

POWER PROTECTION



**UPStation® GX**

**1000 VA to 3000 VA**



## **IMPORTANT SAFETY INSTRUCTIONS**

**WARNING:** Do not attempt to service this product or replace the batteries yourself. Opening or removing the cover may expose you to dangerous voltages, even if the UPS is unplugged. There are no user-serviceable parts inside the unit. Refer all servicing to qualified service personnel.

1. **SAVE THESE INSTRUCTIONS.** ADHERE TO ALL OPERATING INSTRUCTIONS AND WARNINGS ON THE UNIT AND IN THIS MANUAL.
2. **CONSERVER CES INSTRUCTIONS.** CETTE NOTICE CONTIENT DES INSTRUCTIONS IMPORTANTES CONCERNANT LA SÉCURITÉ.
3. **Liebert Corporation neither recommends nor knowingly sells this product for use with life support or other U.S. FDA designated "critical" devices.**
4. **CAUTION:** A BATTERY PRESENTS A RISK OF ELECTRICAL SHOCK OR BURN FROM HIGH SHORT CIRCUIT CURRENT. OBSERVE PROPER PRECAUTIONS.
5. **ATTENTION:** UNE BATTERIE PEUT PRÉSENTER UN RISQUE DE CHOC ÉLECTRIQUE DE BRULURE PAR TRANSFERT D'ÉNERGIE. SUIVRE LES PRÉCAUTIONS QUI S'IMPOSENT.
6. WHEN REPLACING BATTERIES, USE THE SAME NUMBER AND TYPE OF BATTERIES. PROPER BATTERY DISPOSAL REQUIRED. REFER TO LOCAL CODES.
7. POUR LE REMPLACEMENT, UTILISER LE MEME NOMBRE ET MODELE DE BATTERIES. L'ÉLIMINATION DES BATTERIES EST RÉGLEMENTÉE. CONSULTER LES CODES LOCAUX.
8. **WARNING:** TO REDUCE RISK OF FIRE OR ELECTRIC SHOCK, INSTALL IN A TEMPERATURE AND HUMIDITY CONTROLLED AREA FREE FROM CONDUCTIVE CONTAMINANTS.
9. **AVERTISSEMENT:** POUR RÉDUIRE LE RISQUE D'INCENDIE OU DE CHOC ÉLECTRIQUE, INSTALLE DANS UN SECTEUR AVEC TEMPERATURE CONTRÔLÉE ET HUMIDITÉ CONTRÔLÉE EXEMPT DE POLLUANTS CONDUCTEURS.
10. Read all safety and operating instructions before operating UPS. Operate indoors only. Protect UPS from moisture and install it in a clean environment, free from flammable liquids, gases, or corrosive substances.
11. **WARNING:** Do not modify cable. Consult dealer if connector does not match equipment. UPS must be grounded at all times while in use. Turn UPS OFF before unplugging, or the safety ground from UPS to equipment will be removed.
12. **CAUTION:** Output receptacles on the UPS are electrically live if the UPS is ON, even if the UPS is not plugged in. The on/off switch on the UPS does not electrically isolate the internal parts. To isolate the UPS, turn it OFF and unplug it.
13. **CAUTION:** Ground leakage current must not exceed 2.75 milli-amperes. Most data processing equipment meets this requirement if you use no more than 4 pieces of equipment. Note: These instructions may be modified by local wiring regulations.
14. Unplug the UPS and turn the power switch OFF before cleaning. Use only water dampened cloth, never liquid or aerosol cleaners.

15. Do not plug appliances, such as hair dryers or heaters into UPS receptacles.
16. Operate UPS only from a grounded outlet (2 wire plus ground) 120 VAC, 60/50 Hz.
17. The UPS is equipped with a grounded NEMA 5-15 input power plug. Do not defeat the safety purpose of this plug. If unable to fully insert the plug into the outlet, contact an electrician. All utility receptacles must be grounded as well.
18. Route power supply cords so they are not walked on or pinched.
19. Never block or insert any object into ventilation holes or other openings. Maintain a minimum clearance of 4" all around UPS for proper air flow and cooling.
20. **CAUTION:** Do not open or mutilate battery. Released electrolyte is harmful to skin and eyes and may be toxic.
21. **CAUTION:** This UPS complies with the limits for a Class A digital device, pursuant to Subpart J of Part 15 of FCC rules. These limits provide reasonable protection against harmful interference in a commercial environment. This UPS generates, uses, and radiates radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this UPS in a residential area is likely to cause harmful interference which the user must correct at his own expense.

