



Security II Series Uninterruptible Power Manager

For use with 420VA, 600VA, 800VA, 1100VA and 1440VA

RoHS Compliant Uninterruptible Power Manager



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IMPORTANT NOTICE ON BATTERY WARRANTY

The warranty policy stated in Section 8 is not valid for applications in which the UPM is regularly and intentionally disconnected from AC mains power. AMETEK-Powervar's two year battery warranty applies only to products that are properly installed and consistently connected to AC mains power, except during utility outages.

Products regularly and intentionally disconnected from AC mains power will experience substantially reduced battery life. AMETEK-Powervar's standard warranty term does not apply in these cases and is supplanted by a 90-day warranty from time of shipment from AMETEK-Powervar. The warranty provided by AMETEK-Powervar provides for the replacement of the battery or battery systems in the event that the batteries do not meet performance specifications as determined by AMETEK-Powervar exclusively.



DANGER

Danger- The danger symbol is used to indicate imminently hazardous situations, locations, and conditions which, if not avoided, **WILL** result in death, serious injury, and/or severe property damage.



CAUTION

Caution- The caution symbol is used to indicate potentially hazardous situations and conditions which, if not avoided, may result in injury. Equipment damage may also occur.



WARNING

Warning- The warning symbol is used to indicate potentially hazardous situations and conditions which, if not avoided, **COULD** result in serious injury or death. Severe property damage **COULD** also occur.



ATTENTION

Attention- The attention warning symbol is used to indicate situations and conditions that can cause operator injury and/or equipment damage.

Other warning symbols may appear along with the Danger and Caution symbol and are used to specify special hazards. These warnings describe particular areas where special care and/or procedures are required in order to prevent serious injury and possible death



Electrical warnings- The electrical warning symbol is a lightning bolt mark enclosed in a triangle. The electrical warning symbol is used to indicate high voltage locations and conditions may cause serious injury or death.



Explosion warnings- The explosion warning symbol is an explosion mark enclosed in a triangle. The explosion warning symbol is used to indicate locations and conditions where molten, exploding parts may cause serious injury or death if the proper precautions are not observed.



Alternating Current



Refer to instruction manual/booklet.

1.0 INTRODUCTION

Thank you for your purchase of the AMETEK-Powervar Security II Series UPM (hereafter referred to as “UPM”). AMETEK-Powervar manufactures two versions of the UPM – a standard version, a medical version listed to UL60601-1 and cUL C22.2 No. 60601.1. In addition, all models are compatible with International electrical distribution systems. International versions are UL listed (Medical listed to IEC60601-1 and EN60601) and carry the CE Mark. We’ve prepared this document to help familiarize you with the functions and controls of this product. If, after reviewing this manual, you have any questions at all, please feel free to contact our technical support team by phone (1-800-369-7179) or email us at servicerma@powervar.com

AMETEK-Powervar is a global provider of power management solutions, headquartered in Waukagan, Illinois, with international sales and distribution offices in Swindon, United Kingdom, Toronto Canada, Mexico City, Mexico and Germany. All AMETEK-Powervar solutions incorporate a high energy surge diverter, a noise filter and a low impedance isolation transformer. Together these components prevent power disturbances from destroying, degrading or disrupting system operations.

Registering your AMETEK-Powervar Product

Please take a few moments to register your product purchase.

Registration is easy and quick via the product registration page found on our website at www.powervar.com.

2.0 SAFETY INSTRUCTIONS

IMPORTANT - SAVE THESE INSTRUCTIONS

**THIS MANUAL CONTAINS IMPORTANT SAFETY INSTRUCTIONS.
KEEP THIS MANUAL HANDY FOR REFERENCE.**



A battery can present a risk of electrical shock. Short-circuit currents can be extremely high and can create severe burns as well as the risk of fire or explosion from vented gases. Always observe proper precautions.

When replacing batteries, use the same quantity, rating and type of batteries used by AMETEK-Powervar. The batteries used in this UPM are sealed lead-acid and are maintenance free. Proper disposal of batteries is required. Refer to your local codes for disposal of batteries.

<i>UPM Rating</i>	<i>Quantity and Battery Rating</i>
420 VA	2 X 21W @ 12 VOLT
600 VA	2 X 34W @ 12 VOLT
800 VA	2 X 34W @ 12 VOLT
1100 VA	4 X 34W @ 12 VOLT
1440 VA	4 X 34W @ 12 VOLT



- This UPM contains voltages which are potentially hazardous. All repairs should be performed by qualified service personnel.
- To reduce the risk of fire, connect only to a circuit provided with 20 amperes maximum branch circuit over-current protection in accordance with the National Electric Code, ANSI/NFPA 70.
- The UPM has its own internal energy source (battery). The output receptacles of the UPM may be live even when the UPM is not connected to an AC Supply.

Statement of Intended use

The medical UPMs are intended to protect medical, non-medical computer equipment and medical devices that need battery backup, surge protection, voltage regulation and line noise filtering in and around patient care areas. Safe and continuous operation of the UPM depends partially on the care taken by users. Please observe the following precautions. Not following these could result in warranty being voided.

NOTE:

- The UPM is intended for stationary use.
- UPM is not intended for patient contact or for installation that will cause accidental contact of patients.
- Do not use this UPM for life support applications in which a malfunction or failure of the UPM system could cause failure or significantly alter the performance of a life-support device.
- Do not use this UPM near or around flammable gases. Do not use this UPM within oxygen-enriched atmospheres.
- Do not disassemble the UPM.
- UPM is CLASS 1 equipment.
- Do not attempt to power the UPM from any receptacle except a properly grounded receptacle that matches the input plug provided with the UPM.
- Do not place the UPM near water or in environments of excessive humidity.
- Do not allow liquid or any foreign object to get inside the UPM.
- Do not block air vents on the side of the UPM. Keep a minimum of 3 inches on all sides.
- Do not plug appliances such as hair dryers, fans, heaters, etc. into the UPM.
- Do not place the UPM under direct sunshine or close to heat emitting sources (excessively warm temperatures will shorten battery life).
- This UPM is intended for installation in a temperature controlled, indoor area free of conductive contaminants.

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- The AC power source for the UPM should be conveniently near the UPM and easily accessible – avoid extension cords or temporary power strips to power the UPM.
 - The total leakage current of the UPM and consumer connected equipment should not exceed 3.5 mA for non-medical units.
 - Not for use in a computer room as defined in the Standard for the Protection of Electronic Computer/Data Processing Equipment, ANSI/NFPA 75.
 - The socket-outlet shall be installed near the equipment and shall be easily accessible.
 - The battery should be disconnected from the UPM by unplugging at its quick connectors when maintenance or service work inside the UPM is necessary.
 - Do not dispose of batteries in a fire – batteries may explode.
 - Do not open or mutilate batteries. Doing so may release electrolyte or other toxic substances, which may be harmful to the skin, eyes, or the environment.

A battery can present a risk of electric shock and high short circuit current. The following precautions should be observed when working with batteries:

- Remove watches, rings, or any other metal jewelry or objects which may make contact with the battery.
- Use tools with insulated handles.

FCC Issues



This UPM has been tested and found to comply with the limits for a Class A digital devices (Class B compliance optional), pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in both residential and commercial environments.

This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio and/or television reception, which can be determined by turning the UPM equipment on and off, the user is encouraged to try to correct the interference by one or more of the following measures:

- Relocate the UPM

- Relocate the load.

This device complies to Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference and (2) this device must accept interference received, including interference that may cause undesired operation.

3.0 INSTALLATION

Inspecting the UPM

If any equipment has been damaged during shipment, keep the shipping cartons and packing materials for the carrier or place of purchase and file a claim for shipping damage:

1. File with the carrier within 15 days of receipt of the equipment;
2. Send a copy of the damage claim within 15 days to your service representative.

NOTE:

Check the battery recharge date on the shipping carton label. If the date has passed and the batteries were never recharged, do not use the UPM. Contact your service representative.

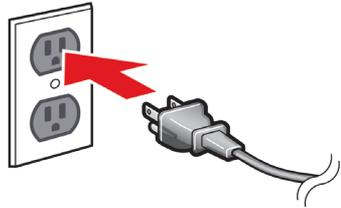
Quick Start Guide

**This unit is shipped with the internal batteries disconnected.
Before starting the UPM, please follow these battery connection instructions.**

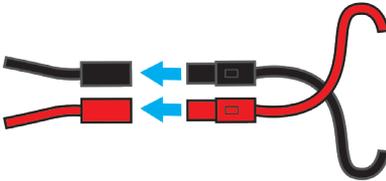
1. Remove UPM from the box



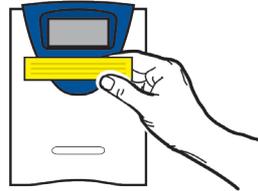
2. Plug UPM into the wall



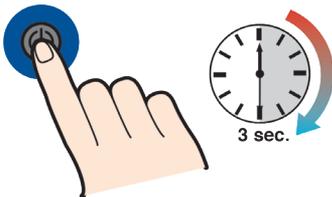
3. Remove UPM front cover and connect battery connector



4. Put front cover back on and remove the yellow warning label



5. Turn UPM on by pressing ON button for **3 seconds**



IMPORTANT:

Wait 15 seconds after inserting the battery plug(s) before pressing the ON switch on the UPM front panel.

If you ship the UPM to another location at a later date, disconnect the battery plug(s) first to ensure that safety is maintained during shipment.

Unpacking the UPM

 **CAUTION**

- Unpacking the unit in a low-temperature environment may cause condensation to occur in and on the unit. Do not install the unit until the inside and outside of the unit are absolutely dry {hazard of electric shock}.
- The unit is heavy. Use caution when unpacking and moving the unit.

Use care when moving and opening the carton. Leave the components packaged until ready to install.

To unpack the unit and accessories:

1. Open the outer carton and remove the accessories packaged with the unit.
2. Carefully lift the unit out of the outer carton.
3. Store the carton for future use.

Place the unit in a protected area that has adequate airflow and is free of humidity, flammable gas and corrosion.

NOTE:

Before installation, please read and understand the following instructions. Carefully examine the carton for damage. Notify the carrier immediately if damage is observed. Be sure to save the carton should you ever need to ship the UPM for repair or maintenance.



This UPM is intended for indoor use only. Although your UPM is very rugged, its internal components are not sealed from the environment. The UPM must be installed in a protected environment away from heat producing appliances such as furnaces, radiators, and heaters. Protect the UPM from exposure to dripping or standing water and high humidity or condensing air conditions.

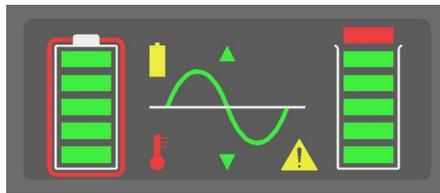
The location should provide adequate airflow around the UPM. Provide a minimum 3” clearance on all sides for proper ventilation.

Applying Power to the UPM

Connect the power cord to a verified grounded 3 wire receptacle. Verify that the Site Wiring Fault “SF” is off (120 VAC models only). Once properly connected and initially checked, turn on the UPM by pressing and holding the front panel On/Off switch for 3 seconds.

Operational Tests

Observe the front panel of the UPM. The following table shows system status behavior.



UPM Front Panel

UPM LED DISPLAY	UNIT STATUS
	UPM output on
	Battery charge status in 20% increments
	UPM load status in 20% increments
	UPM in battery operation due to improper incoming AC voltage
	UPM overloaded
	Battery fault or battery disconnected
	Unit in buck operation do to high incoming AC voltage
	Unit in boost operation due to low incoming AC voltage
	Fault
	UPM over temperature.

