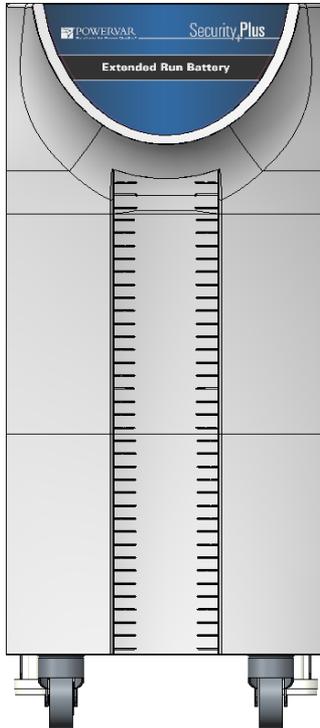




# Security Plus Extended Battery Cabinet Instruction Manual

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*For The Security Plus ABCDEF2000 to ABCDEF6000*



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## **IMPORTANT NOTICE ON BATTERY WARRANTY**

**The warranty policies stated in Sections 1 and 8 are not valid for applications in which the UPS is regularly and intentionally disconnected from AC mains power. AMETEK Powervar's 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. Notwithstanding the stated warranty in Sections 1 and 8. 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.

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## 1.0 INTRODUCTION

### **Thank You**

Thank you for your purchase of this power conditioning solution. Our broad family of power quality solutions are designed to protect sensitive electronic systems from the destruction, degradation, and disruption caused by electrical power disturbances.

This product you have purchased is the most advanced solution available today. It protects and provides clean power to your system. 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 [rma.powervar@ametek.com](mailto:rma.powervar@ametek.com).

### **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](http://www.powervar.com).

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## FCC Compliance

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 **Attention**

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Changes or modifications to this unit not expressly approved by the party responsible or in FCC compliance could void the user's authority to operate the equipment. This equipment was tested and complies with the limits for a Class A digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the UPS is operating in a commercial environment. The UPS generates, uses, and can radiate radio frequency energy. If installation and use is not in accordance with the instruction manual, it may cause harmful interference to radio communications.

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 **Attention**

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Operation of this equipment in a residential area may cause harmful radio communications interference. The user is responsible for correcting the interference.

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## 2.0 SAFETY INSTRUCTIONS

### IMPORTANT - SAVE THESE INSTRUCTIONS

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

The maximum ambient temperature in which an extended battery cabinet should be operated in is 104 °F (40 °C).

Model	Voltage
D9632-11	96 VDC
D9648-11	96 VDC
D9632-22	96 VDC
D9648-22	96 VDC

### BATTERY TRAY INFORMATION

Battery Tray	Designed for battery acid leakage containment with (8) batteries per tray.
Battery Tray Size H x W x D (max)	4.25(108mm) x 6.125(155.57mm) x 24.5 (622.3mm)
Battery Tray Weight	51.65 lbs. (23.24 kg)
Battery Tray Quantity	4 or 6

**The nominal battery voltage for the battery cabinet is as follows:**



Misuse of this equipment could result in bodily injury and equipment damage. In no event will AMETEK Powervar be responsible or liable for significant damage or injury that may result from the use of the equipment.

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 **CAUTION**

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

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 **CAUTION**

Do not open or mutilate the batteries. Released electrolyte is dangerous to the eyes and skin and could be toxic.

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 **WARNING**

This unit contains sealed lead acid batteries. Lack of preventative maintenance could result in batteries exploding and emitting gasses and or flame.

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 **WARNING**

Failure to replace a battery before it's life cycle may cause the case to crack, possibly releasing electrolytes from inside the battery.

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 **WARNING**

Installation and servicing of batteries should performed by personnel knowledgeable of batteries and the required precautions. Keep unauthorized personnel away from the batteries

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## IMPORTANT BATTERY TRAY SAFETY INSTRUCTIONS

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It is very important to read, understand and follow the battery procedures in this manual. Also note all SAFETY PRECAUTIONS before beginning the installation of this system or replacing the batteries. If there are any questions, concerns or precautions that are not clearly understood or stated in this manual, contact AMETEK Powervar for further clarification.

