Powerware 5110 UPS
USER'S MANUAL

The Powerware 5110 uninterruptible power system (UPS) protects your sensitive electronic equipment from power problems such as power failures, power sags, power surges, brownouts, and line noise.

Features:

- Processor-controlled voltage regulation
- Eight outlets
  -Four with surge and backup protection
  -Four with surge protection only
- Data Line (Internet fax - modem - DSL) or telephone line surge protection jacks
- Cold start capability
- USB communication port
- User-replaceable batteries

SAFETY INSTRUCTIONS

Once you have received the Powerware 5110 UPS product, you should remove and inspect the product for shipping damage. If any damage is found, please notify the carrier and your dealer. Please keep the shipping carton and the packing foam in the event the product must be returned to the factory for service.
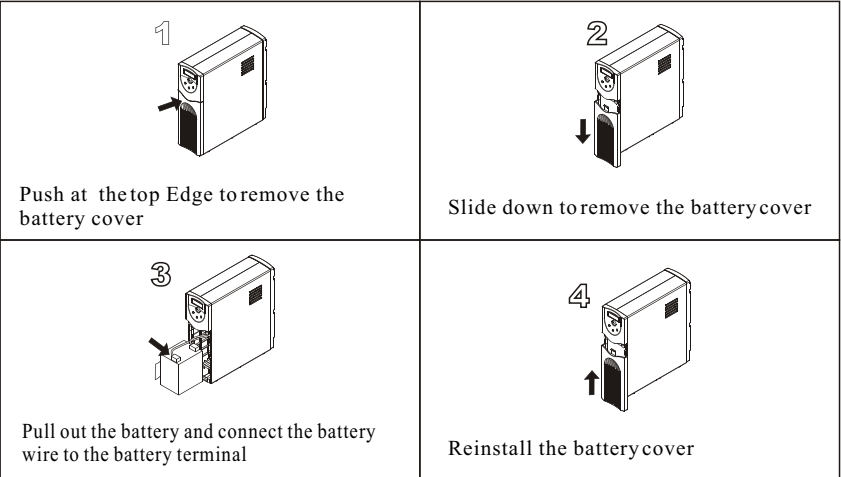
ATTENTION: Maintenance must be performed by a qualified personnel. Failure to do so could result in an electric shock. Replace Battery with Powerware supplied Battery ONLY! Although the unit may be unplugged from utility power, hazardous voltage still may be present through the battery.

