The charger does not have output and battery voltage is less than 10V/PC.	Contact your dealer.

5. Service

WARRANTY CONDITION:

The standard warranty is TWO (2) years from the date of purchase. The standard PowerShield procedure is to replace the original unit with a factory refurbished unit. PowerShield will ship the replacement unit once the defective unit has been received by the service department, or cross ship upon the receipt of a valid credit card number. The customer pays for shipping the defective unit to PowerShield. PowerShield pays ground freight transportation costs to ship the replacement to the customer within Australian capital cities metro areas only.

NOTE : For more information about our Warranty Policy, please visit our web site.
www.powershield.com.au

WARRANTY SEVICE PROCESS :

1. Review the problems discussed in the troubleshoot section of this manual to eliminate common problems.
2. Verify that no input/output circuit breaker are tripped. A tripped circuit breaker is the most common problem.
3. If the problem still persists, please call 1300-305-393 for technical support or fill in the form in PowerShield web page for on line technical support.
   Following details are needed for warranty claims.
● Model number
● Serial number
● The date of purchase
4. Be prepare to troubleshoot the problem over the phone with PowerShield technical support.
5. If technical support found that the product is defective, then the technical support will issue a Return Material Authorization Number (RMA #)
6. If the unit is under warranty, repair is free. If not there is a repair charge.
7. Pack the unit in its original packaging. Pack properly to avoid damage during transit. Damage sustained in transit is not covered under warranty.
8. Mark the RMA # on the outside of the package.
9. Return the defective unit by insured, prepaid carrier to the address given to you by Technical support.

6. Storage and Maintenance

6-1. Operation

Commander series contains no user-serviceable parts. If the battery service life (3~5 years at 25°C ambient temperature) has been exceeded, the batteries must be replaced.

Please contact your dealer or visit PowerShield web site.

www.powershield.com.au/support.php

 Be sure to deliver the spent battery to a recycling facility or ship it to your dealer in the replacement battery packing material.

6-2. Storage

Before storing, charge the UPS 5 hours. Store the UPS covered and upright in a cool, dry location. During storage, recharge the battery in accordance with the following table:

Storage Temperature	Recharge Frequency	Charging Duration
-25°C - 40°C	Every 3 months	1-2 hours
40°C - 45°C	Every 2 months	1-2 hours

7. Contacting PowerShield

Refer to the information provided at PowerShield internet site:

www.powershield.com.au

Or

Phone 1300 305 393

8. Specifications

COMMANDER TOWER			
MODEL		**Commander 1100**	**Commander 2000**
Model Number		PSCM1100	PSCM2000
Capacity (PF = 0.9)		1100 VA / 990 W	2000 VA / 1800 W
INPUT			
Nominal Voltage		240Vac	
Acceptable Voltage Range		162-290 VAC	
Frequency Range		50/60Hz ± 5Hz (auto sensing)	
OUTPUT			
Voltage Regulation (AC Mode)		240Vac (Selectable 208/220/230Vac) ± 10% AVR	
Voltage Regulation (Batt. Mode)		± 1.5% (before battery alarm)	
Frequency Range (Batt. Mode)		50 Hz or 60 Hz ± 1 Hz	
Current Crest Ratio		3:1	
Total Harmonic Distortion		2% max @ 100% linear load, 5% max @ 100% non-linear load (before low battery alarm)	
Transfer Time		6ms (Typical), 10ms max.	
Waveform (Batt. Mode)		Pure Sine Wave	
EFFICIENCY			
AC Mode		98% (Advanced ECO design)	
Battery Mode		89%	91%
BATTERY			
Standard Model	Battery Type & Number	12V / 9AH (x2)	12V / 9AH (x4)
	Recharge Time	4 hours recover to 90% capacity	
PROTECTION			
Full Protection		Overload, thermal, short circuit, discharge and overcharge protection	
Surge Protection		1968 Joules / 39000 Amps	
ENVIRONMENT			
Operation Temperature		0 - 40°C	
Relative Humidity		0-90% (RH non-condensing)	
Noise Level		< 45dB	
COMMUNICATIONS & MANAGEMENT			
Interface		USB and RS-232 as standard, Intelligent slot for PSSNMP, PSModbus or PSAS400 dry contact	
Software		PowerShield NetGuard® software - supports Windows based operating system, Linux, Unix and Mac	
HID		Supports Windows, Apple, Linux, NAS and various industrial controllers	
LCD Display/Alarm		AC mode, Batt. Mode, Load Level, Input Voltage, Output Voltage, Overload, Fault, Battery Replacement, Low Batt., Batt. Time Remaining	
Audible Alarm		Battery Mode, Low Battery (Batt. Mode), Battery Replacement, Fault, Overload	
PHYSICAL			
Standard Model	Dimension D x W x H (mm)	397 x 145 x 220	455 x 145 x 220
	Weight Nett/Gross (kg)	12.9 / 14.4	20.5 / 22.5
COMPLIANCE			
Safety		EN62040-1 -1 2003, IEC 60950-1 -1	
EMC		EN62040-2 2006	
RoHS		Directive 2011/65/EU	

* Product specifications are subject to change without further notice.