



NetGuard 1500VA PowerShield Gladiator PSGL1500 User Manual

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NetGuard®



PSGL1500
1500VA GLADIATOR
Line Interactive Pure Sine Wave UPS



Software

Download the latest PowerShield NetGuard
UPS Monitoring Software: www.powershield.com.au/downloads
Default password: administrator

Australian Designed Power Protection Solution

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SAFETY INSTRUCTION

Thank you for purchasing this PowerShield power protection product. Please comply with all warnings and operating instructions in this manual. Save this manual and carefully read the following instructions before installing the unit. Do not operate this unit before reading through all safety information and operating instructions carefully.

Transportation

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

Preparation

- Do not dismantle the UPS system.
- Do not plug the UPS input into its own output.
- Do not attach non-computer-related items, such as medical equipment, life-support equipment, microwave ovens, or vacuum cleaners to UPS.
- Condensation may occur if the UPS system is moved directly from a cold to a warm environment. The UPS system must be absolutely dry before being installed. Please allow at least two hours for the UPS system to acclimate 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 a heater.
- Do not block ventilation holes in the UPS housing.

Installation

- This unit is intended for installation in a controlled environment (temperature-controlled, indoor area free of conductive contaminants).
Avoid installing the UPS in locations where there is standing or running water, or excessive humidity.
- **Caution** – Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Operation

- Prevent fluids or other foreign objects from entering the UPS system.
- Do not connect appliances or devices to the UPS output sockets which would overload the UPS system.
- 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.
- Connect the UPS system only to an earthed shockproof outlet which must be easily accessible and close to the UPS system.

Maintenance, service, and faults

- The UPS system operates with hazardous voltages. Repairs may be carried out only by qualified maintenance personnel.
- **Caution** – the 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. Do not open the unit.
- 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 capacity BUScapacitors.

Storage & Maintenance

The UPS system 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. In this case, please contact your dealer.



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

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
0 – 40°C	Every 3 months	1-2 hours

Introduction

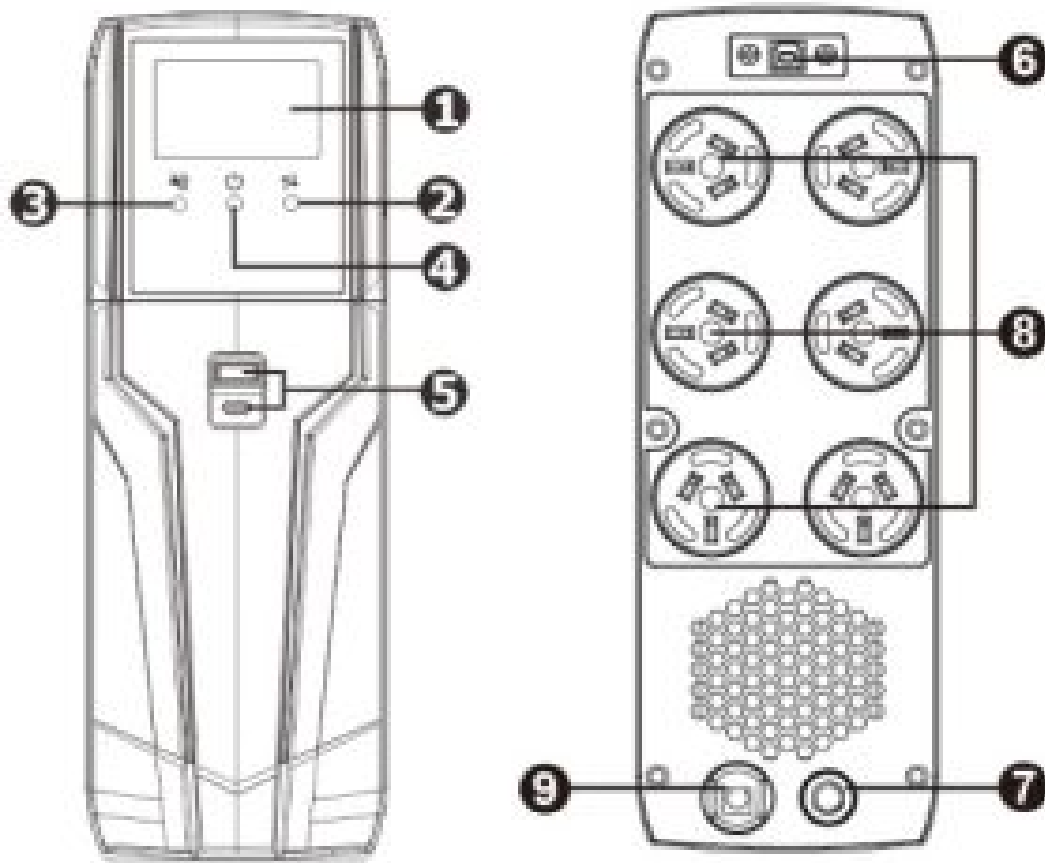
This PowerShield product is an intelligent line interactive pure sinewave UPS (Uninterruptible Power Supply) which is designed to protect your personal computer or sensitive electronic equipment from all forms of power interference, including complete power failure.