UPM Load and Battery Indicators



UPM display showing normal operation
(Fully charged batteries with 60% load shown)



UPM display showing in battery backup operation
(Batteries 80% charged with 60% load shown)



UPM display showing an overload condition (Batteries
100% charged and greater than 100% load shown).



UPM display showing over-temperature condition
(Batteries 80% charged with 80% load shown)



UPM display showing a bad battery condition
(Inspect or replace battery unit loaded to 60%)

NOTE:

Depending on the charge state of the battery, it is possible that the battery charge level LEDs may be flashing (this is normal).



Initial Startup

With the connected equipment powered off, perform an initial test of the UPM backup function by pressing the Test/Silence button on the front panel. During this test, the Battery LED () on the front panel should briefly illuminate. It is also possible to test the backup function by unplugging the UPM input power cord. If you choose to test the UPM in this manner, you will note that the UPM will beep every few seconds while the power cord is unplugged. The Battery LED () will also illuminate constantly.

Once you have performed an initial test of the UPM backup function, turn on the connected computer equipment. Verify that the unit is not overloaded. If the unit is overloaded all load LED's will be on the fault LED () will flash, remove the least critical devices from the UPM one

by one until the overload LED is extinguished. With the connected loads powered up, perform the backup test once again by pressing the Test/Silence button or unplugging the UPM. When this final test is completed, the UPM will be ready to use.

Reference the below UPM fault code chart to identify the status of the UPM.

UPM Status Code	Definition
IF	Inverter fault
BE	Back-Feed fault
HL	Unit is off due to a high line
LL	Unit is off due to a low line
DB	Unit is off due to a low battery
FF	Fan fault
SF	Site wiring fault

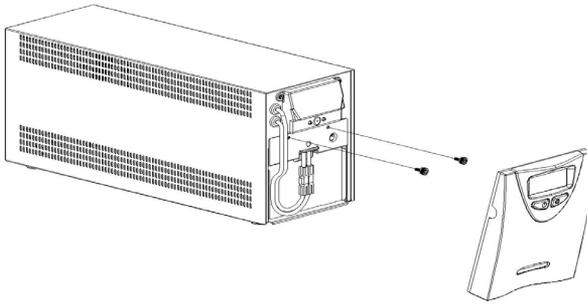
NOTE:

- If the UPM is on continuously, it will perform an auto battery test every six days.
- If you are utilizing MopUPS Pro software, you can configure the system to automatically self-test periodically.
- The UPM is shipped with a charged battery, but some discharge naturally occurs during storage and shipment. You may use the UPM immediately, but you should realize that backup time may be less than the stated rating until the UPM battery has had at least six hours to charge.
- AMETEK-Powervar recommends that you do not plug laser printers into the UPM. Laser printers are known to draw large amounts of current when the fuser/heater assembly is energized. Laser printers can easily overload the UPM or create a low voltage condition that can interfere with the operation of the Voltage Manager circuit.

4.0 OPERATION

NOTE:

In order to operate the UPM, you must first plug the battery enable plug(s) into the battery enable socket(s) behind the front panel of the UPM.



On/Off Button

The On/Off button is a dual function control:

- When the UPM is off and AC power is present to the UPM input, pressing the On/Off button for more than 2 seconds will turn the UPM output on.
- If battery is connected, pressing the On/Off switch for 2 seconds or more will “cold-start” the UPM on its internal battery with no incoming AC present.
- When the UPM is on, pressing the On/Off button for more than 2 seconds will turn off the UPM output power.

Test/Silence Button

The Test/Silence button is a dual function control:

- Pressing the Test/Silence button when AC power is present and the UPM is operating causes the UPM to enter a self test mode in which it tests both battery and inverter for a few seconds before returning to the AC supply. We recommend you close all open files before initiating self-test.

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- When AC power fails, the UPM warns you with an audible alarm. The Test/Silence button is used to silence the alarm. When battery power begins to run low, the audible alarm will automatically return and beep at a faster rate.

Load Monitor

The Load Monitor is a six-segment LED display that shows the current load percentage. The first 5 LED's each indicate approximately 20% load, with the 6th red LED showing the UPM is overloaded.

Battery Charge Monitor

The Battery Charge Monitor is a five-segment LED display that shows the charge capacity of the internal battery from zero to 100%. Each LED indicates approximately 20% of full charge.

Site Wiring Fault Indicator – (120 VAC models only)

The SF symbol will be displayed on the front panel of the UPM if it is connected to an improperly wired AC receptacle. This is to indicate a missing safety ground wire or a reversal in phase and neutral wiring. If the "SF" is displayed on the front panel you should contact a qualified electrician immediately.

NOTE:

Do not operate the UPM if the Site Wiring Fault LED is illuminated. When lit, the LED is indicating a wiring condition, which may represent a hazard of fire or electrocution. In addition, improper wiring may create reliability problems for both the UPM and the connected system. Never use a 3-blade to 2-blade adapter (often called a "cheater") to power UPM. These devices remove the safety ground connection to the UPM and will cause the Site Wiring Fault LED to illuminate.

MopUPS Pro

The AMETEK-Powervar smart communications give you several options for:

- Protecting data on a computer powered UPM when battery runs low
- Monitoring UPM to allow analysis of site power history and UPM health.

A *DB9* port provides a standard basic-signal interface that works with legacy and open source UPS monitoring software to trigger automated computer shutdown on low battery conditions.

The smart *USB* port links your UPM Series directly in to Windows, Linux or MAC OS as an HID device -- without need for additional USB device drivers. Use native OS Power Management utilities for automatic safe shutdown on low battery.

If you want added functionality including; data and event logging, auto-run command files before shutdown, access to UPM configuration and integrated network agent for central monitoring via AMETEK-Powervar **ManageUPS® CIO Server software**, download and use AMETEK-Powervar software **MopUPS® Pro (for Window and Linux)**

Communication Manager Port

Communication Manager provides a connection point on the rear panel of the UPM (both DB9 and USB ports). Connecting to this port and installing MopUPS Pro software package (optional) will allow you control over important UPM functions and access to operating information from the UPM. Using software, you can view such parameters as AC input and output voltage, power line frequency and battery voltage.

To support these functions without the MopUPS Pro software suite, you will need to either buy or build your own special cable. The following table describes the pin assignment of the DB9 connector on the rear of the UPM. Contact your computer supplier to determine the connection

configuration and connector style necessary to attach the cable to the computer.

<i>DB-9 Definition for UPM</i>	
<i>Pin</i>	<i>Description</i>
1	Low Batt - RS232 Level
2	RS232 RX
3	RS232 TX
4	Inverter Shutdown during AC Fail
5	Ground
6	AC Fail - RS232 Level
7	AC Fail - Simulated NO Contact (programmable)
8	Low Batt - Simulated NO Contact (programmable)
9	Simulated Contact Ground

NOTE:

Pin 5 should only be connected to ground.

NOTE:

You may, of course, connect your computer to the UPM without using software. When power is lost, the UPM will beep and you will have to manually shut down the computer and UPM.

Start Manager

When AC power is not available, such as in a new installation where wiring may be incomplete, you can still start the UPM to test its operation and the operation of your system using Start Manager. With the UPM off, follow these simple steps:

1. Disconnect the input AC power cable from the AC mains.
2. Ensure that the batteries are connected behind the front panel.
3. Press and hold the On/Off switch on the front panel until the UPM beeps.
4. The UPM is now running on battery. When you have finished, press the On/Off switch again. Plug the input AC power cable into the rear panel of the UPM.

5.0 MAINTENANCE

Storage

The UPM may be stored for extended periods in an environment that does not subject the UPM to extremes of temperature or humidity. When storing for extended periods, the battery should be charged every six months. If the storage location is characterized by above normal temperature, the battery should be recharged every two months. The UPM does not need to be turned on for charging to occur – it only needs to be plugged in with batteries connected.

NOTE: This product is not designed for continuous use on batteries.



Attention

Important Information

The batteries inside this UPM are a special type called “sealed lead-acid”. These batteries use a non-liquid electrolyte, which makes it possible to use them in any physical orientation. The batteries are designed to last from two to five years. Their actual life span will depend on several factors including how often power outages occur, how long power outages last, and the temperature of the environment in which the UPM operates. Frequent, long duration power outages will shorten battery life more than infrequent, short duration outages. Consistent high temperatures in the area where the UPM is used will also shorten battery life.

The UPM is equipped with a Low/Replace Battery LED () on the front panel. If the LED illuminates, you should make sure that the battery has at least six hours to charge without a power interruption. Inadequate (much shorter than usual) backup time, premature low battery alarm sounds, and persistent Low/Replace Battery LED illumination are all

good signs that the batteries inside your UPM requires replacement. The batteries inside your UPM are designed to be replaced by an authorized service personnel only. Please familiarize yourself with the following precautions before proceeding with battery replacement.

 **WARNING**

Servicing of batteries should always be performed or supervised by someone who has read and understood the following precautions and who understands the hazards associated with storage batteries. This procedure should not be performed by someone who is unauthorized or who is incapable of following these precautions.

 **CAUTION**

- Only the battery assembly in this unit is user serviceable (non-medical units only). The battery compartment is accessed by removing the front panel as described in the following instructions. No other user serviceable parts are contained in this UPM. Do not remove any cover other than the front battery access panels.
- A battery (even a depleted one) can deliver very high currents when short-circuited. There is a danger of electrical shock. Remove all watches, rings, bracelets or other metal objects. Use only tools with insulated handles.
- Do not dispose of batteries in a fire. There is a danger of explosion.
- Do not dispose of batteries in an environmentally unfriendly manner. Batteries may be returned to AMETEK-Powervar for proper disposal.
- Do not open or mutilate the batteries. This may release electrolyte that is toxic to the environment and harmful to the skin and eyes.
- Replacement batteries may be ordered from AMETEK-Powervar by phone or via our website at www.powervar.com. If purchasing batteries from another source, be sure to use the type and quantity of batteries.
- Medical units have no user serviceable parts inside.

User Replaceable Battery (Non-medical units only)

Eventually every UPM requires a new battery. AMETEK-Powervar expects the battery in your UPM to last a minimum of two years – perhaps longer if power outages are short and infrequent. The UPM makes battery replacement by the user fast and easy. It is not necessary to turn off the UPM or the connected system. The UPM allows the battery to be “hot-swapped” while the system is running.

NOTE:

Changing the batteries in this UPM is designed to be a safe and simple procedure. Batteries may be replaced while the UPM is on and providing power to the connected load. You should remember, however, that if a power outage occurs after the old batteries are disconnected and before the new batteries are installed, power will be lost to your connected system and components.



RISK OF EXPLOSION IF BATTERY IS REPLACED BY INCORRECT TYPE.

When replacing batteries, contact Powervar for correct battery replacement kits. Reference replacement kit part numbers below.

<i>VA Rating</i>	<i>Replacement Battery Kit Part No.</i>
420	50842-01
600/800	50880-01
1100/1440	50814-01

 **CAUTION**

Risk of Energy Hazard, 12V, maximum 8.5 Ampere-hour batteries. Before replacing batteries, remove conductive jewelry such as chains, wrist watches, and rings. High energy through conductive materials could cause severe burns.

 **CAUTION**

Do not dispose of batteries in a fire. The batteries may explode.

