

VERTIV™ LIEBERT® PSA-PH 650VA/360W, 230V, Line Interactive UPS



User Manual

IMPORTANT SAFETY INSTRUCTIONS SAVE THESE INSTRUCTIONS

This manual contains important instructions that should be followed during installation and maintenance

- Intended for installation in a controlled environment.
- Maximum ambient temperature 104°F (40°C)

CAUTION! To prevent the risk of fire or electric shock, install in a temperature and humidity controlled indoor area free of conductive contaminants. (See the specifications for the acceptable temperature and humidity range.)

CAUTION! To reduce the risk of overheating the UPS, do not cover the UPS cooling vents and avoid exposing the unit to direct sunlight or installing the unit near heat emitting appliances such as space heaters or furnaces.

CAUTION! Do not attach non-computer related items, such as medical equipment, life-support equipment, microwave ovens, or vacuum cleaners to UPS.

CAUTION! Do not plug the UPS input into its own output.

CAUTION! Do not allow liquids or any foreign object to enter the UPS. Do not place beverages or any other liquid-containing vessels on or near the unit.

CAUTION! In the event of an emergency, press the OFF button and disconnect the power cord from the AC power supply to properly disable the UPS.

CAUTION! Do not attach a power strip or surge suppressor to the UPS.

CAUTION! If the UPS is with metal chassis, for safety purpose, grounding is a must during UPS installation in order to reduce leakage current below 3.5mA.

CAUTION! When replacing the batteries, use the same number and type of batteries.

CAUTION! Internal battery voltage is 12VDC. Sealed, lead-acid, 6-cell battery.

CAUTION! Electric shock hazard. When UPS is disconnected from the mains source, hazardous voltage may still be available through the batteries. Disconnect all battery connectors from battery terminals prior to doing any maintenance or service works.

CAUTION! Servicing of batteries should be performed or supervised by personnel knowledgeable of batteries and the required precautions. Keep unauthorized personnel away from batteries.

CAUTION! Do not dispose of batteries in a fire. The battery may explode. Do not open or mutilate the battery or batteries. Released electrolyte is harmful to the skin and eyes.

CAUTION! Unplug the UPS prior to cleaning and do not use liquid or spray detergent.

CAUTION! A battery can present a risk of electric shock and high short circuit current. The following precaution should be observed before replacing batteries:

- 1) Remove watches, rings, or other metal objects.
- 2) Use tools with insulated handles.
- 3) Wear rubber gloves and boots.
- 4) Do not lay tools or metal parts on top of batteries.
- 5) Disconnect charging source prior to connecting or disconnecting batteries terminal.

SETUP

Step 1 Inspect the Package

Inspect the package and the UPS upon receipt. Notify the carrier and dealer of visible damage.



UPS



Quick-Start Guide

Step 2 Decide Where to Place the UPS

The UPS must be placed indoors, protected from water, direct sunlight and excessive heat. Provide at least 7.8" (20cm) of clearance on all sides of the unit for proper ventilation.



Step 3 Charge the UPS Battery Before Use

The UPS battery is fully charged before shipping. However, some charge may be lost during shipping and the battery should be recharged prior to use.

- Plug-in the UPS AC input cord to the wall outlet. For the best results, we recommend charging the battery at least four (4) hours before initial use. The unit charges its battery while connecting to the utility.



Step 4 Start the UPS

After the battery is fully charged:

- Turn on the UPS by pressing the ON/OFF button. (see below figure) LED should be illuminated (green), indicating the UPS is operating in Normal mode.

Step 5 Connect the Loads



On/Off Button

The UPS has four (4) battery backup standard outlets that provide power when the UPS operates on battery. (see Figure 2 on next page)

- Plug the loads into the battery backup outlets on the rear of the UPS.



CAUTION: NEVER connect a laser printer or scanner to the UPS unit. This may cause the damage of the unit.

UPS CONTROL AND CONNECTIONS



UPS Status, Alarm and Alerts

Condition	LED Color	Solid/Flashing	Audible Alarm
Normal Mode	Green	Solid	(None)
Battery Mode	Yellow	Flashes	Every 10 seconds
Battery Low	Yellow	Flashes	Every 1 second
Overload at Normal Mode	Green	Solid	Every 0.5 second
Overload at Battery Mode	Yellow	Flashes	UPS shuts down immediately
Fault	Red	Solid	Continuous until UPS shuts down

TROUBLESHOOTING

If the UPS malfunctions during operation, check the following chart for proper adjustment. For further assistance, please contact your local Vertiv representative.

Problem	Possible Causes	Solutions
Utility is normal, but LED is not illuminated	<ul style="list-style-type: none"> Battery capacity may be low The UPS battery reached end-of-life The UPS may not be turned on 	<ul style="list-style-type: none"> Recharge the UPS at least 6 hours Replace the battery with the same type of battery Press the ON/OFF button to turn on the UPS
Alarm buzzer beeps continuously although utility power is normal	<ul style="list-style-type: none"> The UPS may be overloaded 	<ul style="list-style-type: none"> Disconnect some equipment from the UPS
UPS does not provide expected backup-time	<ul style="list-style-type: none"> The UPS may be overloaded Battery voltage may be low The UPS battery reached end-of-life 	<ul style="list-style-type: none"> Disconnect some equipment from the UPS Recharge the UPS at least 6 hours Replace the battery with the same type of batter
Utility is normal, but LED flashes	<ul style="list-style-type: none"> The power cord may not be connected properly 	<ul style="list-style-type: none"> Connect the power cord securely into a wall outlet

Specifications

Model Number	PSA650-PH	Runtime Table		
Capacity (VA/W)	650/360	Load (%)	Load (W)	Runtime Approx. (minutes)
Unit Weight, kg. (lb.)	3.8 (8.4)	10%	36 W	48
Unit Dimensions, W × D × H mm (in.)	101 × 280 × 142 (4.0 × 11.0 × 5.6)	20%	72 W	20
Shipping Weight, kg. (lb.)	4.3 (9.5)	30%	108 W	10
Shipping Dimension, W × D × H mm (in.)	142 × 326 × 213 (5.6 × 12.8 × 8.4)	50%	180 W	3
Input Voltage Range	170–280VAC, Single Phase			
Input Frequency	50/60 Hz (Auto Sensing)			
Online Frequency Range (50Hz/60Hz)	45–55Hz ± 1Hz/ 55–65Hz ± 1Hz			
Output Voltage (Utility Power Normal)	230VAC, Single Phase			
Output Voltage (Battery Operation)	230 ± 10%			
On-Battery Wave Form	Stepped Sinewave			
Output Frequency Battery Mode	50Hz / 60Hz ± 1Hz			
Battery Type, VDC × Ah × Quantity	12V × 7 Ah × 1			
Typical Recharge Time	6–8 Hours to 90%			
Operating Temperature, °C	0 to 40			
Storage Temperature, °C	-20 to 50			
Operating/Storage Relative Humidity	0–90%, Non-condensing			

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