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1. DC Power and Batteries are dangerous and have extremely high short circuit current. Severe burns or death can result from a system short.
2. Batteries can leak potentially explosive gas (hydrogen). Never enclose batteries or battery cabinets in a sealed room.
3. Jewelry and watches must be removed prior to installing or servicing this system.
4. Never leave a panel off with system unattended.
5. It is imperative that only qualified personnel work on this system and installation, maintenance or upgrades be performed with insulated tools.
6. When installing this battery system, follow all applicable federal, state and local regulations and industry guidelines to insure a proper installation.

### Instructions Importantes Concernant La Sécurité

**Cette notice contient des instructions importantes concernant la sécurité**



Un battery puet présenter un risque de choc électrique. brûlure par transfert d' énergie.

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 **Attention**

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Por le remplacement, utiliser le même nombre de batteries du modèle suivant.

**L'élimination des batteries est règlementée. Consulter les codes locaux à cet effet**

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 **Attention**

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## **INSPECTION/STORAGE/DISPOSAL**

### **GENERAL INSPECTION**

Special precautions and care have been taken to ensure the system arrives safe and undamaged. However, upon receipt, you should inspect the entire shipment, including the skid and any boxes for evidence of damage that may have occurred during transit. The equipment warranty will not apply to systems which are damaged during shipment.

### **VISIBLE DAMAGE**

It is the responsibility of the person receiving the shipment to inventory and fully inspect all materials against the bill of lading or weigh bill IMMEDIATELY while the carrier representative is still present. Ensure that all items are accounted for, including number of skids and quantity of boxes. Also note any visible external damage that may have occurred during transit. Make all applicable notations on the delivery receipt before signing and file a damage report with the carrier.

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## **STORAGE OF BATTERY SYSTEMS**

Follow these guidelines when storing our battery systems.

### **Avoid:**

1. Storage with extreme changes in temperature and high humidity.
2. Storage with high levels of dust.
3. Storage with excessive vibration or inclined flooring.
4. Storage for extended periods of time.

### **Storing the systems:**

1. Batteries can be stored for up to 6 months at temperatures not to exceed 77 °F.
2. Charge the batteries before storing.
3. Store the equipment in the original shipping container.
4. Storage should have a temperature range of -4 to 104 °F (-20 to 40 °C).
5. Optimal storage temperature is 70 °F (20°C). Higher or lower storage temperatures will require the extended batteries cabinets and trays to be recharged more frequently.

## **DISPOSAL OF BATTERIES**

It is illegal to dump lead acid batteries in landfills or to dispose of them improperly. Please contact your federal, state, or local environmental agency for details of disposal of electrical components and batteries

Reorient or relocate the receiving antenna.

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## 3.0 INSTALLATION

### PRECAUTIONS

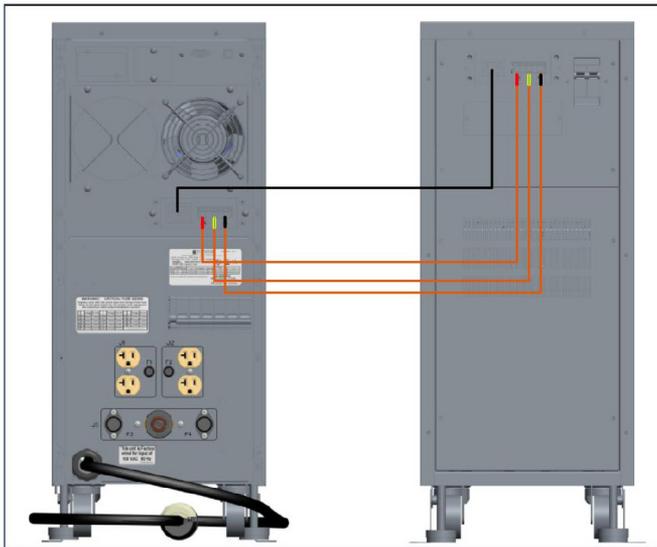
#### Installation Precautions

1. Install the system in a ventilated location; allow at least 4 inches (10 cm) on all sides for air ventilation and maintenance.
2. Install the system in a level and upright position, which is free of vibration.
3. Install the unit where the ambient temperature is within the correct operating range.
4. Do not install the system in a location that is subject to high humidity.
5. Do not install the unit at sites that are exposed to direct sunlight.
6. Do not install system in a location with dust, metal particles, or flammable gases.
7. Avoid installation near sources of electrical noise.
8. Make sure the system's ground is intact to prevent electrical shock and to help reduce electrical noise.
9. Do not install where water or any foreign objects/substances may get inside the system.

