

UNINTERRUPTIBLE POWER SUPPLY (UPS)

# **S70 Line-Interactive**

Low Voltage Tower Models

USER & INSTALLATION MANUAL

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## Package Contents

You should be receiving the following items inside the package:

- UPS Unit
- User Manual
- Local Monitoring Software CD
- USB cable

## Product Introduction

Thank you for selecting this uninterruptible power supply (UPS). It provides you with protection for connected equipment. **Please read this manual** before installing the S70-Series UPS models S70-500, S70-700, S70-1000, S70-1500, and S70-2000 as it provides important information that should be followed during installation and maintenance of the UPS and batteries, allowing you to correctly set up your system for the maximum safety and performance. Included is information on customer support and service, if it is required. If you experience a problem with the UPS, please refer to the Troubleshooting section in this manual to correct the problem. If the problem is not corrected, please collect information so that the Technical Support personnel can more effectively assist you.

## Product Overview

Many different kinds of sensitive electrical equipment can be protected by an Uninterruptible Power Supply (UPS) including computers, workstations, process control systems, telecommunications systems, sales terminals, other critical instrumentation, etc. The purpose of the UPS is to protect these

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systems from poor quality utility power, complete loss of power, or other associated problems.

Electrical interference exists in many forms, causing problems in AC power, from lightning, power company accidents and radio transmission motors, air conditioners, and vending machines. Protection of sensitive electrical equipment is vital to protect against power outages, low or high voltage conditions, slow voltage fluctuations, frequency variations, differential and common-mode noise, transients, etc.

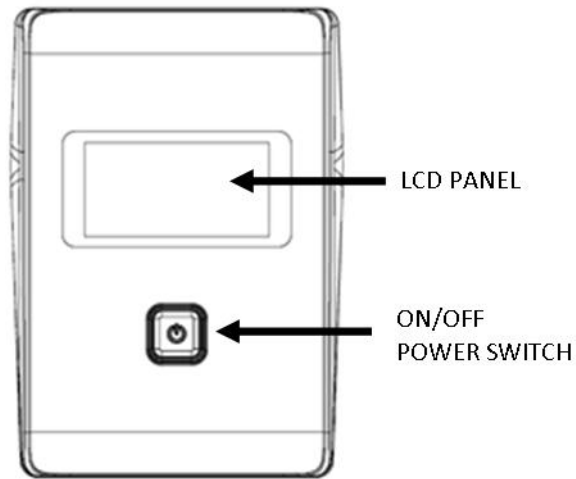
To prevent power line problems from reaching critical systems causing damage to software, hardware, and equipment malfunctions, the UPS maintains constant voltage, isolating critical load output and cleaning the utility AC power.

### **Line-Interactive Technology**

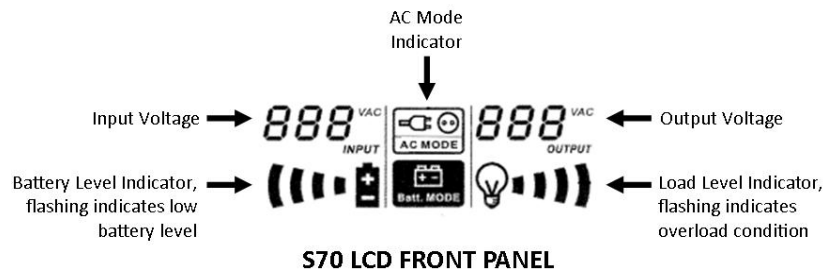
A line-interactive technology UPS provides basic power protection and Automatic Voltage Regulation (AVR) to the load when AC input power is available. When AC input power is unavailable, the line-interactive UPS will switch to batteries to supply the load with power. In the event that the power failure lasts longer than the UPS backup time, the UPS will shut down avoiding battery damage. When the input AC voltage returns, the UPS will automatically return online to recharge the batteries.