1. Place the Powerware 5110 UPS indoors in an area that has adequate airflow and is free from excessive dust. Do NOT allow the UPS to be exposed to moisture, rain, excessive heat or direct sunlight.
2. Use of the Powerware 5110 UPS product in life support applications where failure of this equipment can reasonably be expected to cause failure of life support equipment or to significantly affect its safety or effectiveness is NOT recommended.
3. Always disconnect the input power cord from the wall outlet before replacing the battery.
4. When replacing the battery, use the same number and type of battery.
5. Do **NOT** dispose of the battery in a fire: the battery may explode.
6. Do **NOT** open or mutilate the battery. Batteries contain an electrolyte that is toxic and harmful to both the skin and eyes.
7. Proper disposal of the battery is required. Please refer to your local laws/regulations regarding battery disposal.
8. Use tools with insulated handles to replace the battery to avoid personal injury. Due to energy hazards, please remove wristwatches and jewelry such as rings when replacing battery.
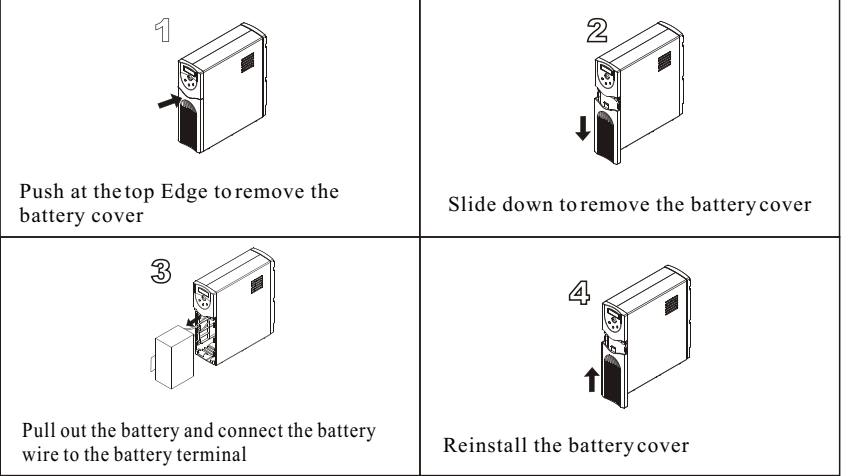
BATTERY CONNECTION REQUIRED BEFORE USE!
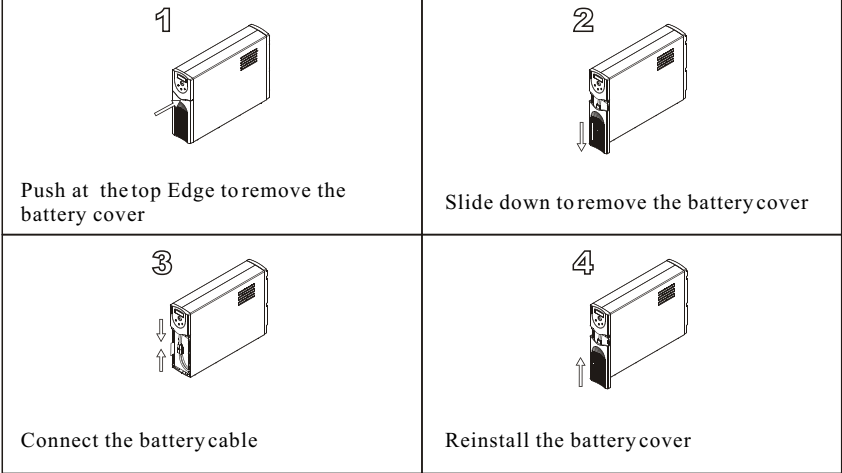### Connecting the Battery:

4.5 AH, 5 AH batteries (350 VA, 500 VA models)

① Push at the top Edge to remove the battery cover	② Slide down to remove the battery cover
③ Pull out the battery and connect the battery wire to the battery terminal	④ Reinstall the battery cover

7 AH battery (700 VA models)

① Push at the top Edge to remove the battery cover	② Slide down to remove the battery cover
③ Pull out the battery and connect the battery wire to the battery terminal	④ Reinstall the battery cover

7AH x 2, 9AH x 2 batteries (1000VA, 1500VA models)

① Push at the top Edge to remove the battery cover	② Slide down to remove the battery cover
③ Connect the battery cable	④ Reinstall the battery cover

INSTALLATION AND OPERATION:

Following steps explain how to connect and operate the Powerware 5110 UPS.
1. Connect the UPS to a grounded power outlet.
Note: It is recommended that the battery should be charged for minimum 8 hours to ensure full charge before placing the UPS in service.
2. Plug your computer, monitor or load to be protected into the "Battery Backup & Surge Protection" outlets. (These outlets will provide emergency battery backup power during power outages as well as protection from surges and spikes.)
CAUTION: Do NOT plug **LASER PRINTERS** into the "Battery Backup" outlets.
CAUTION: Do NOT plug **ACCESSORY SURGE** strips into the "Battery Backup" outlets.
3. Plug your peripheral equipment or non-critical loads (printer, scanner, fax, speaker, etc.) into the "Surge Protection" outlets. (These outlets provide surge and spike protection only, they will NOT provide battery backup power during a utility power failure).
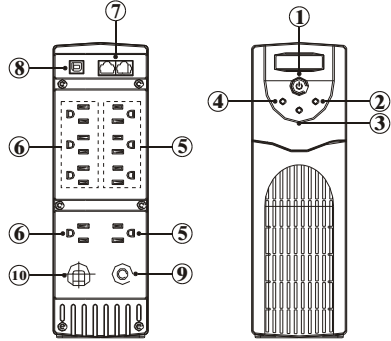4. Connect your computer to the UPS using USB cable provided.
5. With your equipment turned off, switch on the UPS.
6. When the "On/Off" LED light is illuminated, turn on the connected equipment.
7. Install Power management software provided with the UPS