#### PRESTART PRECAUTIONS

1. The following instructions are for UPS systems and battery cabinets. UPS power and battery cabinet power are separate inputs to the system and matching the correct power source to the power inlet must be observed. Please contact factory for any questions concerning connection instructions.
2. Do not power the battery cabinet or UPS system without first reading the entire instruction manual.
3. Before connecting the extended battery cabinet to the UPS system verify the two are compatible. See chart below. Any listed UPS system in the charts below are compatible with the battery cabinet listed in the respective charts.

4. Do not connect the two systems unless both of them were purchased and approved by AMETEK Powervar.
5. Before connecting ensure the DC circuit breaker on the rear of the battery cabinet is in the OFF position.



UPS Systems	Extended Battery Cabinets	Systems DC Voltage
ABCDEF2000-11	D9632-11 or D9648-11	96VDC
ABCDEF3000-11	D9632-11 or D9648-11	96VDC

- or -

UPS Systems	Extended Battery Cabinets	Systems DC Voltage
ABCDEF2000-22	D9632-22 or D9648-22	96VDC
ABCDEF3000-22	D9632-22 or D9648-22	96VDC
ABCDEF4000-22	D9632-22 or D9648-22	96VDC
ABCDEF5200-22	D9632-22 or D9648-22	96VDC
ABCDEF6000-22	D9632-22 or D9648-22	96VDC

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 **WARNING**

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Note: Note: Extended Battery Cabinets can be externally powered by either 200-240VAC or 100-140VAC and must be connected to the recommended power source to work properly. (e.g. a 120V charger on a XXXXX-11 battery cabinet cannot be connected to a 208VAC power source).

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 **DANGER**

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## **CABLE CONNECTION AND DIAGRAMS**

### **Battery cabinet**

The following drawing illustrates which wiring connection is between the UPS system and battery cabinet.

Contacts are not rated with interrupting capacity. Make sure the circuit breaker switch on the rear of the battery system is set to the OFF position before connecting the UPS system and the battery cabinet.

### **UPS and Battery Cabinet Connection (Diagram)**

The following drawing illustrates with wiring connection is between the UPS system and battery cabinet. ENSURE THE SYSTEMS ARE COMPATIBLE.

### **Connection Procedure**

1. The battery cabinets will ship with a six foot connection cable. Make sure you use these cables when connecting this equipment.
2. Make sure all power is turned off on the UPS system and all circuit breakers are in the off position on both the UPS and battery cabinet.

- 
3. Remove extended battery connector plates on the back panel of the UPS system and battery cabinet. Battery connector plates are located below the exhaust fan on the UPS system.
  4. Connect the DC cable to the DC connector socket located on the back panel of the battery cabinet.
  5. Connect the DC cable connected to the battery cabinet into the DC connector socket on the back of the UPS system.
  6. Flip the circuit breaker to the ON position, located on the back of the battery cabinet.
  7. Turn on the UPS system.

## **4.0 OPERATION**

### **Charging Connection**

The battery cabinet D9632-11 or D9648-11 requires a 120VAC connection between the UPS system and the battery cabinet to keep the batteries charged. The battery cabinet D9632-22 or D9648-22 requires a 208VAC connection between the UPS system and the battery cabinet to keep the batteries charged. This connection is made via the IEC320 C13 and C14 connectors next to the DC connector on the UPS and battery cabinet. Use the power cord that is included with the battery cabinet to make this connection. The battery cabinet will not be able to charge its batteries without this connection.