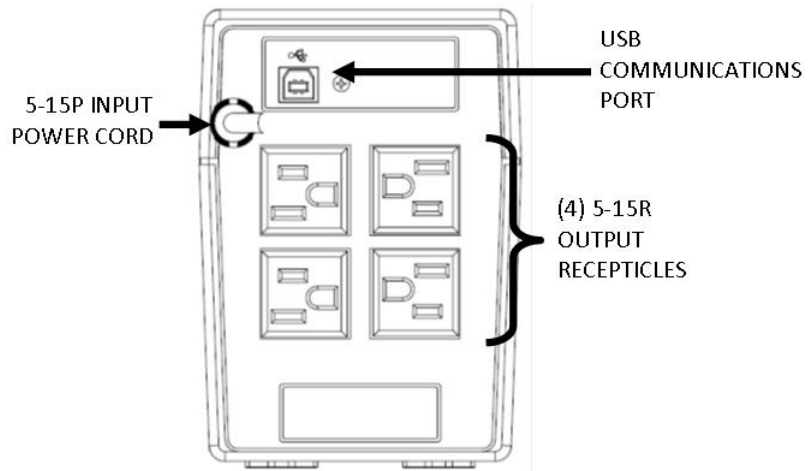
- AC input flows into and through the AVR to the load.
- When AC input varies outside the acceptable specification, the AVR switches taps on the transformer to better regulate the output.
- If AC input power fails, the inverter turns on and supplies power from the batteries to the load.

- When AC input power returns, the UPS automatically begins supplying the load with power through the AVR circuit.
- The charger circuit provides recharge for the batteries.