Package Contents

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. You should have received the following items inside of the package:

1. UPS unit
2. User manual
3. USB cable

Product Overview



1. LCD display (Please check LCD section for the details)
2. Up/down button
3. Mute button
4. ON / OFF button
5. USB charger ports (5V 3A, type A/type C) for device charging
6. USB communication port for UPS monitoring and control
7. Input circuit breaker
8. Battery backup outlets
9. AC input for connecting to utility power

Installation

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

If this up has been idle for a minimum of 6 months the batteries will require recharging before use.

It is recommended to recharge the batteries by simply plugging it in for a period of around 5 hours.

- UPS should be placed on a flat and clean surface. Place it in an area away from vibration, dust, humidity, high temperature, flammable liquids and gases, corrosive and conductive contaminants. Install the UPS indoors in a clean environment, where it is away from windows and doors.



- The maximum altitude is 1000m to keep the UPS in normal operation at full load. If it's used in higher altitude areas, please reduce the connected load. Altitude derating power with connected loads for UPS normal operation is listed as below:

Altitude (m)	Derating factor1)
1000	1.0
1500	0.95
2000	0.91
2500	0.86
3000	0.82
3500	0.78
4000	0.74
4500	0.7
5000	0.67

Based on the density of dry air =1.225 kg/m³ at sea level, +15°C

(1) Since fans lose efficiency with altitude, force air-cooled equipment will have a smaller derating.

- Place UPS: This PowerShield up is equipped with a fan for cooling. Therefore, place the UPS in a well-ventilated area. Maintain a minimum clearance of 100mm in the front of the UPS and 300mm in the back and 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. Avoid using extension cords. For the best results, charge the battery at least 5 hours before initial use. The unit charges its battery while connecting to the utility.

Note: Do not expect full battery run capability during this initial charge period.

Step 2: UPS Output Connection

Connect the computer and monitor to the outlets. These outlets provide battery backup, EMI filtering, line conditioning, and surge protection. Battery power is automatically provided in case of power failure.

CAUTION: NEVER connect a laser printer or scanner to the UPS. The equipment may draw significant power to overload the UPS.

Step 3: Connect Communication Port and Install Software

Connect one end of the USB cable to PC and the other to the USB port at the rear of the UPS.

Download the latest version of NetGuard® Software from

<https://powershield.com.au/supportmenu/download-area/netguard-software-downloads> to your hard drive.

Follow on-screen instructions to complete the software installation.

To monitor CPU speed, temperature, and percentage (%) CPU resources please download and install the CPU Monitor file. Once installed, the user can configure the CPU Monitor to autorun on Windows Startup and send CPU Information to the UPS directly. Note: CPU Monitor is only available for= Windows.