 **CAUTION**

Do not open or mutilate batteries. Released material is harmful to the skin and eyes. It may be toxic. A battery can present a risk of electrical shock and high short circuit current. The following precautions should be observed when working with batteries:

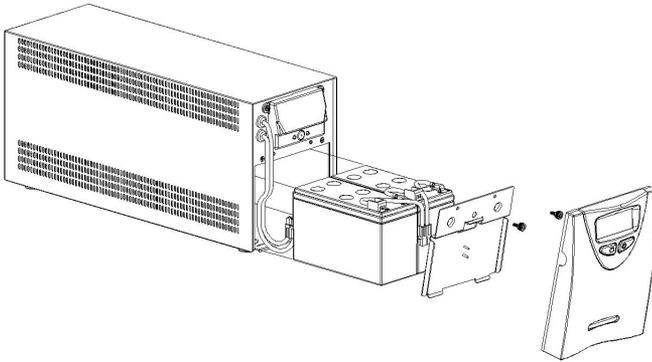
- Remove watches, rings or other metal objects.
- Use tools with insulated handles.
- Wear rubber gloves and boots.
- Do not lay tools or metal parts on top of batteries.
- Disconnect the charging source prior to connecting or disconnecting battery terminals.
- Determine if battery is inadvertently grounded. If inadvertently grounded remove source from ground. Contact with any part of grounded battery can result in electrical shock.

NOTE:

If you have read and understood the cautions preceding this section, you may proceed with the following steps. Consult the figure on page 16 to assist you in the following battery replacement procedure.

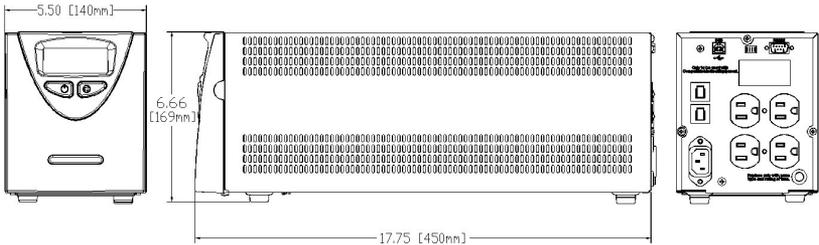
Battery Replacement (Non-medical units only)

1. Carefully pull the front panel away from the unit. The panel should pop loose.
2. Disconnect the red and black connector from each other.
3. Loosen the (2) thumb screws that attach the battery door to the unit.
4. Remove the battery door. Carefully slide the old batteries out and put aside.
5. Replace with a battery (ensure same battery size and type are used).
6. Reinstall the battery door and tighten the thumb screws.
7. Re-connect the red and black connectors with each other.
8. Carefully reinsert the front panel back on to the UPM (ensure none of the battery wires are pinched).



6.0 SPECIFICATIONS

North American Models ABCE422-11 and ABCE422-11MED



	ABCE422-11	ABCE422-11MED
Type	Standard	Medical Grade
Power Rating (VA/Watts)	420 / 378	420 / 378
Inverter Waveform	Low Distortion Sine Wave	Low Distortion Sine Wave
Transfer Time	4 ms. Typical	4 ms. Typical
Frequency	60 Hz.	60 Hz.
BTU/Hr.	140	140
T.H.D. w/100% Resistive Load	<4% On Battery	<4% On Battery
Online Efficiency (w/o Charger)	90%	90%
Input Voltage	120	120
Input Current	4.50 Amps	4.50 Amps
Output Voltage	120	120
Output Current (VA/Watts)	3.50 / 3.15 Amps	3.50 / 3.15 Amps
Input Voltage Range (w/o Using Battery)	96 to 144 Volts	96 to 144 Volts
Output Regulation (On Mains)	± 10%	± 10%
Output Regulation (On Battery)	± 5%	± 5%
Backup Time at Full Load (0.7 P.F.)	5 Minutes	5 Minutes
Floor Mountable	Yes (Optional)	Yes (Optional)
Communications Interface	DB9, USB	DB9, USB
Shipping Weight (lbs.)	37	37

North American Models ABCE422-11 and ABCE422-11MED

<p>Front Panel Controls</p> <ul style="list-style-type: none"> • Power On/Off • Test • Load Level LED Gauge • Battery Charge LED Gauge • Voltage Manager Boost LED • Voltage Output On LED • Voltage Manager Buck LED • On Battery LED • Replace Battery LED • Overload LED • Fault Code LED • System Over Temperature LED <p>Rear Panel Information and Controls</p> <ul style="list-style-type: none"> • Six (6) Foot Power Cord with NEMA 5-15P Plug • Four (4) NEMA 5-15R Receptacles • Configuration Manager DIP Switches • Communications Manager DB9 Port, USB Port • Circuit Breaker • AC Inlet Module <p>Internal Batteries</p> <ul style="list-style-type: none"> • User Hot-Swappable (See Instruction Manual) • Type: 12 Volt, High Rate 21W • Quantity: 2 Batteries • Recharge Time: 6 Hours to 80%, 24 Hours to Full Charge <p>Environmental</p> <ul style="list-style-type: none"> • Temperature: 0 to 40°C (32 to 104°F) Operating -20 to 60°C (-40 to 140°F) Shipment/Storage • Humidity: 5 to 90% Non-Condensing (Operating, Shipment/Storage) • Altitude: 3,000m (10,000 ft) max. Operating; 12,000m (40,000 ft) max. Shipment/Storage 	<p>Safety Agency and EMC Compliance: All Units are Listed by UL and Marked With the UL/cUL Marking</p> <p>Standard UPM: Products Listed to:</p> <ul style="list-style-type: none"> • UL1778 5th Edition • CSA 22.2 Nos. 107.3-14 <p>Products in Compliance with:</p> <ul style="list-style-type: none"> • FCC-Part 15, Subpart B, Sections 15.107b & 15.109b Class A Digital Device* • CISPR11:2009, A1; 2010, Class A* • IEC61000-4-2, Electrostatic Discharge • IEC61000-4-3, Radiated Electromagnetic Field Immunity • IEC61000-4-4, Electrical Fast Transient/Burst Immunity • IEC61000-4-5, Surge Immunity • IEC61000-4-6, Immunity to Conducted Radio Frequency Disturbances • IEC61000-4-8, Power Frequency Magnetic Field Immunity • IEC61000-4-11, Voltage Dips, Short Interruptions and Voltage Variations <p>Medical UPM: Products Listed to:</p> <ul style="list-style-type: none"> • UL60601-1 2nd and 3rd Edition • UL1778 5th Edition • CSA 22.2 No. 601.1-M89 • CSA 22.2 No. 107-1-M91 • CSA 22.2 Nos. 0-M1982 • CSA 22.2 Nos. 0.4-M1982 <p>Products in Compliance with:</p> <ul style="list-style-type: none"> • FCC-Part 15, Subpart B, Sections 15.107b & 15.109b Class A Digital Device* • CISPR11:2009, A1; 2010, Class A* • EN60601-1-2 : 2007 <p><i>*Note: Class B is Available as an Option Please Consult Your Powervar Sales Representative</i></p> <p>RoHS Compliance: All Products (Standard and Medical) are RoHS Compliant</p>
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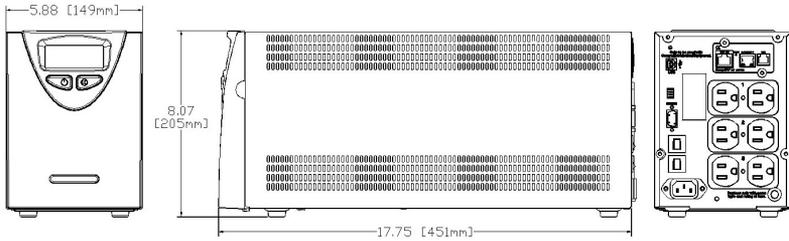
NOISE REJECTION-ISOLATION: With unit under power and an ANSI/IEEE C62.41Cat. A pulse applied either normal or common mode at the input, the noise output voltage will be less than 10V normal mode and less than 0.5V common mode in all four quadrants (CM-NM, NM-NM, CM-CM, NM-COM).

SURGE VOLTAGE WITHSTAND CAPABILITY: Tested under power to ANSI/IEEE C62.41 Cat. A & B (formerly IEEE587-1980). CAT. A - 6000V @ 200 amps, 0.5 usec risetime, 100 kHz decay, Cat. B - 6000V @ 500 amps, 0.5 usec risetime, 100 kHz decay.

Warranty/Support: POWERVAR warrants the electronics and transformers used in its uninterruptible power managers to be free from defects in materials and workmanship for a period of five years from the date of shipment. Batteries are warranted for a period of two years from the date of shipment. For service or support on any POWERVAR product, please contact POWERVAR Technical Support at (800) 369-7179 or visit the POWERVAR website at www.powervar.com.

Battery Life Disclaimer: POWERVAR's standard battery warranty applies only to UPS and UPM products which are continuously connected to AC mains power, except during utility power outages. Products which are regularly and intentionally disconnected from AC mains power will experience battery discharge/charge cycles potentially far more numerous than those for which the battery was designed. As a result, products used in such applications will experience substantially reduced battery life. For that reason, POWERVAR's standard battery warranty does not apply for applications in which the UPS or UPM product is regularly and intentionally disconnected from AC mains power. POWERVAR UPS and UPM products used in such applications shall receive a 90 day warranty on batteries.

North American Models ABCE602-11 and ABCE602-11MED



	ABCE602-11	ABCE602-11MED
Type	Standard	Medical Grade
Power Rating (VA/Watts)	600 / 540	600 / 540
Inverter Waveform	Low Distortion Sine Wave	Low Distortion Sine Wave
Transfer Time	4 ms. Typical	4 ms. Typical
Frequency	60 Hz.	60 Hz.
BTU/Hr.	189	189
T.H.D. w/100% Resistive Load	<4% on Battery	<4% on Battery
Online Efficiency (w/o Charger)	91%	91%
Input Voltage	120	120
Input Current	7.16 Amps	7.16 Amps
Output Voltage	120	120
Output Current (VA/Watts)	5.00 / 4.50 Amps	5.00 / 4.50 Amps
Input Voltage Range (w/o Using Battery)	96 to 144 Volts	96 to 144 Volts
Output Regulation (On Mains)	± 10%	± 10%
Output Regulation (On Battery)	± 5%	± 5%
Backup Time at Full Load (0.7 P.F.)	5 Minutes	5 Minutes
Floor Mountable	Yes (Optional)	Yes (Optional)
Communications Interface	DB9, USB (SNMP Optional)	DB9, USB (SNMP Optional)
Shipping Weight (lbs.)	45	45