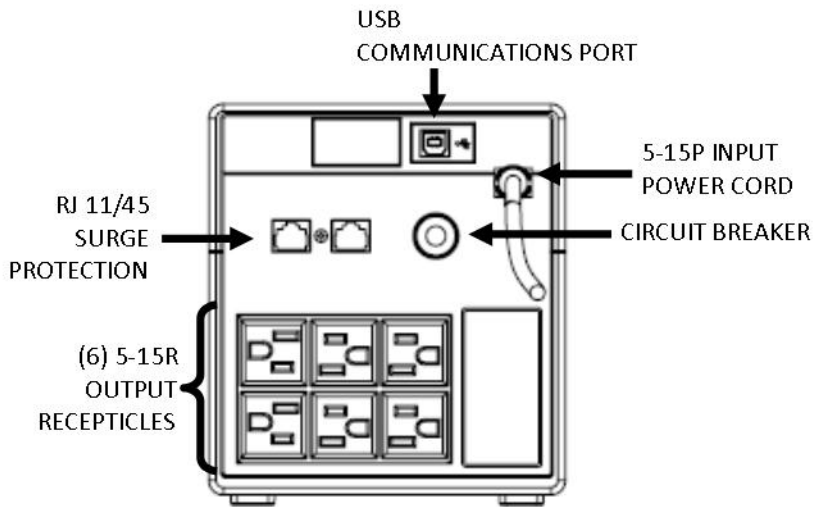


**S70-SERIES  
FRONT VIEW**

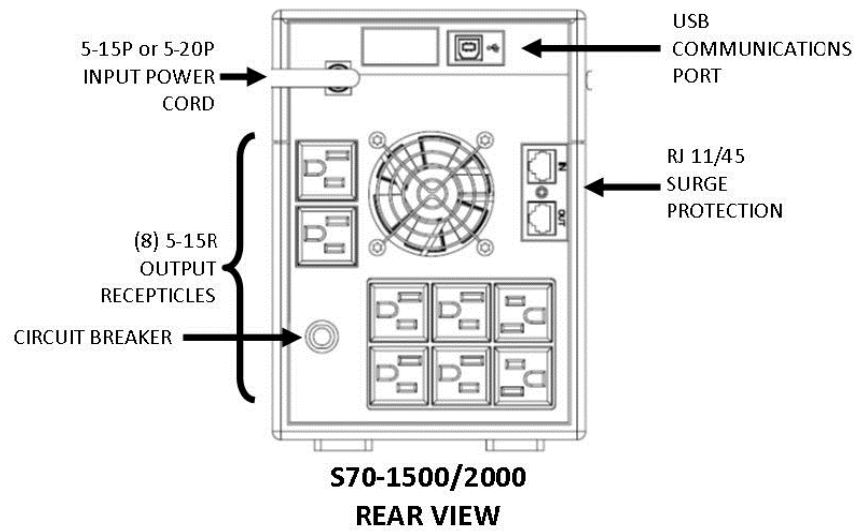




**S70-500/700  
REAR VIEW**



**S70-1000  
REAR VIEW**

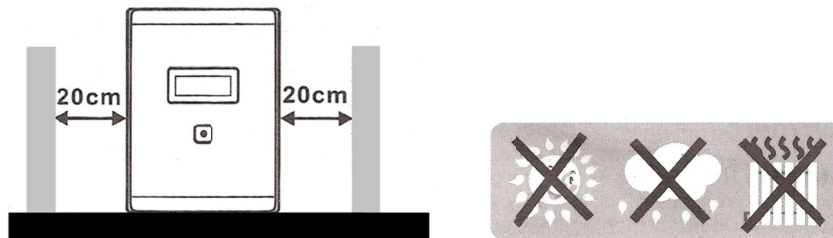


## Installation & Initial Startup

**Note:** Before installation, inspect the unit and packaging to make sure that nothing inside has been damaged.

### Placement & Storage

Install the UPS in a protected area that is free of excessive dust and has adequate air flow. Place the UPS away from other units at least 7.8 in (20 cm) to avoid interference. DO NOT operate the UPS where the temperature and humidity is outside the specified limits. (See Specifications for details).



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### **Connect UPS to Utility and Charging**

Before the initial use of the UPS, plug the UPS input cord into a wall outlet and turn the UPS on by depressing the Power switch on the front of the UPS. For best results, the batteries in the UPS should be charged for at least 6 hours before use. The UPS charges its battery while it is connected to AC utility power and powered on.

### **Connecting the Loads**

Plug the loads to be supported by the UPS into the output receptacles on the rear of the UPS. Simply turn the power switch on the UPS on and the devices connected to the UPS will be protected by the UPS unit.

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

### **Connect Modem / Phone for Surge Protection (S70 -1000, -1500, -2000 models only)**

Connect a single modem/phone line into surge-protected "IN" outlet on the back of the UPS unit. Connect from "OUT" outlet to the computer with phone line cable.

### **Connect Communication Cable**

To allow for unattended UPS shutdown/start-up and status monitoring, connect one end of the communication cable to the USB port and the other end to a USB port of a PC. With the monitoring software installed, you will be able to schedule UPS shutdown/start-up and to monitor the UPS status through the PC.

### **Turn UPS ON / OFF**

To turn the UPS unit on, press the Power switch on the front of

the UPS. To turn the UPS unit off, press the Power switch on the front of the unit again.

### **Cold Start Function**

When the UPS is off and there is not input utility power available, it is still possible to cold start the UPS unit to power loads. Follow the instructions for Turning UPS ON and be aware that you will see and hear the ON BATTERY ALARM.

### **IMPORTANT SAFETY INSTRUCTIONS: (SAVE THESE INSTRUCTIONS)**

**CAUTION! (UPS having Internal Batteries):** Risk of electrical shock – Hazardous live parts inside this unit are energized from the battery supply even when the input AC power is disconnected.

**CAUTION! (No User serviceable Parts):** Risk of electrical shock, do not remove cover. No user serviceable parts inside. Refer servicing to qualified service personnel.

**CAUTION! (Non-isolated Battery supply):** Risk of electric shock, battery circuit is not isolated from AC input, hazardous voltage may exist between battery terminals and ground. Test before touching.

**WARNING!** Unit intended for installation in a controlled environment.

**CAUTION!** Do not dispose of batteries in a fire, the battery may explode.

**CAUTION!** Do not open or mutilate the battery, released electrolyte is harmful to the skin and eyes.

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

Remove watches, rings or other metal objects.

Use tools with insulated handles.

To reduce the risk of electric shock, disconnect the UPS from the main supply before installing a computer interface signal cable. Reconnect the power cord only after signaling interconnections have been made.



Servicing of batteries should be performed or supervised by personnel with knowledge of batteries and the required precautions. Keep unauthorized personnel away from batteries.

The instructions contained within this safety manual are deemed important and should be closely followed at all times during installation and follow-up maintenance of the UPS and batteries.



**CAUTION:** The unit has a dangerous amount of voltage. If the UPS indicator is on, the unit's outlets may have a dangerous amount of voltage even when not plugged into the wall outlet because the battery may continue to supply power.

Care should be taken to undertake installation indoors, free from electrically-conductive particles which are under temperature and humidity control, in order to reduce the risk of electric shock.

It is best to disconnect the device using the power supply cord. Ensure that the equipment is placed in a position near the outlet where easily accessible.

All servicing on this equipment must be carried out by qualified service personnel.

Before conducting any maintenance, repair, or shipment, first ensure that everything is turned off completely and disconnected.