The CPU Monitor file can be downloaded from <https://powershield.com.au/supportmenu/download-area/netguard-software-downloads/>

HID Function

This PowerShield UPS is equipped with HID function. You may simply connect one computer with the installed OS via USB port to execute safe shutdown during power failure even though there is no monitoring software installed.

Step 4: Turn On the UPS

Before using the UPS, be sure to remove this label from the LCD remote panel module.

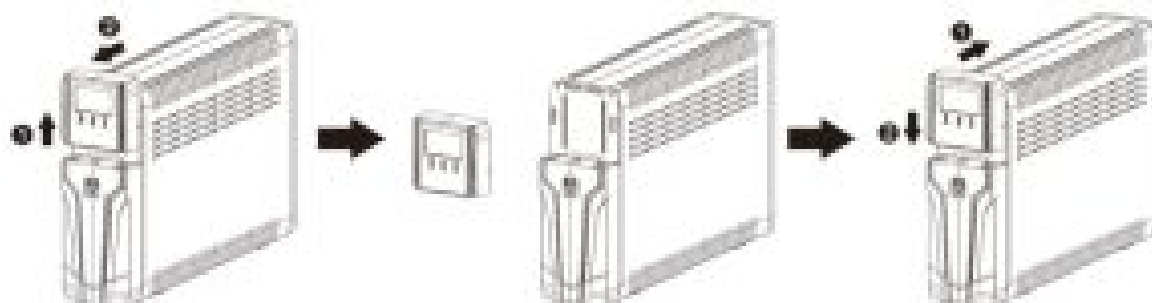


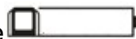
To turn on the UPS, simply press the ON/OFF button on the front panel for 2 seconds. UPS will beep once and LED bars will light up with different colors in order of light blue, orange, yellow, green, blue, purple, and scroll from bottom to top in 6 secs. Then, LCD will light on.



Remote panel operation

The LCD panel can be removed from the base and placed close to you when playing a PC game. Follow the illustrations below to remove the remote panel. The distance between the remote panel and base should not be more than 6m.



There is a NiMH battery installed on the back of remote panel. Once the remote panel is installed on the base unit, it will automatically charge the battery. When the battery capacity is low level, the  icon will flash to remind users to charge the remote panel.

Battery Replacement

Please read all of the **WARNINGS** and **CAUTIONS** before attempting to service the batteries. Typical battery life is 3 to 5 years. Environmental factors do affect battery life. High temperatures, poor utility power, and frequent, short-duration discharges have a negative impact on battery life.

- **WARNING!** This PowerShield UPS contains potentially hazardous voltages. Do not attempt to disassemble the UPS beyond the battery replacement procedure.
- This UPS contains no user-serviceable parts. Repairs and battery replacement must be performed by QUALIFIED SERVICE PERSONNEL ONLY.
- **Caution** – Do not dispose of batteries in a fire. The batteries may explode.
- **Caution** – Do not open or mutilate batteries. Released electrolyte is harmful to the skin and eyes. It may be toxic.
- **Caution** – A battery can present a risk of electrical shock and a high short-circuit current. Contact with any part of a grounded battery can result in electrical shock. The following precautions should be observed when working on batteries:
 - a) Remove watches, rings, or other metal objects.
 - b) Use tools with insulated handles.
 - c) Wear rubber gloves and boots.
 - d) Do not lay tools or metal parts on top of batteries.
 - e) Disconnect charging source and load prior to installing or servicing the battery.
 - f) Remove battery grounds during installation and maintenance to reduce the likelihood of shock.Remove the connection from the ground if any part of the battery is determined to be grounded.
- **Caution** – the 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.
- Only persons 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** – Replace batteries with the same number and type as originally installed in the UPS. These batteries have pressure-operated vents. These UPSs contain sealed non-spillable maintenance-free lead-acid batteries.

Please follow the steps below to replace the batteries if necessary.