North American Models ABCE602-11 and ABCE602-11MED

<p>Front Panel Controls</p> <ul style="list-style-type: none"> • Power On/Off • Test • Load Level LED Gauge • Battery Charge LED Gauge • Voltage Manager Boost LED • Voltage Output On LED • Voltage Manager Buck LED • On Battery LED • Replace Battery LED • Overload LED • Fault Code LED • System Over Temperature LED <p>Rear Panel Information and Controls</p> <ul style="list-style-type: none"> • Six (6) Foot Power Cord with NEMA 5-15P Plug • Six (6) NEMA 5-15R Receptacles • Configuration Manager DIP Switches • Communications Manager DB9 Port, USB Port • Circuit Breaker • AC Inlet Module • SNMP Slot (Contact Factory) <p>Internal Batteries</p> <ul style="list-style-type: none"> • User Hot-Swappable (See Instruction Manual) • Type: 12 Volt, High Rate 34W • Quantity: 2 Batteries • Recharge Time: 6 Hours to 80%, 24 Hours to Full Charge <p>Environmental</p> <ul style="list-style-type: none"> • Temperature: 0 to 40°C (32 to 104°F) Operating -20 to 60°C (-40 to 140°F) Shipment/Storage • Humidity: 5 to 90% Non-Condensing (Operating, Shipment/Storage) • Altitude: 3,000m (10,000 ft) max. Operating; 12,000m (40,000 ft) max. Shipment/Storage 	<p>Safety Agency and EMC Compliance: All Units are Listed by UL and Marked with the UL/cUL Marking</p> <p>Standard UPM: Products Listed to:</p> <ul style="list-style-type: none"> • UL1778 5th Edition • CSA 22.2 Nos. 107.3-14 <p>Products in Compliance with:</p> <ul style="list-style-type: none"> • FCC-Part 15, Subpart B, Sections 15.107b & 15.109b Class A Digital Device* • CISPR11:2009, A1; 2010, Class A* • IEC61000-4-2, Electrostatic Discharge • IEC61000-4-3, Radiated Electromagnetic Field Immunity • IEC61000-4-4, Electrical Fast Transient/Burst Immunity • IEC61000-4-5, Surge Immunity • IEC61000-4-6, Immunity to Conducted Radio Frequency Disturbances • IEC61000-4-8, Power Frequency Magnetic Field Immunity • IEC61000-4-11, Voltage Dips, Short Interruptions and Voltage Variations <p>Medical UPM: Products Listed to:</p> <ul style="list-style-type: none"> • UL60601-1 2nd and 3rd Edition • UL1778 5th Edition • CSA 22.2 No. 601.1-M89 • CSA 22.2 No. 107.1-M91 • CSA 22.2 Nos. 0-M1982 • CSA 22.2 Nos. 0.4-M1982 <p>Products in Compliance with:</p> <ul style="list-style-type: none"> • FCC-Part 15, Subpart B, Sections 15.107b & 15.109b Class A Digital Device* • CISPR11:2009, A1; 2010, Class A* • EN60601-1-2 : 2007 <p><i>*Note: Class B is Available as an Option Please Consult Your Powervar Sales Representative</i></p> <p>RoHS Compliance: All products (Standard and Medical) are RoHS Compliant</p>
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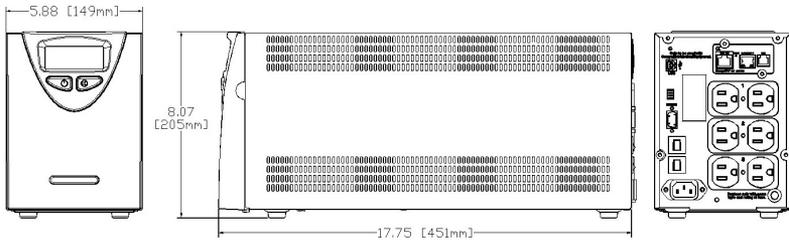
NOISE REJECTION-ISOLATION: With unit under power and an ANSI/IEEE C62.41Cat. A pulse applied either normal or common mode at the input, the noise output voltage will be less than 10V normal mode and less than 0.5V common mode in all four quadrants (CM-NM, NM-NM, CM-CM, NM-COM).

SURGE VOLTAGE WITHSTAND CAPABILITY: Tested under power to ANSI/IEEE C62.41 Cat. A & B (formerly IEEE587-1980). CAT. A - 6000V @ 200 amps, 0.5 usec risetime, 100 kHz decay, Cat. B - 6000V @ 500 amps, 0.5 usec risetime, 100 kHz decay.

Warranty/Support: POWERVAR warrants the electronics and transformers used in its uninterruptible power managers to be free from defects in materials and workmanship for a period of five years from the date of shipment. Batteries are warranted for a period of two years from the date of shipment. For service or support on any POWERVAR product, please contact POWERVAR Technical Support at (800) 369-7179 or visit the POWERVAR website at www.powervar.com.

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North American Models ABCE802-11 and ABCE802-11MED



	ABCE802-11	ABCE802-11MED
Type	Standard	Medical Grade
Power Rating (VA/Watts)	800 / 720	800 / 720
Inverter Waveform	Low Distortion Sine Wave	Low Distortion Sine Wave
Transfer Time	4 ms. Typical	4 ms. Typical
Frequency	60 Hz.	60 Hz.
BTU/Hr.	231	231
T.H.D. w/100% Resistive Load	<4% on Battery	<4% on Battery
Online Efficiency (w/o Charger)	91%	91%
Input Voltage	120	120
Input Current	9.35 Amps	9.35 Amps
Output Voltage	120	120
Output Current (VA/Watts)	6.70 / 6.00 Amps	6.70 / 6.00 Amps
Input Voltage Range (w/o Using Battery)	96 to 144 Volts	96 to 144 Volts
Output Regulation (On Mains)	± 10%	± 10%
Output Regulation (On Battery)	± 5%	± 5%
Backup Time at Full Load (0.7 P.F.)	5 Minutes	5 Minutes
Floor Mountable	Yes (Optional)	Yes (Optional)
Communications Interface	DB9, USB (SNMP Optional)	DB9, USB (SNMP Optional)
Shipping Weight (lbs.)	49	49

North American Models ABCE802-11 and ABCE802-11MED

<p>Front Panel Controls</p> <ul style="list-style-type: none"> • Power On/Off • Test • Load Level LED Gauge • Battery Charge LED Gauge • Voltage Manager Boost LED • Voltage Output On LED • Voltage Manager Buck LED • On Battery LED • Replace Battery LED • Overload LED • Fault Code LED • System Over Temperature LED <p>Rear Panel Information and Controls</p> <ul style="list-style-type: none"> • Six (6) Foot Power Cord with NEMA 5-15P Plug • Six (6) NEMA 5-15R Receptacles • Configuration Manager DIP Switches • Communications Manager DB9 Port, USB Port • Circuit Breaker • AC Inlet Module • SNMP Slot (Contact Factory) <p>Internal Batteries</p> <ul style="list-style-type: none"> • User Hot-Swappable (See Instruction Manual) • Type: 12 Volt, High Rate 34W • Quantity: 2 Batteries • Recharge Time: 6 Hours to 80%, 24 Hours to Full Charge <p>Environmental</p> <ul style="list-style-type: none"> • Temperature: 0 to 40°C (32 to 104°F) Operating -20 to 60°C (-40 to 140°F) Shipment/Storage • Humidity: 5 to 90% Non-Condensing (Operating, Shipment/Storage) • Altitude: 3,000m (10,000 ft) max. Operating; 12,000m (40,000 ft) max. Shipment/Storage 	<p>Safety Agency and EMC Compliance: All Units are Listed by UL and Marked with the UL/cUL Marking</p> <p>Standard UPM: Products Listed to:</p> <ul style="list-style-type: none"> • UL1778 5th Edition • CSA 22.2 Nos. 107.3-14 <p>Products in Compliance with:</p> <ul style="list-style-type: none"> • FCC-Part 15, Subpart B, Sections 15.107b & 15.109b Class A Digital Device* • CISPR11:2009, A1; 2010, Class A* • IEC61000-4-2, Electrostatic Discharge • IEC61000-4-3, Radiated Electromagnetic Field Immunity • IEC61000-4-4, Electrical Fast Transient/Burst Immunity • IEC61000-4-5, Surge Immunity • IEC61000-4-6, Immunity to Conducted Radio Frequency Disturbances • IEC61000-4-8, Power Frequency Magnetic Field Immunity • IEC61000-4-11, Voltage Dips, Short Interruptions and Voltage Variations <p>Medical UPM: Products Listed to:</p> <ul style="list-style-type: none"> • UL60601-1 2nd and 3rd Edition • UL1778 5th Edition • CSA 22.2 No. 601.1-M89 • CSA 22.2 No. 107-1-M91 • CSA 22.2 Nos. 0-M1982 • CSA 22.2 Nos. 0.4-M1982 <p>Products in Compliance with:</p> <ul style="list-style-type: none"> • FCC-Part 15, Subpart B, Sections 15.107b & 15.109b Class A Digital Device* • CISPR11:2009, A1; 2010, Class A* • EN60601-1-2 : 2007 <p><i>*Note: Class B is Available as an Option Please Consult Your Powervar Sales Representative</i></p> <p>RoHS Compliance: All products (Standard and Medical) are RoHS Compliant</p>
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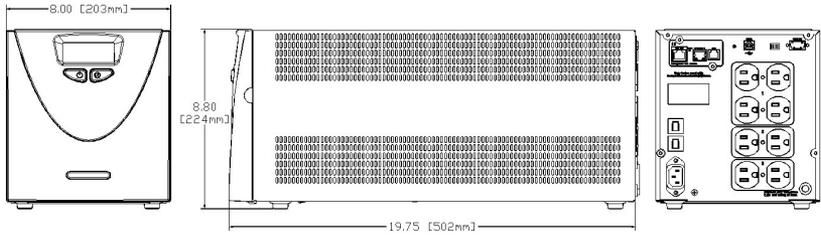
NOISE REJECTION-ISOLATION: With unit under power and an ANSI/IEEE C62.41Cat. A pulse applied either normal or common mode at the input, the noise output voltage will be less than 10V normal mode and less than 0.5V common mode in all four quadrants (CM-NM, NM-NM, CM-CM, NM-COM).

SURGE VOLTAGE WITHSTAND CAPABILITY: Tested under power to ANSI/IEEE C62.41 Cat. A & B (formerly IEEE587-1980). CAT. A - 6000V @ 200 amps, 0.5 usec risetime, 100 kHz decay, Cat. B - 6000V @ 500 amps, 0.5 usec risetime, 100 kHz decay.

Warranty/Support: POWERVAR warrants the electronics and transformers used in its uninterruptible power managers to be free from defects in materials and workmanship for a period of five years from the date of shipment. Batteries are warranted for a period of two years from the date of shipment. For service or support on any POWERVAR product, please contact POWERVAR Technical Support at (800) 369-7179 or visit the POWERVAR website at www.powervar.com.

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North American Models ABCE1102-11 and ABCE1102-11MED



	ABCE1102-11	ABCE1102-11MED
Type	Standard	Medical Grade
Power Rating (VA/Watts)	1100 / 990	1100 / 990
Inverter Waveform	Low Distortion Sine Wave	Low Distortion Sine Wave
Transfer Time	4 ms. Typical	4 ms. Typical
Frequency	60 Hz.	60 Hz.
BTU/Hr.	359	359
T.H.D. w/100% Resistive Load	<4% on Battery	<4% on Battery
Online Efficiency (w/o Charger)	90%	90%
Input Voltage	120	120
Input Current	12.00 Amps	12.00 Amps
Output Voltage	120	120
Output Current (VA/Watts)	9.20 / 8.25 Amps	9.20 / 8.25 Amps
Input Voltage Range (w/o Using Battery)	96 to 144 Volts	96 to 144 Volts
Output Regulation (On Mains)	± 10%	± 10%
Output Regulation (On battery)	± 5%	± 5%
Backup Time at Full Load (0.7 P.F.)	> 5 Minutes	> 5 Minutes
Floor Mountable	Yes (Optional)	Yes (Optional)
Communications Interface	DB9, USB (SNMP Optional)	DB9, USB (SNMP Optional)
Shipping Weight (lbs.)	71	71