## Troubleshooting

Condition	Visual Indicator	Alarm
No words display on front panel	Low battery	Charge the UPS at least 6 hours
	Battery fault	Replace the battery with the same type of battery
	The UPS is not turned on	Press the Power Switch on the front of the UPS
Alarm continuously sounds when the AC input is normal	The UPS is overloaded	Remove some of the load from the output of the UPS
When power fails, backup time is shorter than expected	The UPS is overloaded	Remove some of the load from the output of the UPS
	Battery voltage is too low	Charge the UPS at least 8 hours
	Battery defect – possibly due to high environmental temperature or improper operation of the battery	Replace the battery with the same type of battery
Utility power is available but the UPS is in battery mode	Power cord is loose	Reconnect the input power cord properly

## Specifications

	120V Model	S70-500	S70-700	S70-1000	S70-1500	S70-2000	
INPUT	Voltage	120VAC (81-145)					
	Capacity VA (W)	500VA (300W)	700VA (420W)	1000VA (600W)	1440VA (900W)	2000VA (1200W)	
	Frequency	60 Hz auto sensing					
OUTPUT	Voltage	120VAC (108-132)					
	Waveform	Simulated sine wave					
	Frequency	60 ± 1 Hz					
	Transfer Time	2-6ms (Typical)					
BATTERY	Battery Type	Sealed, Maintenance-free lead acid					
	Battery Qty & Size	(1) 12V 7AH	(1) 12V 9AH	(2) 12V 7AH	(2) 12V 9AH		
	Recharge	4 - 6 hours to 90% capacity					
PHYSICAL	Dimensions	W x D x H					
	Product Dimensions	3.9 x 11.3 x 5.6 in (100 x 287 x 142 mm)		5.7 x 13.8 x 6.3 in (146 x 350 x 160 mm)		5.7 x 15.6 x 8.1 in (146 x 397 x 205 mm)	
	Shipping Dimensions	5.5 x 13.1 x 8.7 in (140 x 332 x 220 mm)		7.5 x 17.4 x 10.0 in (190 x 442 x 254 mm)		9.1 x 19.3 x 11.3 in (230 x 490 x 287 mm)	
	Product Weight	9.5 lbs (4.3 kg)	10.8 lbs (4.9 kg)	17.6 lbs (8.0 kg)	24.5 lbs (11.1 kg)	25.4 lbs (11.5 kg)	
	Shipping Weight	10.1 lbs (4.6 kg)	11.5 lbs (5.2 kg)	19.4 lbs (8.8 kg)	27.1 lbs (12.3 kg)	28.0 lbs (12.7 kg)	
	Line Cord	5-15P				5-20P	
	Receptacles	(4) 5-15R		(6) 5-15R		(8) 5-15R	
	Data Line Protection	N/A		RJ45			
	Comm Interface	USB					
	Color	Black Plastic					
	Included in box	ViewPower CD, USB cable, Manual					

	120V Model	S70-500	S70-700	S70-1000	S70-1500	S70-2000
<b>ENVIRONMENT</b>	<b>Operating Temperature</b>	32-104°F (0-40°C)				
	<b>Humidity</b>	0%-90%				
	<b>Audible Noise</b>	< 40dB				
	<b>Altitude</b>	11,500 ft (3500 m) above sea level				
<b>INDICATORS &amp; ALARMS</b>	<b>LCD Display</b>	AC Mode, Battery Mode, Load Level, Battery Level, Input Voltage, Output Voltage, Overload, Fault, Low Battery				
	<b>Battery Mode</b>	Alarm sounds every 10 seconds				
	<b>Low Battery</b>	Alarm sounds every second				
	<b>Overload</b>	Alarm sounds every 0.5 seconds				
	<b>Battery Replacement</b>	Alarm sounds every 2 seconds				
	<b>Fault</b>	Alarm sounds continuously				

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## Obtaining Service

If the UPS requires Service:

1. Use the TROUBLESHOOTING section in this manual to eliminate obvious causes.
2. Verify there are no circuit breakers tripped.
3. Call your dealer for assistance. If you cannot reach your dealer, or if they cannot resolve the problem, call Xtreme Power Conversion Corp Technical Support at 800.582.4524. Technical support inquiries can also be made at [support@xpcc.com](mailto:support@xpcc.com). Please have the following information available BEFORE calling the Technical Support Department:
  - a. Your name and address.
  - b. The serial number of the unit.
  - c. Where and when the unit was purchased.
  - d. All of the model information about your UPS.
  - e. Any information on the failure, including LED's that may or may not be illuminated.
  - f. A description of the protected equipment, including model numbers if possible.