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## Connecting Multiple Battery Cabinets

Up to six battery cabinets may be connected in parallel to the UPS system. To connect multiple battery cabinets follow the instructions below:

1. Connect the first battery cabinet to the UPS system as illustrated above.
2. Connect the connection cable to the lower connection socket in battery cabinet (2).
3. Connect the connection cable to the upper connection socket in battery cabinet (1).
4. Repeat these steps for multiple battery cabinets
5. Flip the circuit breaker on battery cabinet #2 to the ON position, located on the back of the battery cabinet.
6. Flip the circuit breaker on battery cabinet #1 to the ON position, located on the back of the battery cabinet.
7. Turn on the UPS system.

## Power Cables

The three battery cabinet connection cables (Positive, Negative, and Control) are individually keyed Anderson connectors to prevent cross connecting the battery cabinets and UPS circuitry.

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## 5.0 MAINTENANCE

### Battery Tray Replacement And Preventive Maintenance

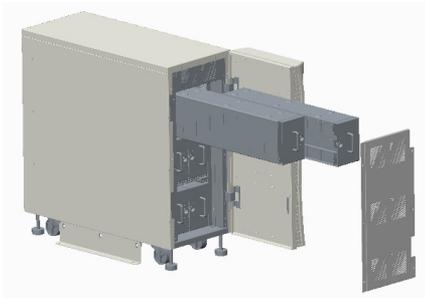
Please contact AMETEK Powervar at (1-800-369-7179) for correct battery replacement kits.

#### Battery Tray Replacement

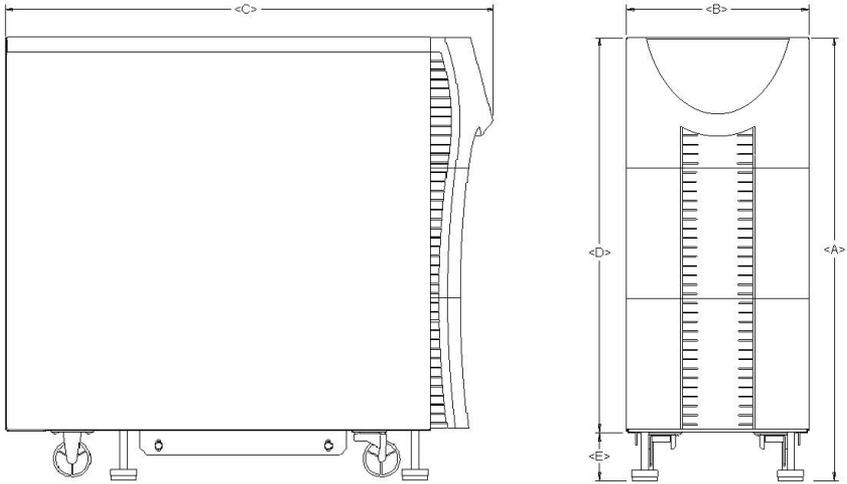
1. Flip the circuit breaker on the rear panel of the battery cabinet to the OFF position.
2. Remove the front plastic panels of the extended battery cabinet.
3. With a screwdriver, remove the metal front panel and the securing bar.



4. Pull battery tray (1), then tray (2), then tray (3), then tray (4) out of the unit.
5. Slide the new AMETEK Powervar battery trays into the empty slots.
6. Make sure the trays are secure and connected to the connection socket.
7. Place and secure the metal bars, panels, and plastic covers back on the unit.
8. Flip the circuit breaker on the rear panel of the battery cabinet to the ON position.



## 6.0 SPECIFICATION



### Dimensions

Model		A	B	C	D	E
D9632-11 D9632-22	<b>IN</b>	29.0	11.8	31.7	25.75	3.25
D9648-11 D9648-22	<b>(mm)</b>	(737.0)	(299.72)	(804.18)	(654.05)	(82.55)