North American Models ABCE1102-11 and ABCE1102-11MED

<p>Front Panel Controls</p> <ul style="list-style-type: none"> • Power On/Off • Test • Load Level LED Gauge • Battery Charge LED Gauge • Voltage Manager Boost LED • Voltage Output On LED • Voltage Manager Buck LED • On Battery LED • Replace Battery LED • Overload LED • Fault Code LED • System Over Temperature LED <p>Rear Panel Information and Controls</p> <ul style="list-style-type: none"> • Six (6) Foot Power Cord with NEMA 5-15P Plug • Eight (8) NEMA 5-15R Receptacles • Configuration Manager DIP Switches • Communications Manager DB9 Port, USB Port • Circuit Breaker • AC Inlet Module • SNMP Slot (Contact Factory) <p>Internal Batteries</p> <ul style="list-style-type: none"> • User Hot-Swappable (See Instruction Manual) • Type: 12 Volt, High Rate 34W • Quantity: 4 Batteries • Recharge Time: 8 Hours to 80%, 24 Hours to Full Charge <p>Environmental</p> <ul style="list-style-type: none"> • Temperature: 0 to 40°C (32 to 104°F) Operating -20 to 60°C (-40 to 140°F) Shipment/Storage • Humidity: 5 to 90% Non-Condensing (Operating, Shipment/Storage) • Altitude: 3,000m (10,000 ft) max. Operating; 12,000m (40,000 ft) max. Shipment/Storage 	<p>Safety Agency and EMC Compliance: All Units are Listed by UL and Marked with the UL/cUL Marking</p> <p>Standard UPM: Products Listed to:</p> <ul style="list-style-type: none"> • UL1778 5th Edition • CSA 22.2 Nos. 107.3-14 <p>Products in Compliance with:</p> <ul style="list-style-type: none"> • FCC-Part 15, Subpart B, Sections 15.107b & 15.109b Class A Digital Device* • CISPR11:2009, A1; 2010, Class A* • IEC61000-4-2, Electrostatic Discharge • IEC61000-4-3, Radiated Electromagnetic Field Immunity • IEC61000-4-4, Electrical Fast Transient/Burst Immunity • IEC61000-4-5, Surge Immunity • IEC61000-4-6, Immunity to Conducted Radio Frequency Disturbances • IEC61000-4-8, Power Frequency Magnetic Field Immunity • IEC61000-4-11, Voltage Dips, Short Interruptions and Voltage Variations <p>Medical UPM: Products Listed to:</p> <ul style="list-style-type: none"> • UL60601-1 2nd and 3rd Edition • UL1778 5th Edition • CSA 22.2 No. 601.1-M89 • CSA 22.2 No. 107-1-M91 • CSA 22.2 Nos. 0-M1982 • CSA 22.2 Nos. 0.4-M1982 <p>Products in Compliance with:</p> <ul style="list-style-type: none"> • FCC-Part 15, Subpart B, Sections 15.107b & 15.109b Class A Digital Device* • CISPR11:2009, A1; 2010, Class A* • EN60601-1-2 : 2007 <p><i>*Note: Class B is Available as an Option Please Consult Your Powervar Sales Representative</i></p> <p>RoHS Compliance: All products (Standard and Medical) are RoHS Compliant</p>
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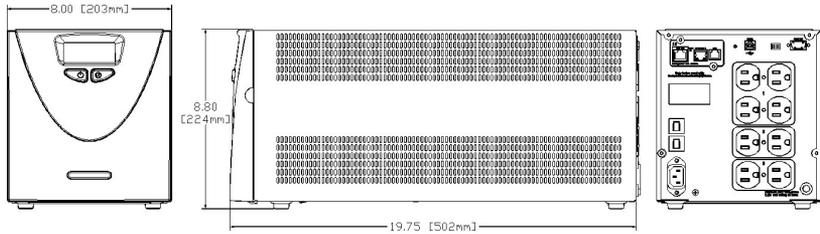
NOISE REJECTION-ISOLATION: With unit under power and an ANSI/IEEE C62.41Cat. A pulse applied either normal or common mode at the input, the noise output voltage will be less than 10V normal mode and less than 0.5V common mode in all four quadrants (CM-NM, NM-NM, CM-CM, NM-COM).

SURGE VOLTAGE WITHSTAND CAPABILITY: Tested under power to ANSI/IEEE C62.41 Cat. A & B (formerly IEEE587-1980). CAT. A - 6000V @ 200 amps, 0.5 usec risetime, 100 kHz decay, Cat. B - 6000V @ 500 amps, 0.5 usec risetime, 100 kHz decay.

Warranty/Support: POWERVAR warrants the electronics and transformers used in its uninterruptible power managers to be free from defects in materials and workmanship for a period of five years from the date of shipment. Batteries are warranted for a period of two years from the date of shipment. For service or support on any POWERVAR product, please contact POWERVAR Technical Support at (800) 369-7179 or visit the POWERVAR website at www.powervar.com.

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North American Models ABCE1442-11 and ABCE1442-11MED



	ABCE1442-11	ABCE1442-11MED
Type	Standard	Medical Grade
Power Rating (VA/Watts)	1440 / 1296	1440 / 1296
Inverter Waveform	Low Distortion Sine Wave	Low Distortion Sine Wave
Transfer Time	4 ms. Typical	4 ms. Typical
Frequency	60 Hz.	60 Hz.
BTU/Hr.	459	459
T.H.D. w/100% Resistive Load	<4% on Battery	<4% on Battery
Online Efficiency (w/o Charger)	91%	91%
Input Voltage	120	120
Input Current	12.00 Amps	12.00 Amps
Output Voltage	120	120
Output Current (VA/Watts)	12.00 / 10.80 Amps	12.00 / 10.80 Amps
Input Voltage Range (w/o Using Battery)	96 to 144 Volts	96 to 144 Volts
Output Regulation (On Mains)	± 10%	± 10%
Output Regulation (On battery)	± 5%	± 5%
Backup Time at Full Load (0.7 P.F.)	> 5 Minutes	> 5 Minutes
Floor Mountable	Yes (Optional)	Yes (Optional)
Communications Interface	DB9, USB (SNMP Optional)	DB9, USB (SNMP Optional)
Shipping Weight (lbs.)	71	71

North American Models ABCE1442-11 and ABCE1442-11MED

<p>Front Panel Controls</p> <ul style="list-style-type: none"> • Power On/Off • Test • Load Level LED Gauge • Battery Charge LED Gauge • Voltage Manager Boost LED • Voltage Output On LED • Voltage Manager Buck LED • On Battery LED • Replace Battery LED • Overload LED • Fault Code LED • System Over Temperature LED <p>Rear Panel Information and Controls</p> <ul style="list-style-type: none"> • Six (6) Foot Power Cord with NEMA 5-15P Plug • Eight (8) NEMA 5-15R Receptacles • Configuration Manager DIP Switches • Communications Manager DB9 Port, USB Port • Circuit Breaker • AC Inlet Module • SNMP Slot (Contact Factory) <p>Internal Batteries</p> <ul style="list-style-type: none"> • User Hot-Swappable (See Instruction Manual) • Type: 12 Volt, High Rate 34W • Quantity: 4 Batteries • Recharge Time: 8 Hours to 80%, 24 Hours to Full Charge <p>Environmental</p> <ul style="list-style-type: none"> • Temperature: 0 to 40°C (32 to 104°F) Operating -20 to 60°C (-40 to 140°F) Shipment/Storage • Humidity: 5 to 90% Non-Condensing (Operating, Shipment/Storage) • Altitude: 3,000m (10,000 ft) max. Operating; 12,000m (40,000 ft) max. Shipment/Storage 	<p>Safety Agency and EMC Compliance: All Units are Listed by UL and Marked with the UL/cUL Marking</p> <p>Standard UPM: Products Listed to:</p> <ul style="list-style-type: none"> • UL1778 5th Edition • CSA 22.2 Nos. 107.3-14 <p>Products in Compliance with:</p> <ul style="list-style-type: none"> • FCC-Part 15, Subpart B, Sections 15.107b & 15.109b Class A Digital Device* • CISPR11:2009, A1; 2010, Class A* • IEC61000-4-2, Electrostatic Discharge • IEC61000-4-3, Radiated Electromagnetic Field Immunity • IEC61000-4-4, Electrical Fast Transient/Burst Immunity • IEC61000-4-5, Surge Immunity • IEC61000-4-6, Immunity to Conducted Radio Frequency Disturbances • IEC61000-4-8, Power Frequency Magnetic Field Immunity • IEC61000-4-11, Voltage Dips, Short Interruptions and Voltage Variations <p>Medical UPM: Products Listed to:</p> <ul style="list-style-type: none"> • UL60601-1 2nd and 3rd Edition • UL1778 5th Edition • CSA 22.2 No. 601.1-M89 • CSA 22.2 No. 107-1-M91 • CSA 22.2 Nos. 0-M1982 • CSA 22.2 Nos. 0.4-M1982 <p>Products in Compliance with:</p> <ul style="list-style-type: none"> • FCC-Part 15, Subpart B, Sections 15.107b & 15.109b Class A Digital Device* • CISPR11:2009, A1; 2010, Class A* • EN60601-1-2 : 2007 <p><i>*Note: Class B is Available as an Option Please Consult Your Powervar Sales Representative</i></p> <p>RoHS Compliance: All products (Standard and Medical) are RoHS Compliant</p>
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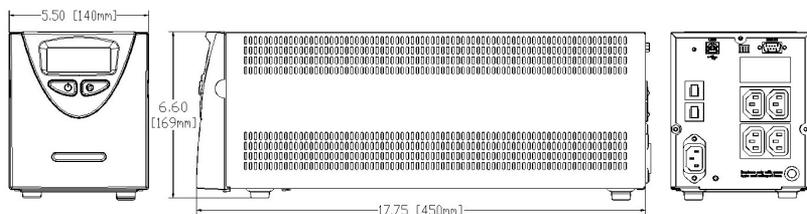
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SURGE VOLTAGE WITHSTAND CAPABILITY: Tested under power to ANSI/IEEE C62.41 Cat. A & B (formerly IEEE587-1980). CAT. A - 6000V @ 200 amps, 0.5 usec risetime, 100 kHz decay, Cat. B - 6000V @ 500 amps, 0.5 usec risetime, 100 kHz decay.

Warranty/Support: POWERVAR warrants the electronics and transformers used in its uninterruptible power managers to be free from defects in materials and workmanship for a period of five years from the date of shipment. Batteries are warranted for a period of two years from the date of shipment. For service or support on any POWERVAR product, please contact POWERVAR Technical Support at (800) 369-7179 or visit the POWERVAR website at www.powervar.com.

Battery Life Disclaimer: POWERVAR's standard battery warranty applies only to UPS and UPM products which are continuously connected to AC mains power, except during utility power outages. Products which are regularly and intentionally disconnected from AC mains power will experience battery discharge/charge cycles potentially far more numerous than those for which the battery was designed. As a result, products used in such applications will experience substantially reduced battery life. For that reason, POWERVAR's standard battery warranty does not apply for applications in which the UPS or UPM product is regularly and intentionally disconnected from AC mains power. POWERVAR UPS and UPM products used in such applications shall receive a 90 day warranty on batteries.