A technician will ask you for the above information and, if possible, help solve your problem over the phone. In the event that the unit requires factory service, the technician will issue you a Return Material Authorization number (RMA).

If you are returning the UPS to Xtreme Power for service, please follow these procedures:

1. Pack the UPS in its original packaging. If the original packaging is no longer available, ask the Technical Support Technician about obtaining a replacement set of packaging material. It is important to pack the UPS properly in order to avoid damage in transit. Never use Styrofoam beads for a packing material.
2. Include a letter with your name, address, daytime phone number, RMA number, a copy of your original sales receipt, and a brief description of the problem.
3. Mark the RMA number on the outside of all packages. Xtreme Power cannot accept any package without the RMA number marked on the outside of the boxes.
4. Return the UPS by insured, prepaid carrier to the address provided by the Technician.
5. Refer to the Warranty statements in this manual for additional details on what is covered.

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**Xtreme Power Conversion® (XPC) CORPORATION LIMITED WARRANTY**

Xtreme Power Conversion (XPC) Corporation warrants Xtreme Power Conversion equipment, when properly applied and operated within specified conditions, against faulty materials or workmanship (excluding batteries) for a period of **three years for S70-Series products** from the date of purchase. XPC Corporation warrants **internal batteries for a period of three years** from the date of purchase. For equipment sites within the United States and Canada, this warranty covers repair or replacement, at the sole discretion of XPC Corporation. The customer is responsible for the costs of shipping the defective product to XPC Corporation. XPC Corporation will pay for ground shipment of the repaired or replacement product. This warranty applies only to the original purchaser.

If equipment provided by XPC Corporation is found to be **Dead-on-Arrival (DOA)**, XPC Corporation will be responsible for the costs of shipping product to and returning equipment from the customer in a timely manner as agreed to with the customer, once the customer has requested and received a **Return Material Authorization (RMA)** number. DOA equipment is defined as equipment that does not properly function according to user documentation when initially received and connected in conjunction with proper procedures as shown in the user documentation or via support provided by XPC Corporation personnel or authorized agents.

This warranty shall be void if (a) the equipment is repaired or modified by anyone other than XPC Corporation or a XPC Corporation approved third party; (b) the equipment is damaged by the customer, is improperly used or stored, is subjected to an adverse operating environment, or is operated outside the limits of its electrical specifications; or (c) the equipment has been used or stored in a manner contrary to the equipment's operating manual, intended use or other written instructions. Any technical advice furnished by XPC Corporation or a XPC Corporation authorized representative before or after delivery with regard to the use or application of Xtreme Power Conversion equipment is furnished on the basis that it represents XPC Corporation's best judgment under the situation and circumstances, but it is used at the recipient's sole risk.

EXCEPT AS STATED ABOVE, XPC CORPORATION DISCLAIMS ALL WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

EXCEPT AS STATED ABOVE, IN NO EVENT WILL XPC CORPORATION BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OF Xtreme Power Conversion EQUIPMENT, including but not limited to, any costs, lost profits or revenue, loss of equipment, loss of use of equipment, loss of software, loss of data, cost of substitutes, or claims by third parties..Purchaser's sole and exclusive remedy for breach of any warranty, expressed or implied, concerning Xtreme Power Conversion equipment, and the only obligation of XPC Corporation under this warranty, shall be the repair or replacement of defective equipment, components, or parts; or, at XPC Corporation's sole discretion, refund of the purchase price or substitution of an equivalent replacement product.

**XTREME POWER CONVERSION® LOAD PROTECTION POLICY**

For Standard EPC 120, 208 and 240 Volt Products used in the United States and Canada  
 THIS POLICY IS NOT A WARRANTY. REFER TO **THE XPC CORPORATION, INC. LIMITED WARRANTY** FOR INFORMATION CONCERNING THE WARRANTY FOR YOUR XPC PRODUCT. THE LIMITATIONS AND CONDITIONS CONTAINED IN THIS POLICY DO NOT AFFECT **THE TERMS OF THE XPC LIMITED WARRANTY.**