INDICATORS

1.On/Off Push Button
Push button switch that controls power to the UPS and initiates the self-test function.
Depress the push button to turn on the UPS.
Depress the push button again to turn off the UPS.
The UPS will perform a self-test for about 5 seconds when the UPS is turned on.
2.AC mode (Green) LED
Indicates that AC utility power is present and regulated power (AVR) is applied to the connected equipment.
3.Fault / Warning (Red) LED
Indicates that a fault condition has occurred.
  -Flashing Red LED indicates an overload condition or that the battery should be replaced.
  -Solid On LED indicates that the output is shorted or an internal UPS fault exits.
See the Indicator Table below for further detail.
4.Backup mode (Yellow) LED
Indicates that the UPS is operating on battery and providing regulated AC power to the backup only outlets and the connected equipment.
5.Battery Backup & Surge Protection Outlets
Four 5-15R output receptacles that provide both backup and surge protection.
6.Surge Protection Outlets
Four 5-15R output receptacles that provide surge and spike protection only.
7.Data /Phone/Fax Protection Connectors
8.USB Communication Port
The built-in USB port connects to your computer. The LanSafe monitoring and shutdown software provided can automatically save your files and shut down your computer in the event of a prolonged power outage. The software also provides information regarding the status of your utility power line.
9.Circuit Breaker (resetable)
The button will protrude when the overload condition occurs. If the button protrudes, disconnect some non-essential equipment and reset the circuit breaker by pushing the button inward.
10.Power Cord
6 foot line cord

BATTERY REPLACEMENT PROCEDURE:

1.Disconnect the UPS from the power source and slide the battery door open. See pictures 1 and 2.
2.Disconnect the battery and remove as indicated below. See pictures 3 and 4
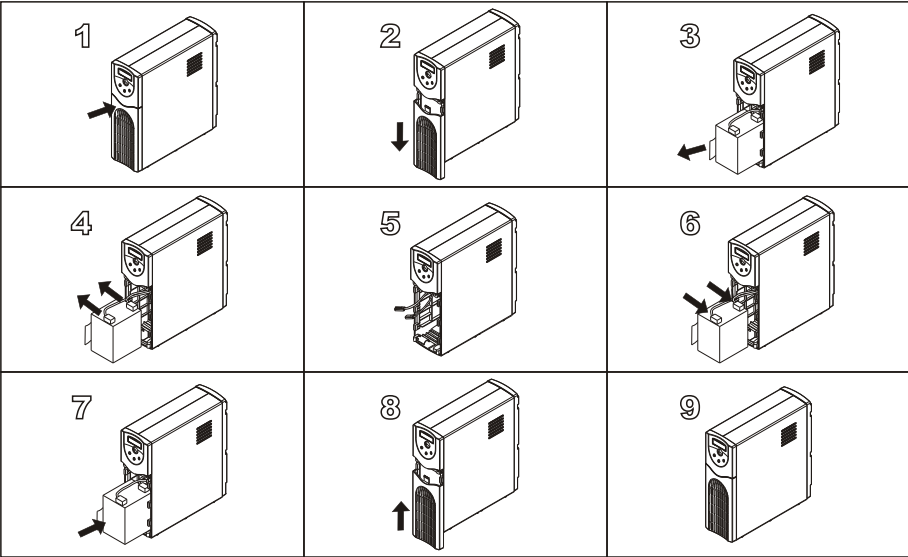3.Insert the replacement battery and reconnect the battery cables. See pictures 6 and 7
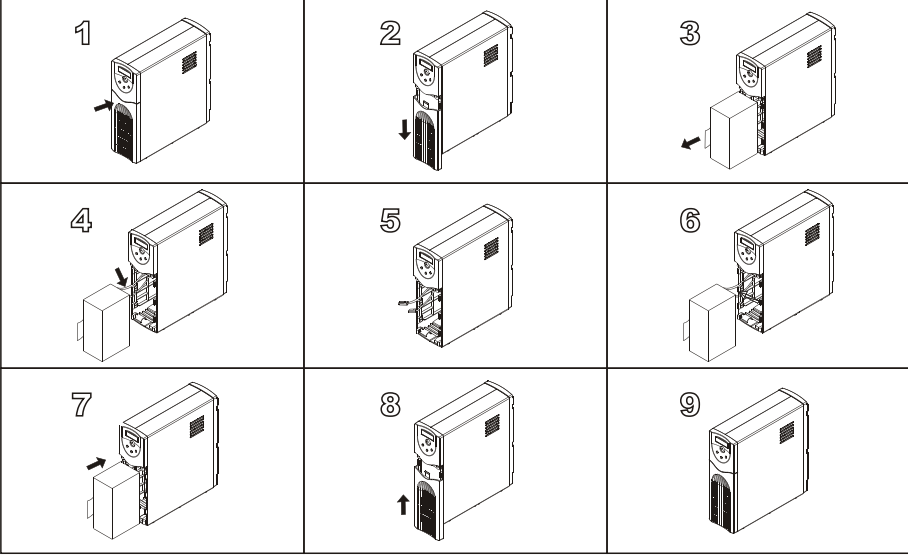**NOTE:** It is important that the connectors be firmly attached to new batteries.
4.Reposition the battery door and slide closed. See pictures 8 and 9.
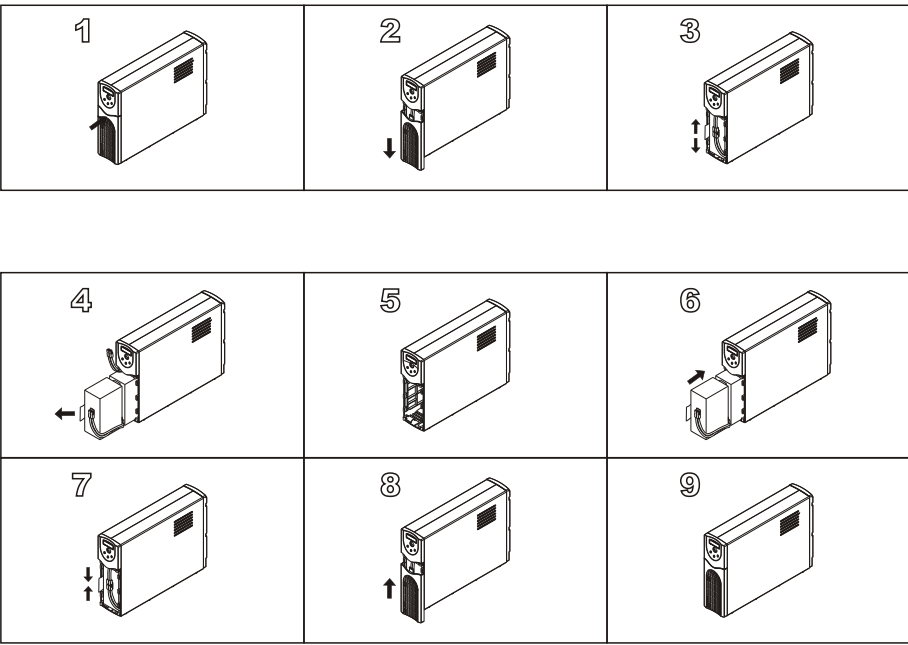**NOTE:** Properly recycle used battery.

4.5AH, 5AH batteries (350VA, 500VA models)

1 2 3
4 5 6
7 8 9

7AH x 1 battery (700VA models)

1 2 3
4 5 6
7 8 9

7AH x 2, 9AH x 2 batteries (1000VA, 1500VA models)

1 2 3
4 5 6
7 8 9

Status Indicators

The UPS provides both visual and audible status indicators. Visual indicators consist of three LEDs to represent the following conditions:

- On utility power operation
- On battery power operation
- UPS fault/alarm

LED Indicator Table

On Utility (AC mode)	Green Lighting
On Battery (Backup mode)	Yellow Lighting
Low Battery	Yellow Flashing
Fault/Output Short	Red Lighting
Overload/Check Battery	Red Flashing

LED Audible Alarm Table

Backup mode	Sounding every 5 seconds
Battery low	Sounding (two beeps) every 5 seconds
Overload	Sounding every 0.5 seconds
Replace battery	Sounding (three beeps) every 30 seconds
Fault or output short circuit	Continuous sounding
Battery over charge	Sounding (three beeps) every 5 seconds