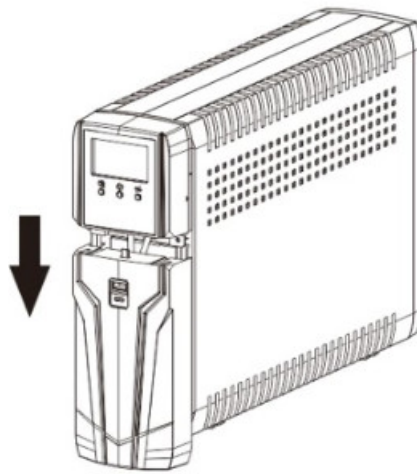
Step 1: Turn off the equipment that is plugged into the output of the UPS.

Step 2: Turn off the UPS.

Step 3: Remove the AC input plug of the UPS from the AC wall outlet.

Step 4: Remove all equipment from the output sockets of the UPS.

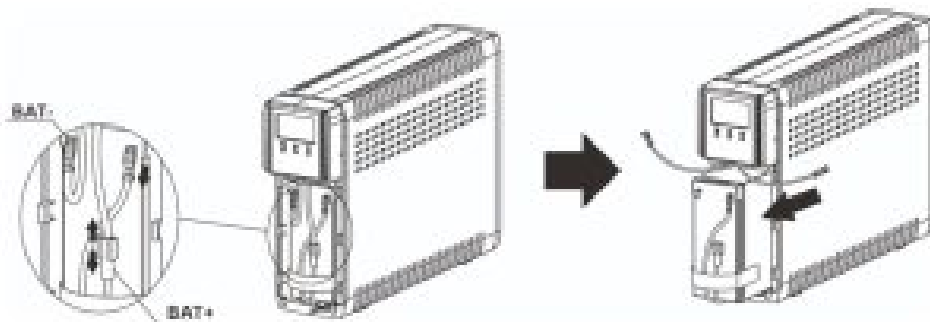
Step 5: Remove the battery cover by loosening two screws located on the bottom of the UPS and slide the battery cover downward, then outward. Set it aside.



Step 6: Disconnect the battery wires (BAT+ and BAT-). Then, slide out the existing battery pack from the UPS by grasping the battery tape.

Caution – Do not short the positive wire and negative wire of battery.

Caution – DO NOT pull the battery pack out by pulling the battery wires.



Step 7: Slide the new battery pack into the UPS.

Step 8: Verify proper polarity. Re-connect the battery connectors together.

NOTE- Some sparking might occur and this is normal when reconnecting batteries.

Step 9: Re-install the battery cover onto the UPS. Now, the UPS is ready for normal operation.

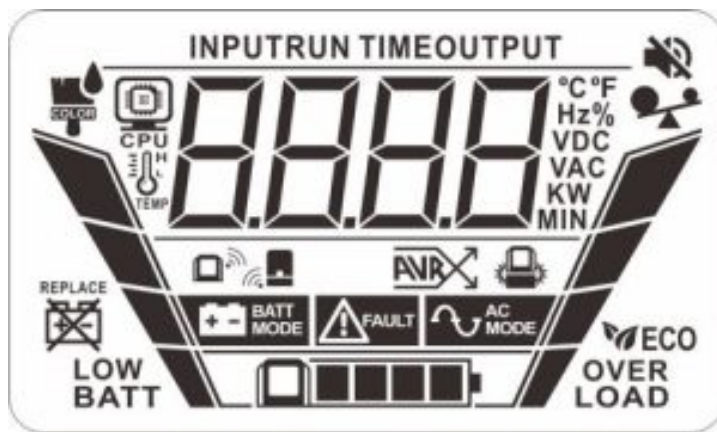
NOTICE: Properly dispose of the old batteries at an appropriate recycling facility or return them to the supplier in the packing material for the new batteries.