**Definitions:**

1. "Product" means an XPC Standard EPC 120, 208, or 240 Volt power protection device that is used in the United States and Canada. This policy does not include custom manufactured products.
2. "Power Disturbance" means an AC power line transient (telephone line, local Area Network or CATV transients, if applicable), spike or surge.
3. "Fair Market Value" of damaged Connected Equipment as determined by XPC shall be the lower of (a) the average price the same or similar items are being sold for on eBay, (b) the price list of Orion Blue Book (or if such price list is no longer published, a published or announced price list reasonably selected by XPC), (c) the lowest price the same or similar items can be purchased for in the United States or (d) the total amount of all payment(s) you have or are entitled to receive from insurance, other warranties, extended warranties, a legal liability claim or from other sources or persons for the damaged Connected Equipment.
4. "Initial Purchaser," "Purchaser" or "You" means the person or entity that originally purchased the Product from an authorized reseller or distributor of XPC Products. The Initial Purchaser of this Product is protected, for the term of the XPC Limited Warranty, against certain losses caused by a Power Disturbance for properly connected electronic equipment (referred to as the "Connected Equipment") subject to certain terms and conditions provided below.

This policy applies only to the original purchaser of the Product. If the Product is transferred or sold to another person or entity, this policy is void.

**Load Protection Policy Dollar and Period Limits**

For purchasers that meet the qualifications and conditions set forth in this policy, XPC will provide reimbursement (cost of repair or fair market value as determined by XPC) during the period limits and up to the dollar limits stated as follows:

Product	Dollar limit	Period of Coverage
XST, XVT, S70	25,000	Term of XPC Limited Warranty
NXRT-XPRT- 6 kva	50,000	Term of XPC Limited Warranty
NXRT-XPRT-10 kva	50,000	Term of XPC Limited Warranty

This Load Protection Policy is not deemed "first dollar" coverage. XPC's obligation is reduced by any amounts that the Initial Purchaser is entitled to recover, from other sources regarding the Connected Equipment, including, but not limited to, insurance, other warranty, extended warranty, or legal liability, regardless of whether or not the Initial Purchaser makes a claim for recovery.

**Eligibility for coverage under the Load Protection Policy**

1. The Product must be registered on the XPC website, [www.xtremepowerconversion.com](http://www.xtremepowerconversion.com), within 10 days of purchase. All required information must be provided, and Purchaser should retain a copy for Purchaser's records. When registering on the website, Purchaser must list all connected equipment that is directly connected to the product. Only those devices registered in that manner will be covered.

2. All Connected Equipment must be UL or CSA approved.
3. The Product must be plugged into a properly wired and grounded outlet. Use of input surge devices, extension cords, adapters, ground wires, or electrical connections not manufactured by XPC voids the XPC Load Protection Policy. No other surge protection device may be connected to the output sockets of the Product. The installation must comply with all applicable electrical and safety codes set forth pursuant to the NEC.
4. The Product must have undeniable physical evidence of a Power Disturbance that directly and proximately caused the damage;
5. The Connected Equipment must have been damaged by a Power Disturbance on a properly installed, grounded, and National Electric Code, ("NEC"), code-compliant 120, 208, 240-volt AC power line in the United States or Canada, by a Power Disturbance on standard telephone land line or PBX telephone equipment line that is properly installed and connected to an RJ11 port on the Product; or by a Power Disturbance on a standard Local Area Network connection that is properly installed and connected to an RJ45 port on the Product and (d) is directly plugged into, and properly connected to, the Product in its original condition which was properly operated when a Power Disturbance passed through the Product and (i) exhausts the protection capacity of the Product or (ii) damages the Product.
6. The Load Protection Policy does not apply if the Product has been operated in a failure mode or not in compliance with XPC operating instructions in the Product user's manual, or if the Connected Equipment has not been operated in compliance with the instructions and manuals of its manufacturer/vendor.
7. This policy is null and void if, XPC determines, in its sole discretion, that the Product has been tampered with or altered in any way.

**What is Not Covered Under the Load Protection Policy:**

The following damage is not covered by this Policy:

1. Restoration of lost data and reinstallation of software.
2. Damage from a cause other than AC power-line transients, except for damage due to telephone line, Local Area Network, or CATV transients, which is covered only if the Product offers such protection.
3. DAMAGE CAUSED BY FAILURE TO PROVIDE A SUITABLE INSTALLATION ENVIRONMENT FOR THE PRODUCT (INCLUDING, BUT NOT LIMITED TO, LACK OF A PROPER SAFETY GROUND).
4. Damage caused by the use of the Product for purposes other than those for which it was designed.
5. Damage caused by accidents, or natural disasters, including but not limited to, fire, flood, and wind.
6. Damage caused by abuse, misuse, alteration, modification, or negligence.
7. Any labor costs or travel, room and board expenses associated with the repair and/or restoration of lost or damaged hardware, software or data.