SPECIFICATIONS

Model Numbers	Capacity
PW5110 350 USB	350 VA / 210W
PW5110 500 USB	500 VA / 300W
PW5110 700 USB	700 VA / 420W
PW5110 1000 USB	1000 VA / 600W
PW5110 1500 USB	1500 VA / 900W
Nominal Input Voltage	120Vac
Nominal Output Voltage	120Vac

Automatic Voltage Regulation (AVR)	±15%
Frequency	50 / 60 Hz auto sensing
Outlets	8 Outlets (4 Battery Backup & Surge Protection; 4 Surge Protection only)
Lighting / Surge Protection	320 Joules
Transfer time to Battery/AC	6ms typical
Battery Type	Maintenance free lead-acid battery
Battery Specification	350 VA: 12V 4.5 Ah 500 VA: 12V 5 Ah 750 VA: 12V 7 Ah 1000 VA: (2) 12V 7 Ah 1500 VA: (2) 12V 9 Ah
Typical Backup Time	3 MINUTES MINIMUM AT FULL RATED LOAD
LAN / Phone / Fax Protection	RJ11/RJ45
Short Circuit Protection	Circuit Breaker
Communication Port	USB
Operation Temperature	0˚C~40˚C
Operation Relative Humidity	0 to 95% non-condensing
Storage Temperature	-15˚C~50˚C
Net Weight	350 VA: 11.9 pounds / 5.4 kg 500 VA: 12.13 pounds / 5.5 kg 700 VA: 15.21 pounds / 6.9 kg 1000 VA: 28 pounds / 12.7kg 1500 VA: 29.1 pounds / 13.2 kg
Dimensions (HxWxD)	350 / 500 / 700 VA: 10.6 x 3.4 x 10 in. 1000 / 1500 VA: 10.6 x 3.4 x 15 in.

* Due to continuing product improvement programs, specifications are subject to change without notice.

TROUBLESHOOTING

Symptom	Possible Cause	Action to Take
UPS will not turn on	The UPS is not connected to the power source.	Ensure the UPS is securely connected to an AC outlet.
	Circuit Breaker has tripped.	Reduce the amount of equipment plugged into the "Battery Backup & Surge Protection" outlets of the UPS. Reset the circuit breaker by pushing it back in. Switch the UPS back on.
UPS is making a continuous sound and the "Overload" indicator is on	The "Battery Backup & Surge Protection" outlets are overload.	Turn off the UPS and reduce the amount of equipment connected to these outlets.
UPS does not provide expected runtime	The UPS battery is discharged due to a power outage and has not recharged.	Charge the battery for 8 hours. The UPS runtime is reduced until the battery is fully charged.
	Devices plugged into Back up & surge protection receptacles exceed the rated load for the UPS run time	Unplug non-essential equipment (printers, scanners, etc) from the Battery Backup outlets and plug into 'Surge Only' outlets
UPS does not power essential equipment during an outage	The UPS circuit breaker "tripped".	Disconnect non-essential equipment from the UPS. Reset (push in) the circuit breaker and switch the UPS on. Plug equipment in one-at-a-time. If the circuit breaker trips again, disconnect the device that caused the breaker to trip.
	The battery has reached the end of its life.	Replace the battery or the battery module.
	Equipment plugged into a Surge Only outlet.	Unplug device from 'Surge Only' outlet and move to a 'Battery Backup outlet.
Red LED Indicator ON	Internal UPS fault.	Contact Technical Support (see Service and Support below).

SERVICE AND SUPPORT

For questions and/or problems, please call your local distributor or the help desk at one of the following telephone numbers and ask for a UPS technical representative.

United States:	1.800.356.5737
Europe, Middle East, and Africa:	+44.17.53.608.700
Asia:	+852.2830.3030
Australia:	+61.3.9706.5022

Please have the following information ready when you call the Help Desk:

- Model number
- Serial number
- Version number (if available)
- Date of failure or problem
- Symptoms of failure or problem
- Customer return address and contact information

If repair is required, you will be given a Returned Material Authorization (RMA) Number. This number must appear on the outside of the package and on the Bill of Lading (if applicable). Use the original packaging or request packaging from the Help Desk or distributor. Units damaged in shipment as a result of improper packaging are not covered under warranty.

A replacement unit will be shipped, freight prepaid for all units under warranty. For additional information please visit us online at: **www.powerware.com**

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