International Models ABCE422-22 and ABCE422-22MED



	ABCE422-22	ABCE422-22MED
Type	Standard	Medical Grade
Power Rating (VA/Watts)	420 / 378	420 / 378
Inverter Waveform	Low Distortion Sine Wave	Low Distortion Sine Wave
Transfer Time	4 ms. Typical	4 ms. Typical
Frequency	50 / 60 Hz.	50 / 60 Hz.
BTU/Hr.	140	140
T.H.D. w/100% Resistive Load	<4% On Battery	<4% On Battery
Online Efficiency (w/o Charger)	90%	90%
Input Voltage	230	230
Input Current	2.70 Amps	2.70 Amps
Output Voltage	230	230
Output Current (VA/Watts)	1.85 / 1.65 Amps	1.85 / 1.65 Amps
Input Voltage Range (w/o Using Battery)	185 to 276 Volts	185 to 276 Volts
Output Regulation (On Mains)	± 10%	± 10%
Output Regulation (On Battery)	± 5%	± 5%
Backup Time at Full Load (0.7 P.F.)	5 Minutes	5 Minutes
Floor Mountable	Yes (Optional)	Yes (Optional)
Communications Interface	DB9, USB	DB9, USB
Shipping Weight (kg)	16.80	16.80

International Models ABCE422-22 and ABCE422-22MED

<p>Front Panel Controls</p> <ul style="list-style-type: none"> • Power On/Off • Test • Load Level LED Gauge • Battery Charge LED Gauge • Voltage Manager Boost LED • Voltage Output On LED • Voltage Manager Buck LED • On Battery LED • Replace Battery LED • Overload LED • Fault Code LED • System Over Temperature LED <p>Rear Panel Information and Controls</p> <ul style="list-style-type: none"> • 1.8 Meter Power Cord with IEC320 Plug • Four (4) IEC320 Receptacles • Configuration Manager DIP Switches • Communications Manager DB9 Port, USB Port • Circuit Breaker • AC Inlet Module <p>Internal Batteries</p> <ul style="list-style-type: none"> • User Hot-Swappable (See Instruction Manual) • Type: 12 Volt, High Rate 21W • Quantity: 2 Batteries • Recharge Time: 6 Hours to 80%, 24 Hours to Full Charge <p>Environmental</p> <ul style="list-style-type: none"> • Temperature: 0 to 40°C (32 to 104°F) Operating -20 to 60°C (-40 to 140°F) Shipment/Storage • Humidity: 5 to 90% Non-Condensing (Operating, Shipment/Storage) • Altitude: 3,000m (10,000 ft) max. Operating; 12,000m (40,000 ft) max. Shipment/Storage 	<p>Safety Agency and EMC Compliance: All Units are Listed by UL and Marked with the UL/cUL Marking</p> <p>Standard UPM: Products Listed to:</p> <ul style="list-style-type: none"> • UL IEC62040, CE mark with CB report <p>Products in Compliance with:</p> <ul style="list-style-type: none"> • FCC-Part 15, Subpart B, Sections 15.107b & 15.109b Class A Digital Device* • CISPR11:2009, A1; 2010, Class A* • IEC61000-4-2, Electrostatic Discharge • IEC61000-4-3, Radiated Electromagnetic Field Immunity • IEC61000-4-4, Electrical Fast Transient/Burst Immunity • IEC61000-4-5, Surge Immunity • IEC61000-4-6, Immunity to Conducted Radio Frequency Disturbances • IEC61000-4-8, Power Frequency Magnetic Field Immunity • IEC61000-4-11, Voltage Dips, Short Interruptions and Voltage Variations <p>Medical UPM: Products Listed to:</p> <ul style="list-style-type: none"> • UL60601-1 2nd and 3rd Edition, CE Mark with CB Report • CSA 22.2 No. 601.1-M89 • CSA 22.2 No. 107-1-M91 • CSA 22.2 Nos. 0-M1982 • CSA 22.2 Nos. 0.4-M1982 <p>Products in Compliance with:</p> <ul style="list-style-type: none"> • FCC-Part 15, Subpart B, Sections 15.107b & 15.109b Class A Digital Device* • CISPR11:2009, A1; 2010, Class A* • EN60601-1-2 : 2007 <p><i>*Note: Class B is Available as an Option Please Consult Your Powervar Sales Representative</i></p> <p>RoHS Compliance: All products (Standard and Medical) are RoHS Compliant</p>
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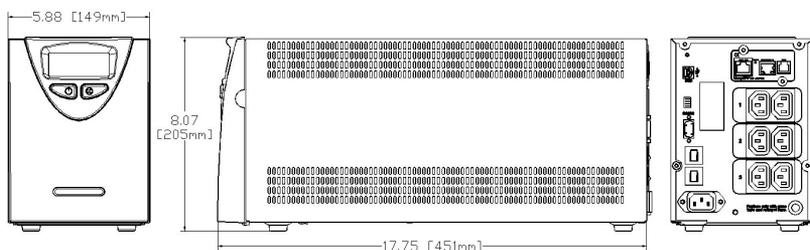
NOISE REJECTION-ISOLATION: With unit under power and an ANSI/IEEE C62.41Cat. A pulse applied either normal or common mode at the input, the noise output voltage will be less than 10V normal mode and less than 0.5V common mode in all four quadrants (CM-NM, NM-NM, CM-CM, NM-COM).

SURGE VOLTAGE WITHSTAND CAPABILITY: Tested under power to ANSI/IEEE C62.41 Cat. A & B (formerly IEEE587-1980). CAT. A - 6000V @ 200 amps, 0.5 usec risetime, 100 kHz decay, Cat. B - 6000V @ 500 amps, 0.5 usec risetime, 100 kHz decay.

Warranty/Support: POWERVAR warrants the electronics and transformers used in its uninterruptible power managers to be free from defects in materials and workmanship for a period of five years from the date of shipment. Batteries are warranted for a period of two years from the date of shipment. For service or support on any POWERVAR product, please contact POWERVAR Technical Support at (800) 369-7179 or visit the POWERVAR website at www.powervar.com.

Battery Life Disclaimer: POWERVAR's standard battery warranty applies only to UPS and UPM products which are continuously connected to AC mains power, except during utility power outages. Products which are regularly and intentionally disconnected from AC mains power will experience battery discharge/charge cycles potentially far more numerous than those for which the battery was designed. As a result, products used in such applications will experience substantially reduced battery life. For that reason, POWERVAR's standard battery warranty does not apply for applications in which the UPS or UPM product is regularly and intentionally disconnected from AC mains power. POWERVAR UPS and UPM products used in such applications shall receive a 90 day warranty on batteries.

International Models ABCE602-22 and ABCE602-22MED



	ABCE602-22	ABCE602-22MED
Type	Standard	Medical Grade
Power Rating (VA/Watts)	600 / 540	600 / 540
Inverter Waveform	Low Distortion Sine Wave	Low Distortion Sine Wave
Transfer Time	4 ms. Typical	4 ms. Typical
Frequency	50 / 60 Hz.	50 / 60 Hz.
BTU/Hr.	162	162
T.H.D. w/100% Resistive Load	<4% on Battery	<4% on Battery
Online Efficiency (w/o Charger)	92%	92%
Input Voltage	230	230
Input Current	3.73 Amps	3.73 Amps
Output Voltage	230	230
Output Current (VA/Watts)	2.60 / 2.35 Amps	2.60 / 2.35 Amps
Input Voltage Range (w/o Using Battery)	185 to 276 Volts	185 to 276 Volts
Output Regulation (On Mains)	± 10%	± 10%
Output Regulation (On Battery)	± 5%	± 5%
Backup Time at Full Load (0.7 P.F.)	5 Minutes	5 Minutes
Floor Mountable	Yes (Optional)	Yes (Optional)
Communications Interface	DB9, USB (SNMP Optional)	DB9, USB (SNMP Optional)
Shipping Weight (kg)	20.40	20.40

International Models ABCE602-22 and ABCE602-22MED

<p>Front Panel Controls</p> <ul style="list-style-type: none"> • Power On/Off • Test • Load Level LED Gauge • Battery Charge LED Gauge • Voltage Manager Boost LED • Voltage Output On LED • Voltage Manager Buck LED • On Battery LED • Replace Battery LED • Overload LED • Fault Code LED • System Over Temperature LED <p>Rear Panel Information and Controls</p> <ul style="list-style-type: none"> • 1.8 Meter Power Cord with IEC320 Plug • Eight (8) IEC320 Receptacles • Configuration Manager DIP Switches • Communications Manager DB9 Port, USB Port • Circuit Breaker • AC Inlet Module • SNMP Slot (Contact Factory) <p>Internal Batteries</p> <ul style="list-style-type: none"> • User Hot-Swappable (See Instruction Manual) • Type: 12 Volt, High Rate 34W • Quantity: 2 Batteries • Recharge Time: 6 Hours to 80%, 24 Hours to Full Charge <p>Environmental</p> <ul style="list-style-type: none"> • Temperature: 0 to 40°C (32 to 104°F) Operating -20 to 60°C (-40 to 140°F) Shipment/Storage • Humidity: 5 to 90% Non-Condensing (Operating, Shipment/Storage) • Altitude: 3,000m (10,000 ft) max. Operating; 12,000m (40,000 ft) max. Shipment/Storage 	<p>Safety Agency and EMC Compliance: All Units are Listed by UL and Marked with the UL/cUL Marking</p> <p>Standard UPM: Products Listed to:</p> <ul style="list-style-type: none"> • UL IEC62040, CE Mark with CB Report <p>Products in Compliance with:</p> <ul style="list-style-type: none"> • FCC-Part 15, Subpart B, Sections 15.107b & 15.109b Class A Digital Device* • CISPR11:2009, A1; 2010, Class A* • IEC61000-4-2, Electrostatic Discharge • IEC61000-4-3, Radiated Electromagnetic Field Immunity • IEC61000-4-4, Electrical Fast Transient/Burst Immunity • IEC61000-4-5, Surge Immunity • IEC61000-4-6, Immunity to Conducted Radio Frequency Disturbances • IEC61000-4-8, Power Frequency Magnetic Field Immunity • IEC61000-4-11, Voltage Dips, Short Interruptions and Voltage Variations <p>Medical UPM: Products Listed to:</p> <ul style="list-style-type: none"> • UL60601-1 2nd and 3rd Edition, CE Mark with CB Report • CSA 22.2 No. 601.1-M89 • CSA 22.2 No. 107-1-M91 • CSA 22.2 Nos. 0-M1982 • CSA 22.2 Nos. 0.4-M1982 <p>Products in Compliance With:</p> <ul style="list-style-type: none"> • FCC-Part 15, Subpart B, Sections 15.107b & 15.109b Class A Digital Device* • CISPR11:2009, A1; 2010, Class A* • EN60601-1-2 : 2007 <p>*Note: Class B is Available as an Option Please Consult Your Powervar Sales Representative</p> <p>RoHS Compliance: All products (Standard and Medical) are RoHS Compliant</p>
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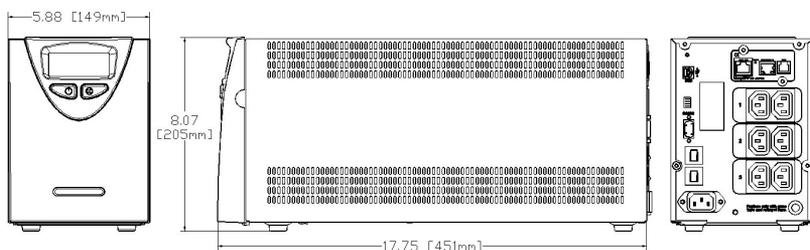
NOISE REJECTION-ISOLATION: With unit under power and an ANSI/IEEE C62.41Cat. A pulse applied either normal or common mode at the input, the noise output voltage will be less than 10V normal mode and less than 0.5V common mode in all four quadrants (CM-NM, NM-NM, CM-CM, NM-COM).

SURGE VOLTAGE WITHSTAND CAPABILITY: Tested under power to ANSI/IEEE C62.41 Cat. A & B (formerly IEEE587-1980). CAT. A - 6000V @ 200 amps, 0.5 usec risetime, 100 kHz decay, Cat. B - 6000V @ 500 amps, 0.5 usec risetime, 100 kHz decay.

Warranty/Support: POWERVAR warrants the electronics and transformers used in its uninterruptible power managers to be free from defects in materials and workmanship for a period of five years from the date of shipment. Batteries are warranted for a period of two years from the date of shipment. For service or support on any POWERVAR product, please contact POWERVAR Technical Support at (800) 369-7179 or visit the POWERVAR website at www.powervar.com.