### Shipping Weights / Dimensions

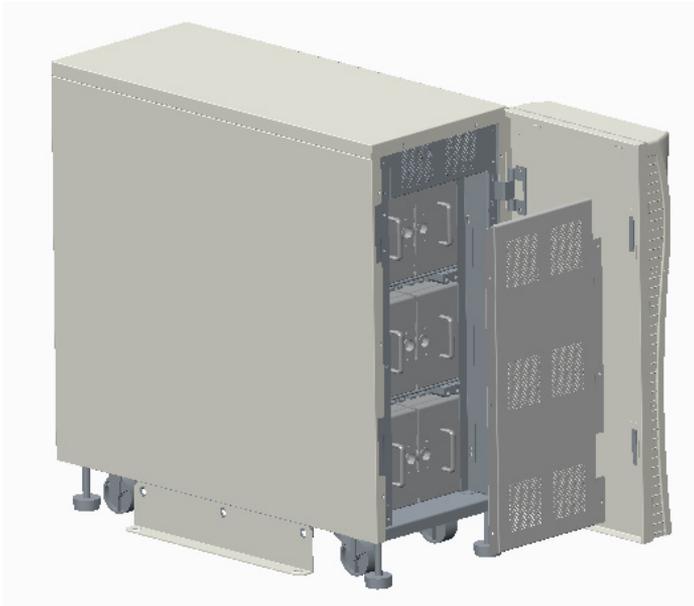
Model	Pounds	Kilograms
D9632-11 D9632-22	442	200.5
D9648-11 D9648-22	527	239

Model		H	W	L
D9632-11 D9632-22	<b>IN</b>	44	23.25	38.5
	<b>(mm)</b>	(1117.6)	(590.5)	(977.9)
D9648-11 D9648-22	<b>IN</b>	44	23.25	38.5
	<b>(mm)</b>	(1117.6)	(590.5)	(977.9)

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## Security Plus Runtime Chart

UPS RATING	Internal Batteries	Single D28848 Cabi-net	
2kVA	9 Min	+ 90 Min	+ 60 Min
3kVA	15 Min	+ 60 Min	+ 45 Min
4kVA	10 Min	+ 45 Min	+ 25 Min
5.2kVA	6 Min	+ 25 Min	+ 25 Min
6kVA	6 Min	+ 25 Min	+ 15 Min



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## 7.0 TROUBLESHOOTING

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 **CAUTION**

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Battery cables are located in between the battery trays. Examine all battery connections to ensure that there are no loose or damaged connections prior to connecting battery trays.

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Battery connectors extend past the front of the battery trays. Examine all battery connectors to ensure that there is clearance between the connections and the cover plate before installing cover panels.

### **Preventive Maintenance**

AMETEK Powervar's battery cabinets have been constructed to provide years of trouble-free operation with minimal preventive maintenance required. AMETEK Powervar recommends keeping the area around the battery cabinet free of moisture and dust. You should schedule an authorized service agent to inspect your equipment once a year. Contact AMETEK Powervar with further questions.

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 **CAUTION**

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Only authorized and trained technicians who are familiar with electrical safety codes should conduct preventive maintenance on this equipment.

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 **WARNING**

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Proper maintenance of the battery cabinet and battery trays are essential to keep a safe and reliable UPS system and battery cabinet.

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## 8.0 UPS WARRANTY

AMETEK Powervar warrants its Security Plus Extended Battery Cabinet (known hereafter as the“product”) to be free from defects in materials and workmanship for a period of two years from the date of shipment. The product will be repaired or (at AMETEK Powervar’s option) replaced at no charge during this warranty period. Product must be returned prepaid. See our website [www.powervar.com](http://www.powervar.com) for ull warranty statement.

AMETEK Powervar makes no warranties, expressed or implied, of merchantability, fitness for a particular purpose, performance, condition, capacity or otherwise. The manufacturer is not liable for incidental or consequential damages, monetary loss, loss of sales or loss of business resulting from the failure or malfunction of the product.

Warranty is void on any product that is misused, misapplied, abused, altered, repaired by unauthorized personnel, or where evidence of tampering exists. The foregoing constitutes the sole and exclusive remedy of the purchaser and is in lieu of all other warranties. No greater degree of liability is imposed on the manufacturer. Refer to AMETEK Powervar warranty statement for full details.



Access additional product information and support on the web at [www.powervar.com](http://www.powervar.com)

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AMETEK Powervar



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(F) 847-596-7100

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(P) 905-239-9284

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