Operation







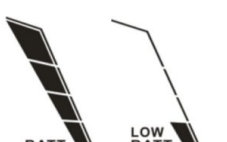

Button Function

Button	Function
ON/OFF	<ul style="list-style-type: none"> • Press and hold 2 seconds to turn on or off the UPS. • Hold “on/off” button for 10 seconds to reset the unit in case of communication failure between the remote panel and UPS. • Quick press 5 times to reset pairing when a wireless transmission fails.
MUTE	Press and hold 2 seconds to enable or disable the mute function.
UP/DOWN	<ul style="list-style-type: none"> • Press and hold 0.5 seconds to switch display information. • Press and hold 2 seconds to enter the setting menu.

LCD Panel



Display	Function
Configuration and fault information	
	Indicates the fault or warning codes.
Mute operation	
	Indicates that the UPS alarm is disabled.
Input, Battery, Backup time, Output & Load information	
	<p>Indicate the input voltage, input frequency, battery voltage, battery capacity, backup time, output voltage, output frequency, load capacity, load percentage, NiMH battery, PC CPU speed, PC CPU temperature and PC CPU load percentage.</p> <p>K: kilo, W: watt, V: voltage, A: ampere, %: percent, °C: centigrade degree, Hz: frequency, min: minute.</p>
Load information	
	Indicates the load level by 0-24%, 25-49%, 50-74% and 75- 100%, or overload alarm.
Mode operation information	
	UPS operates on the Line mode.
	UPS operates on the AVR mode.
	UPS operates on the Battery mode.






	The setting of LED bars.
	Indicates PC's CPU temperature (°C) Setting the temperature alarm level.
	Indicates PC's CPU speed (Mhz)
	Indicates PC's CPU Load
	Indicates wireless connection matched.
	This indicates the remote panel is connected to the docking base.
Battery information	
	Indicates the UPS battery level by 0-24%, 25-49%, 50-74%, and 75-100%. Once the battery is at a low level, "LOW BATT" icon will display.
	Indicates the NiMH battery level of the remote panel.

*Except UPS fault condition, LCD backlight automatically shuts off if no action for 1 minute (30 seconds when panel is removed from base).

Audible Alarm

Overload	Sounding every 0.5 seconds
Low battery	Sounding every second
Overcharge	Sounding every 1.5 seconds
Battery replacement	Sounding every 2 seconds
Battery mode	Sounding every 10 seconds
Fault	Continuously sounding

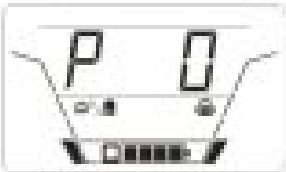
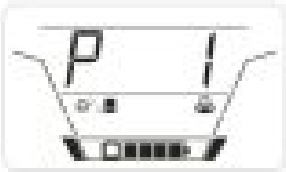
Warning Indicator

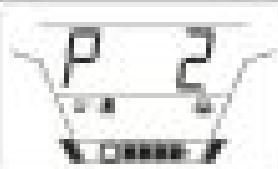

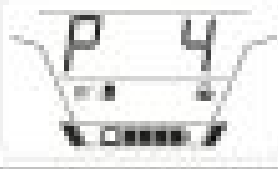
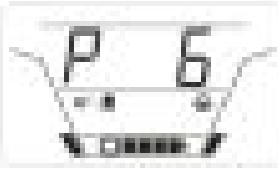

Display	Warning	Flashing/on	Alarm
	Over-current on output	Flashing every 0.5 secs	Sounding every 0.5 secs
	Overload	Flashing every 0.5 secs	Sounding every 0.5 secs
	Low battery	Flashing every 0.5 secs	Sounding every 1 sec
	Battery replacement or battery is not connected.	On	Sounding every 2 secs
	Abnormal NiMH battery charging	Flashing every 0.5 secs	N/A