Battery Life Disclaimer: POWERVAR's standard battery warranty applies only to UPS and UPM products which are continuously connected to AC mains power, except during utility power outages. Products which are regularly and intentionally disconnected from AC mains power will experience battery discharge/charge cycles potentially far more numerous than those for which the battery was designed. As a result, products used in such applications will experience substantially reduced battery life. For that reason, POWERVAR's standard battery warranty does not apply for applications in which the UPS or UPM product is regularly and intentionally disconnected from AC mains power. POWERVAR UPS and UPM products used in such applications shall receive a 90 day warranty on batteries.

International Models ABCE802-22 and ABCE802-22MED



	ABCE802-22	ABCE802-22MED
Type	Standard	Medical Grade
Power Rating (VA/Watts)	800 / 720	800 / 720
Inverter Waveform	Low Distortion Sine Wave	Low Distortion Sine Wave
Transfer Time	4 ms. Typical	4 ms. Typical
Frequency	50 / 60 Hz.	50 / 60 Hz.
BTU/Hr.	199	199
T.H.D. w/100% Resistive Load	<4% on Battery	<4% on Battery
Online Efficiency (w/o Charger)	92%	92%
Input Voltage	230	230
Input Current	4.88 Amps	4.88 Amps
Output Voltage	230	230
Output Current (VA/Watts)	3.50 / 3.15 Amps	3.50 / 3.15 Amps
Input Voltage Range (w/o Using Battery)	185 to 276 Volts	185 to 276 Volts
Output Regulation (On Mains)	± 10%	± 10%
Output Regulation (On Battery)	± 5%	± 5%
Backup Time at Full Load (0.7 P.F.)	5 Minutes	5 Minutes
Floor Mountable	Yes (Optional)	Yes (Optional)
Communications Interface	DB9, USB (SNMP Optional)	DB9, USB (SNMP Optional)
Shipping Weight (kg)	22	22

International Models ABCE802-22 and ABCE802-22MED

<p>Front Panel Controls</p> <ul style="list-style-type: none"> • Power On/Off • Test • Load Level LED Gauge • Battery Charge LED Gauge • Voltage Manager Boost LED • Voltage Output On LED • Voltage Manager Buck LED • On Battery LED • Replace Battery LED • Overload LED • Fault Code LED • System Over Temperature LED <p>Rear Panel Information and Controls</p> <ul style="list-style-type: none"> • 1.8 Meter Power Cord with IEC320 Plug • Six (6) IEC320 Receptacles • Configuration Manager DIP Switches • Communications Manager DB9 Port, USB Port • Circuit Breaker • AC Inlet Module • SNMP Slot (Contact Factory) <p>Internal Batteries</p> <ul style="list-style-type: none"> • User Hot-Swappable (See Instruction Manual) • Type: 12 Volt, High Rate 34W • Quantity: 2 Batteries • Recharge Time: 6 Hours to 80%, 24 Hours to Full Charge <p>Environmental</p> <ul style="list-style-type: none"> • Temperature: 0 to 40°C (32 to 104°F) Operating -20 to 60°C (-40 to 140°F) Shipment/Storage • Humidity: 5 to 90% Non-Condensing (Operating, Shipment/Storage) • Altitude: 3,000m (10,000 ft) max. Operating; 12,000m (40,000 ft) max. Shipment/Storage 	<p>Safety Agency and EMC Compliance: All Units are Listed by UL and Marked with the UL/cUL Marking</p> <p>Standard UPM: Products Listed to:</p> <ul style="list-style-type: none"> • UL IEC62040, CE Mark with CB report <p>Products in Compliance with:</p> <ul style="list-style-type: none"> • FCC-Part 15, Subpart B, Sections 15.107b & 15.109b Class A Digital Device* • CISPR11:2009, A1; 2010, Class A* • IEC61000-4-2, Electrostatic Discharge • IEC61000-4-3, Radiated Electromagnetic Field Immunity • IEC61000-4-4, Electrical Fast Transient/Burst Immunity • IEC61000-4-5, Surge Immunity • IEC61000-4-6, Immunity to Conducted Radio Frequency Disturbances • IEC61000-4-8, Power Frequency Magnetic Field Immunity • IEC61000-4-11, Voltage Dips, Short Interruptions and Voltage Variations <p>Medical UPM: Products Listed to:</p> <ul style="list-style-type: none"> • UL60601-1 2nd and 3rd Edition, CE Mark with CB Report • CSA 22.2 No. 601.1-M89 • CSA 22.2 No. 107-1-M91 • CSA 22.2 Nos. 0-M1982 • CSA 22.2 Nos. 0.4-M1982 <p>Products in Compliance with:</p> <ul style="list-style-type: none"> • FCC-Part 15, Subpart B, Sections 15.107b & 15.109b Class A Digital Device* • CISPR11:2009, A1; 2010, Class A* • EN60601-1-2 : 2007 <p>*Note: Class B is Available as an Option Please Consult Your Powervar Sales Representative</p> <p>RoHS Compliance: All products (Standard and Medical) are RoHS Compliant</p>
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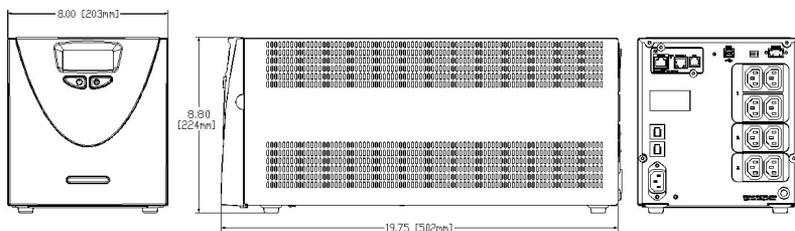
NOISE REJECTION-ISOLATION: With unit under power and an ANSI/IEEE C62.41Cat. A pulse applied either normal or common mode at the input, the noise output voltage will be less than 10V normal mode and less than 0.5V common mode in all four quadrants (CM-NM, NM-NM, CM-CM, NM-COM).

SURGE VOLTAGE WITHSTAND CAPABILITY: Tested under power to ANSI/IEEE C62.41 Cat. A & B (formerly IEEE587-1980). CAT. A - 6000V @ 200 amps, 0.5 usec risetime, 100 kHz decay, Cat. B - 6000V @ 500 amps, 0.5 usec risetime, 100 kHz decay.

Warranty/Support: POWERVAR warrants the electronics and transformers used in its uninterruptible power managers to be free from defects in materials and workmanship for a period of five years from the date of shipment. Batteries are warranted for a period of two years from the date of shipment. For service or support on any POWERVAR product, please contact POWERVAR Technical Support at (800) 369-7179 or visit the POWERVAR website at www.powervar.com.

Battery Life Disclaimer: POWERVAR's standard battery warranty applies only to UPS and UPM products which are continuously connected to AC mains power, except during utility power outages. Products which are regularly and intentionally disconnected from AC mains power will experience battery discharge/charge cycles potentially far more numerous than those for which the battery was designed. As a result, products used in such applications will experience substantially reduced battery life. For that reason, POWERVAR's standard battery warranty does not apply for applications in which the UPS or UPM product is regularly and intentionally disconnected from AC mains power. POWERVAR UPS and UPM products used in such applications shall receive a 90 day warranty on batteries.

International Models ABCE1102-22 and ABCE1102-22MED



	ABCE1102-22	ABCE1102-22MED
Type	Standard	Medical Grade
Power Rating (VA/Watts)	1100 / 990	1100 / 990
Inverter Waveform	Low Distortion Sine Wave	Low Distortion Sine Wave
Transfer Time	4 ms. Typical	4 ms. Typical
Frequency	50 / 60 Hz.	50 / 60 Hz.
BTU/Hr.	239	239
T.H.D. w/100% Resistive Load	<4% on Battery	<4% on Battery
Online Efficiency (w/o Charger)	93%	93%
Input Voltage	230	230
Input Current	8.10 Amps	8.10 Amps
Output Voltage	230	230
Output Current (VA/Watts)	4.80 / 4.30 Amps	4.80 / 4.30 Amps
Input Voltage Range (w/o Using Battery)	185 to 276 volts	185 to 276 volts
Output Regulation (Mains)	± 10%	± 10%
Output Regulation (On Battery)	± 5%	± 5%
Backup Time at Full Load (0.7 P.F.)	> 5 Minutes	> 5 Minutes
Floor Mountable	Yes (Optional)	Yes (Optional)
Communications Interface	DB9, USB (SNMP Optional)	DB9, USB (SNMP Optional)
Shipping Weight (kg)	32	32

International Models ABCE1102-22 and ABCE1102-22MED

<p>Front Panel Controls</p> <ul style="list-style-type: none"> • Power On/Off • Test • Load Level LED Gauge • Battery Charge LED Gauge • Voltage Manager Boost LED • Voltage Output On LED • Voltage Manager Buck LED • On Battery LED • Replace Battery LED • Overload LED • Fault Code LED • System Over Temperature LED <p>Rear Panel Information and Controls</p> <ul style="list-style-type: none"> • 1.8 Meter Power Cord with IEC320 Plug • Eight (8) IEC320 Receptacles • Configuration Manager DIP Switches • Communications Manager DB9 Port, USB Port • Circuit Breaker • AC Inlet Module • SNMP Slot (Contact Factory) <p>Internal Batteries</p> <ul style="list-style-type: none"> • User Hot-Swappable (See Instruction Manual) • Type: 12 Volt, High Rate 34W • Quantity: 4 Batteries • Recharge Time: 8 Hours to 80%, 24 Hours to Full Charge <p>Environmental</p> <ul style="list-style-type: none"> • Temperature: 0 to 40°C (32 to 104°F) Operating -20 to 60°C (-40 to 140°F) Shipment/Storage • Humidity: 5 to 90% Non-Condensing (Operating, Shipment/Storage) • Altitude: 3,000m (10,000 ft) max. Operating; 12,000m (40,000 ft) max. Shipment/Storage 	<p>Safety Agency and EMC Compliance: All Units are Listed by UL and Marked with the UL/cUL Marking</p> <p>Standard UPM: Products Listed to:</p> <ul style="list-style-type: none"> • UL IEC62040, CE Mark with CB report <p>Products in Compliance with:</p> <ul style="list-style-type: none"> • FCC-Part 15, Subpart B, Sections 15.107b & 15.109b Class A Digital Device* • CISPR11:2009, A1; 2010, Class A* • IEC61000-4-2, Electrostatic Discharge • IEC61000-4-3, Radiated Electromagnetic Field Immunity • IEC61000-4-4, Electrical Fast Transient/Burst Immunity • IEC61000-4-5, Surge Immunity • IEC61000-4-6, Immunity to Conducted Radio Frequency Disturbances • IEC61000-4-8, Power Frequency Magnetic Field Immunity • IEC61000-4-11, Voltage Dips, Short Interruptions and Voltage Variations <p>Medical UPM: Products Listed to:</p> <ul style="list-style-type: none"> • UL60601-1 2nd and 3rd Edition, CE Mark with CB Report • CSA 22.2 No. 601.1-M89 • CSA 22.2 No. 107-1-M91 • CSA 22.2 Nos. 0-M1982 • CSA 22.2 Nos. 0.4-M1982 <p>Products in Compliance With:</p> <ul style="list-style-type: none"> • FCC-Part 15, Subpart B, Sections 15.107b & 15.109b Class A Digital Device* • CISPR11:2009, A1; 2010, Class A* • EN60601-1-2 : 2007 <p>*Note: Class B is Available as an Option Please Consult Your Powervar Sales Representative</p> <p>RoHS Compliance: All products (Standard and Medical) are RoHS Compliant</p>
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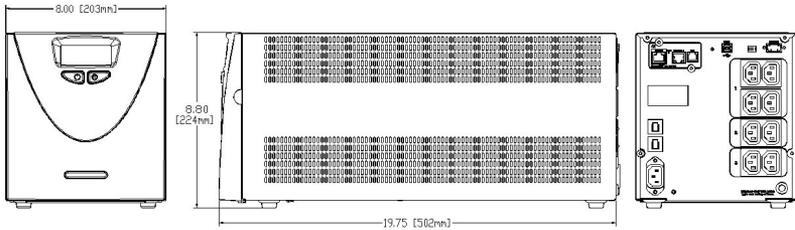
NOISE REJECTION-ISOLATION: With unit under power and an ANSI/IEEE C62.41Cat. A pulse applied either normal or common mode at the input, the noise output voltage will be less than 10V normal mode and less than 0.5V common mode in all four quadrants (CM-NM, NM-NM, CM-CM, NM-COM).