**EXCEPT AS EXPRESSLY PROVIDED IN THIS POLICY, XPC SHALL NOT BE LIABLE FOR ANY DAMAGES WHATSOEVER, INCLUDING, BUT NOT LIMITED TO, DIRECT, INDIRECT, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR MULTIPLE DAMAGES ARISING OUT OF THE USE OF THE PRODUCT OR DAMAGE TO THE CONNECTED EQUIPMENT, REGARDLESS OF THE LEGAL THEORY ON WHICH SUCH CLAIM IS BASED, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE. SUCH DAMAGES INCLUDE, BUT ARE NOT LIMITED TO, LOSS OF PROFITS, LOSS OF SAVINGS OR REVENUE, LOSS OF USE OF THE PRODUCT OR THE CONNECTED EQUIPMENT OR ANY ASSOCIATED EQUIPMENT, LOSS OF SOFTWARE, COST OF CAPITAL, COST OF ANY SUBSTITUTE EQUIPMENT, FACILITIES OR SERVICES, DOWNTIME,**



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**THE CLAIMS OF THIRD PARTIES, INCLUDING CUSTOMERS, AND INJURY TO PROPERTY.****Submitting a Load Protection Policy Claim:**

1. Any claim under the Load Protection Policy must be made **within 10 days** of the date of alleged damage to the Connected Equipment.
2. Call the XPC technical support department at 1-800- 582-4524 and obtain a Load Protection Policy Returned Material Authorization (RMA) number. Have information on all applicable insurance or other resources of recovery/payment that are available to the Initial Purchaser and the name of the power utility supplier for the location of the Connected Equipment. XPC will forward to you a Load Protection Policy claims form, which must be completed and filed with XPC within 30 days.
  - a. Mark the Load Protection Policy RMA number on the Product you are returning.
  - b. Pack the Product in its original packaging or similar packing materials if the original packaging has been discarded. Enclose the completed Load Protection Policy claim form and a copy of your original sales receipt for the Product in the box.
  - c. Mark the RMA number clearly on the outside of the box.
  - d. Ship the Product (one-way shipping charges paid by you) to:

XPC Corporation, 230 Yuma Street, Denver, Colorado 80439, Attn: LPP RMA#
3. XPC will evaluate the Product to determine its level of functionality, and will examine the Product for evidence of damage from a Power Disturbance..
  - a. If XPCs' evaluation provides no evidence of damage from a Power Disturbance, XPC will send to the Purchaser (i) a report summarizing the tests performed and (ii) a rejection of claim notice.
  - b. If the Product shows evidence of damage from a Power Disturbance, XPC will request that all Connected Equipment for which a Load Protection Policy claim has been submitted, be sent for evaluation to either XPC or an authorized service center. If it is determined that the Connected Equipment has been damaged by a Power Disturbance, XPC will, in its sole discretion, issue payment to you for either the cost of repair of the Connected Equipment or the Fair Market Value of the damaged Connected Equipment, up to the dollar limits stated above. XPC reserves the right to require you to transfer title and deliver the Connected Equipment to XPC if it chooses to reimburse you for the fair market value of the Connected Equipment. XPCs' maximum liability shall be reduced to reflect all such other payments or sources of recovery, whether applied for or not.
4. If XPC issues payment to you to have the Connected Equipment repaired, the repair must be performed at a service center that is authorized by the manufacturer of the Connected Equipment. XPC reserves the right to contact the authorized service center directly to discuss repair costs and damage to the Connected Equipment to determine if it was caused by a Power Disturbance and the right to request that the service center forward the Connected Equipment or components of the Connected Equipment to XPC for inspection
5. Unless modified in writing signed by an officer of XPC and you, the terms of this policy are the complete and exclusive agreement between the parties, superseding all prior agreements, oral or written, and all other communications between the parties relating to the subject matter of this agreement. No employee of XPC or any other party is authorized to make any representations beyond those made in this agreement concerning the Load Protection Policy.

XPC Corporation  
230 Yuma Street  
Denver, Colorado 80223  
1.800.582.4524

**For more information about Xtreme Power Conversion Corporation products, services, or UPS Selector sizing, please visit [www.xpcc.com](http://www.xpcc.com)**