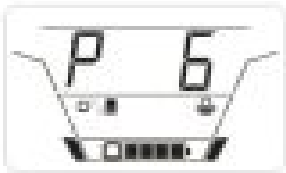
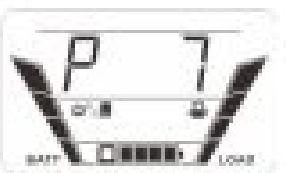
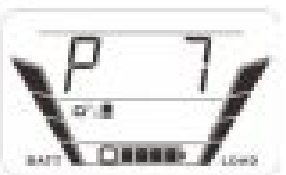
LCD Setting

After pressing and holding the “UP/DOWN” button for 2 seconds, the unit will enter setting mode. Press the “UP/DOWN” button to select setting programs. Press the “ON/OFF” button on the selectable option page. Press the “ON/OFF” button again to access selectable options. Press the “UP/DOWN” button to switch different options. Once the option is selected, press the “ON/OFF” button to confirm or the “MUTE” button to exit.

Setting Programs:



Program	Description	Selectable option	
	On/Off energy star function	Off: If selected, LED bars and LCD works per setting defined. <i>ESd</i>	On: If selected, LED bars and LCD backlight will be automatically off when UPS is operated in bypass mode and battery is fully charged. <i>ESE</i>
	PC's CPU Temp. Alarm Level	50°C <i>P 50</i>	60°C(default) <i>P 60</i>
		70°C <i>P 70</i>	80°C <i>P 80</i>
		90°C <i>P 90</i>	

	On-Off RGB LED	LED OFF ELdS	LED ON(default) ELEn
		ENERGY SAVING ELES	
	Brightness of RGB LED	Low b LD	Normal(default) b7D+
		High b HI	
	Scrolling speed of RGB LED	Low S LD	Normal(default) S7D+
		High S HI	
	Effects of RGB LED	Breath(default) nb+E	Scrolling n5D+
		Solid n5DL	
	Color selection of RGB LED in Line mode	White LWH	Orange 1D+A
		Yellow(default) 1YEL	Green 1G+E
		Blue 1BLU	Purple 1PU+
		Others 1D+H	
	Color selection of RGB LED in AVR mode	White 2LWH	Orange 2D+A
		Yellow 2YEL	Green(default) 2G+E
		Blue 2BLU	Purple 2PU+
		Others 2D+H	

	Color selection of RGB LED in Battery mode	White 3uH1	Orange 30tA
		Yellow 34EL	Green 30tE
		Blue(default) 3bLU	Purple 3PUt
		Others 30tH	
P7	Backlight control		
	When remote panel is connected to docking base	1min (default) 1 1	Permanent on 1bdE
		Setting range is from permanent on, then 1 to 60 minutes. Increment of each click is 1 min.	
	When remote panel is not connected to docking base	0.5min (default) 2 05	Permanent on 2bdE
		Setting range is from permanent on, then 0.5 to 30 minutes. Increment of each click is 0.5 min.	

Display Setting

The LCD display information will be switched in turns by pressing the “UP/DOWN” button. The selectable information is switched as below order: input voltage, input frequency, battery voltage, battery capacity, estimated backup time, output voltage, output frequency, output in kW, output load percentage, NiMH battery voltage, PC CPU frequency, PC CPU temperature, CPU utilization, panel board firmware version, Baseboard firmware version, and UPS control board firmware version.










Selectable Information	LCD Screen	Selectable Information	LCD Screen
Input Voltage		Output load in percent	


Selectable information	LCD Screen	Selectable information	LCD Screen
Input frequency		NiMH battery voltage	
Battery voltage		PC CPU frequency	
Battery Capacity		PC CPU temperature	
Estimated backup time		CPU utilization	
Output Voltage		Panel board firmware version	
Output Frequency		Firmware version of docking base board	
Output in kW		UPS control board firmware version	

Trouble Shooting

If the UPS system does not operate correctly, please solve the problem by using the table below.