SURGE VOLTAGE WITHSTAND CAPABILITY: Tested under power to ANSI/IEEE C62.41 Cat. A & B (formerly IEEE587-1980). CAT. A - 6000V @ 200 amps, 0.5 usec risetime, 100 kHz decay, Cat. B - 6000V @ 500 amps, 0.5 usec risetime, 100 kHz decay.

Warranty/Support: POWERVAR warrants the electronics and transformers used in its uninterruptible power managers to be free from defects in materials and workmanship for a period of five years from the date of shipment. Batteries are warranted for a period of two years from the date of shipment. For service or support on any POWERVAR product, please contact POWERVAR Technical Support at (800) 369-7179 or visit the POWERVAR website at www.powervar.com.

Battery Life Disclaimer: POWERVAR's standard battery warranty applies only to UPS and UPM products which are continuously connected to AC mains power, except during utility power outages. Products which are regularly and intentionally disconnected from AC mains power will experience battery discharge/charge cycles potentially far more numerous than those for which the battery was designed. As a result, products used in such applications will experience substantially reduced battery life. For that reason, POWERVAR's standard battery warranty does not apply for applications in which the UPS or UPM product is regularly and intentionally disconnected from AC mains power. POWERVAR UPS and UPM products used in such applications shall receive a 90 day warranty on batteries.

International Models ABCE1442-22 and ABCE1442-22MED



	ABCE1442-22	ABCE1442-22MED
Type	Standard	Medical Grade
Power Rating (VA/Watts)	1440 / 1296	1440 / 1296
Inverter Waveform	Low Distortion Sine Wave	Low Distortion Sine Wave
Transfer Time	4 ms. Typical	4 ms. Typical
Frequency	50 / 60 Hz.	50 / 60 Hz.
BTU/Hr.	292	292
T.H.D. w/100% Resistive Load	<4% on Battery	<4% on Battery
Online Efficiency (w/o Charger)	94%	94%
Input Voltage	230	230
Input Current	8.54 Amps	8.54 Amps
Output Voltage	230	230
Output Current (VA/Watts)	6.30 / 5.65 Amps	6.30 / 5.65 Amps
Input Voltage Range (w/o Using Battery)	185 to 276 volts	185 to 276 volts
Output Regulation (Mains)	± 10%	± 10%
Output Regulation (On Battery)	± 5%	± 5%
Backup Time at Full Load (0.7 P.F.)	> 5 Minutes	> 5 Minutes
Floor Mountable	Yes (Optional)	Yes (Optional)
Communications Interface	DB9, USB (SNMP Optional)	DB9, USB (SNMP Optional)
Shipping Weight (kg)	32	32

International Models ABCE1442-22 and ABCE1442-22MED

<p>Front Panel Controls</p> <ul style="list-style-type: none"> • Power On/Off • Test • Load Level LED Gauge • Battery Charge LED Gauge • Voltage Manager Boost LED • Voltage Output On LED • Voltage Manager Buck LED • On Battery LED • Replace Battery LED • Overload LED • Fault Code LED • System Over Temperature LED <p>Rear Panel Information and Controls</p> <ul style="list-style-type: none"> • 1.8 Meter Power Cord with IEC320 Plug • Eight (8) IEC320 Receptacles • Configuration Manager DIP Switches • Communications Manager DB9 Port, USB Port • Circuit Breaker • AC Inlet Module • SNMP Slot (Contact Factory) <p>Internal Batteries</p> <ul style="list-style-type: none"> • User Hot-Swappable (See Instruction Manual) • Type: 12 Volt, High Rate 34W • Quantity: 4 Batteries • Recharge Time: 8 Hours to 80%, 24 Hours to Full Charge <p>Environmental</p> <ul style="list-style-type: none"> • Temperature: 0 to 40°C (32 to 104°F) Operating -20 to 60°C (-40 to 140°F) Shipment/Storage • Humidity: 5 to 90% Non-Condensing (Operating, Shipment/Storage) • Altitude: 3,000m (10,000 ft) max. Operating; 12,000m (40,000 ft) max. Shipment/Storage 	<p>Safety Agency and EMC Compliance: All Units are Listed by UL and Marked with the UL/cUL Marking</p> <p>Standard UPM: Products Listed to:</p> <ul style="list-style-type: none"> • UL IEC62040, CE Mark with CB Report <p>Products in Compliance with:</p> <ul style="list-style-type: none"> • FCC-Part 15, Subpart B, Sections 15.107b & 15.109b Class A Digital Device* • CISPR11:2009, A1; 2010, Class A* • IEC61000-4-2, Electrostatic Discharge • IEC61000-4-3, Radiated Electromagnetic Field Immunity • IEC61000-4-4, Electrical Fast Transient/Burst Immunity • IEC61000-4-5, Surge Immunity • IEC61000-4-6, Immunity to Conducted Radio Frequency Disturbances • IEC61000-4-8, Power Frequency Magnetic Field Immunity • IEC61000-4-11, Voltage Dips, Short Interruptions and Voltage Variations <p>Medical UPM: Products Listed to:</p> <ul style="list-style-type: none"> • UL60601-1 2nd and 3rd Edition, CE Mark with CB Report • CSA 22.2 No. 601.1-M89 • CSA 22.2 No. 107.1-M91 • CSA 22.2 Nos. 0-M1982 • CSA 22.2 Nos. 0.4-M1982 <p>Products in Compliance with:</p> <ul style="list-style-type: none"> • FCC-Part 15, Subpart B, Sections 15.107b & 15.109b Class A Digital Device* • CISPR11:2009, A1; 2010, Class A* • EN60601-1-2 : 2007 <p>*Note: Class B is Available as an Option Please Consult Your Powervar Sales Representative</p> <p>RoHS Compliance: All products (Standard and Medical) are RoHS Compliant</p>
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NOISE REJECTION-ISOLATION: With unit under power and an ANSI/IEEE C62.41Cat. A pulse applied either normal or common mode at the input, the noise output voltage will be less than 10V normal mode and less than 0.5V common mode in all four quadrants (CM-NM, NM-NM, CM-CM, NM-COM).

SURGE VOLTAGE WITHSTAND CAPABILITY: Tested under power to ANSI/IEEE C62.41 Cat. A & B (formerly IEEE587-1980). CAT. A - 6000V @ 200 amps, 0.5 usec risetime, 100 kHz decay, Cat. B - 6000V @ 500 amps, 0.5 usec risetime, 100 kHz decay.

Warranty/Support: POWERVAR warrants the electronics and transformers used in its uninterruptible power managers to be free from defects in materials and workmanship for a period of five years from the date of shipment. Batteries are warranted for a period of two years from the date of shipment. For service or support on any POWERVAR product, please contact POWERVAR Technical Support at (800) 369-7179 or visit the POWERVAR website at www.powervar.com.

Battery Life Disclaimer: POWERVAR's standard battery warranty applies only to UPS and UPM products which are continuously connected to AC mains power, except during utility power outages. Products which are regularly and intentionally disconnected from AC mains power will experience battery discharge/charge cycles potentially far more numerous than those for which the battery was designed. As a result, products used in such applications will experience substantially reduced battery life. For that reason, POWERVAR's standard battery warranty does not apply for applications in which the UPS or UPM product is regularly and intentionally disconnected from AC mains power. POWERVAR UPS and UPM products used in such applications shall receive a 90 day warranty on batteries.

7.0 TROUBLESHOOTING

The troubleshooting information provided in this section should help you discover the cause of most commonly encountered difficulties. Before following the troubleshooting steps provided, be certain that you have verified the following items:

- The UPM should be plugged into a properly working outlet.
- The line voltage to the UPM is within specified boundaries.
- The circuit breaker on the rear panel of the UPM has been reset.
- The battery enable plug(s) is installed.

Problem	Possible Cause	Action you should take
UPM does not power up and has no audible alarm	<ol style="list-style-type: none"> 1. On/Off Button not pressed long enough 2. No incoming line voltage or voltage too high or too low 3. UPM input power cord is not plugged in 4. Rear panel circuit breaker is tripped 	<ol style="list-style-type: none"> 1. Press and hold the On/Off switch for 3 seconds min. 2. Check wall socket and test for proper line voltage. 3. Plug in input power cord. 4. Reduce load and reset circuit breaker.
UPM Overload LED's are illuminated and continuous audible alarm sounds	UPM is overload	Reduce load by removing the least critical load items from the UPM output.
Low/Replace Battery LED is illuminated	Battery voltage is too low or battery is dead	Recharge battery for at least six hours and reset UPM. If LED is still illuminated, replace the battery.
Site Wiring Fault LED is illuminated	Site wiring problem	Contact a qualified electrician to verify wiring at this site.
Backup time is less than expected	Battery is not fully charged or battery is dead	Recharge battery for at least six hours and retest back up time.
UPM is normal, but the computer will not turn on.	Computer input power cord is loose or not connected	Connect the power input power cord.

Output Fuse Rating Chart

Work to be done only by qualified service personnel. It is critical that the same type and rating of fuses are used:

Replace with same type and rating of fuse fuse must be rated to IEC 60127-2	
Model	Fuse rating (slow-blow)
ABCE422-11MED	250 VAC 4.0 A
ABCE422-22MED	250 VAC 4.0 A
ABCE602-11MED	250 VAC 6.3 A
ABCE602-22MED	250 VAC 3.15 A
ABCE802-11MED	250 VAC 8.0 A
ABCE802-22MED	250 VAC 4.0 A
ABCE1102-11MED	250 VAC 10.0 A
ABCE1102-22MED	250 VAC 8.0 A
ABCE1442-11MED	250 VAC 12.5 A
ABCE1442-22MED	250 VAC 8.0 A

Technical Support

AMETEK-Powervar provides technical product support during our regular business hours of 8:00 a.m. to 5:00 p.m. Between the hours of 5:00 p.m. and 8:00 a.m., our phone system will allow you to leave a message for our technical support department. The phone mail system also provides an emergency number to call in the event you should require immediate assistance. In North America, call toll free at (800) 369-7179. Contact our European headquarters at +44 (0) 1793-553980 or visit our website at www.powervar.com for more locations.

8.0 WARRANTY

The AMETEK-Powervar Security II Series UPM is warranted to be free from defects in material and workmanship for **sixty (60) months** from date of shipment from AMETEK-Powervar, on the chassis & electronic components and **twenty four (24) months** from date of shipment from AMETEK-Powervar on the batteries. This warranty is limited to repairing, replacing, or refurbishing, at AMETEK-Powervars option, any defective component, circuit board or module within the Product. This warranty is limited to AMETEK-Powervar depot service.

Life Support

AMETEK-Powervar does not recommend the use of our UPM products on life support equipment where the failure of the UPM could endanger or compromise patient safety or diminish the effectiveness of such life support equipment.



Access additional product information and support on the web at <http://www.powervar.com>

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