Problem/Fault code	Possible Cause/Fault Event	Solutions
UPS will not turn on after pressing On/Off button.	Hold the On/Off button too short.	Press and hold the On/Off button for at least 2 seconds and then release.
The main supply is normal, but the UPS is operating in b	Power cord is loose.	Re-connect AC input power cord.

attery mode.	Circuit breaker is tripped.	Reset the input circuit breaker. If the input circuit breaker trips after UPS restarts, remove excessive loads from the UPS.
The AC normal icon is illuminated, but there is no output.	The UPS has an internal fault.	Restart the UPS and press the On button. If the UPS works normally, the software has control of the UPS.
Battery backup time is shorter than the 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.
	Battery defect.	Contact your dealer to replace the battery.
Fault code E12 and is on.  icon	The output voltage is too high on battery mode.	Contact your dealer.
Fault code: E13 and  icon are on.	The output voltage is too low on battery mode	Contact your dealer.
Warning code E32 and  icon are flashing.	Communication lost between UPS and Base.	Contact your dealer.
Warning code E32 and  icon flashes.	The distance between the remote panel and the docking base is out of wireless transmission range.	Keep the distance of the remote panel and the docking base closer.
	Error occurs in the process of pairing passwords.	Quick press the “ON/OFF” button 5 times to reset the pairing. At this time, the remote panel is required to connect to the docking base.
Fault code E14 and is on.  icon	Output is short-circuited.	Check if connected devices are in short circuit status. Disconnect short-circuited loads and restart the UPS again.
Fault code E15 and is on.  icon	Overcurrent on output.	Reduce the connected load by switching off some equipment.
Fault code E20 and is on.  icon	Fan lock fault.	Contact your dealer.
Fault code E21	Overcharge voltage	Contact your dealer.
Fault code E28 and  icon are on.	Low battery voltage.	Please replace the battery. If the fault still occurs after the battery is replaced, contact your dealer.
Fault code E43 and  icon are on.	Overload fault	Contact your dealer.

 icon is illuminated and a constant alarm.	The UPS has an internal problem.	Contact your dealer.
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Specifications

POWERSHIELD GLADIATOR GAMING UPS	
MODEL	GLADIATOR GAMING UPS
Model Number	PSGL1500
Capacity	1500VA / 900W
INPUT	
Voltage	240 VAC
Voltage Range	170~280VAC
OUTPUT	
Voltage	240 VAC
AC Voltage Regulation (Batt. Mode)	±10%
Frequency Range (Batt. Mode)	50/60 Hz ±1 Hz
Harmonic Distortion	3% THD (Linear Load), ; 5 % THD (Non-linear Load)
Transfer Time	6ms typical, 10ms max
Waveform (Batt. Mode)	Pure Sine Wave
Outlets	6 x Australian Outlets with surge and battery backup
USB Charger	USB-A and USB-C 5V / 3 Amp
BATTERY	
Battery Type and Number	12 V/9 Ah x 2
Typical Recharge Time	6~8 hours recover to 90% capacity
PROTECTION	
Surge Protection	1140 Joules / 30,000 Amps
INDICATORS	
LCD Display	Input/output voltage, input/output frequency, load in VA/Watts, battery capacity, estimated remaining runtime, site wiring fault indications.
PHYSICAL	
Dimension, (D x W x H) mm Tower	430 x 99 x 280
Weight (kg)	13.3

OPERATING ENVIRONMENT	
Humidity	50-90 % RH @ 0- 40°C (non-condensing)
Noise Level	Less than 45dB
COMMUNICATIONS AND MANAGEMENT	
Interface	USB
Software Support	PowerShield® NetGuard® software – supports Windows, Linux, Unix, and Mac-based operating systems*
COMPLIANCE	
Compliance & Standards	CE (Class B), EN 62040-1:2008/A1:2013, IEC 62040-1:2008/A1:2013
RoHS	Directive 2001 /65 / EU

Product specifications are subject to change without prior notice. *CPU monitoring software available only for Windows OS.

Documents / Resources

	<p>NetGuard 1500VA PowerShield Gladiator PSG1500 [pdf] User Manual</p> <p>NetGuard, 1500VA, PowerShield, Gladiator, PSG1500</p>
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