## INTRODUCTION & SYSTEM DESCRIPTION

Congratulations on choosing the Liebert UPStation® GX UPS. It provides continuous, conditioned power to microcomputers and other data processing equipment.

Upon generation, AC power is clean and stable. However, during transmission, it may be subject to load variations or accidents that cause power problems like low voltage, voltage spikes, or complete power failure. These problems may interrupt computer operations, cause data loss, or even damage equipment.

The UPS protects against many of these disturbances. It smoothes out voltage variations and during complete power failure, supports equipment long enough for an orderly shutdown. These compact units are available in three ratings: 1000, 1500, and 2100 VA. This manual includes specifications for each model.

The UPStation® GX is a compact "on-line" UPS that supplies critical equipment with continuous premium, computer-grade power. An "On-line" UPS continuously generates and regulates output power, whether utility power is present or not. In contrast, a "standby" UPS only generates output power when utility power fails.

The UPStation® GX supplies critical equipment with clean, sinewave power to simulate utility-generated power. Equipment like computers, monitors, printers, phone systems, and laboratory instruments operate best on sinewave power.

The LED bar displays indicate "percentage load" and "battery capacity". The UPS provides two levels of alarms during battery operation, self-diagnostics, and a combination battery test / alarm silence switch.

To allow communications between the UPS and a LAN server or other computer system, the UPStation® GX UPS is equipped with an RS-232 interface port. This port provides detailed operating information including voltages, currents, temperature, and alarm status to the host system when used with Liebert SiteNet software. In addition, this port allows remote programming of UPS operation and numerous internal operating parameters.

# MAJOR INTERNAL UPS COMPONENTS

## Surge Suppression and EMI/RFI Filters

These components provide surge protection and filter electromagnetic and radio frequency interference present in the utility line. These components enable the UPS to supply pure sinewave power to sensitive equipment.

## Power Factor Correction Circuit

This circuit changes the utility AC input to DC for use by the inverter and ensures sinewave input current to the UPS. Sinewave input achieves two things: increased power efficiency and reduced power distortion.

## Inverter

The inverter converts the DC output of the power factor correction circuit to regulated AC sinewave power. During either normal utility power operation or battery operation, the inverter continuously generates and regulates output power.

## Charger

The charger regulates energy from the power factor correction circuit to continuously charge the batteries. The charger operates whenever the UPS is ON. For maximum battery charge life and power protection, leave the UPS ON.

## Battery

The sealed, maintenance-free, spill-proof batteries in the UPStation® GX last for 5 years at typical room temperatures and with normal charging. They maintain UPS output at full rated power for 10 minutes. Reducing the load increases battery back-up time.

## Bypass

This standard UPStation® GX feature provides an alternate power source to the output automatically in the event of over-temperature or fault within the UPS. Audible and visual alarms indicate Bypass operation. The UPS remains on Bypass until the user resets the power switch by turning it OFF then ON.

**CAUTION:** Resetting the power switch causes loss of power to the outlet receptacles. Perform all necessary shutdown procedures on critical loads before resetting the power switch.

# BEFORE INSTALLATION

Unpack UPS, carefully noting the packing method. Retain packaging. To return the UPS, re-pack as originally shipped. **CAUTION:** The units are heavy. The UGX1000RT-60 weighs 71 lbs; the UGX1500RT-60 weighs 83 lbs; the UGX2100RT-60 weighs 97 lbs. Take proper precautions when lifting or moving them.

Inspect UPS for freight damage. Contact the carrier and/or your distributor concerning freight damage or missing parts.

## UPS Configuration

Turn UPS On/Off switch OFF. The manufacturer ships the UPStation® GX from the factory in tower configuration. If this suits your application, follow the tower installation instructions. If your application requires rackmount configuration, follow the rack-mount installation instructions.

# GENERAL INSTALLATION GUIDELINES

**NOTE:** Use a utility receptacle with bonded neutral and ground to prevent UPS damage. Damage due to faulty utility wiring is not covered by product warranty. The UPS will not start with an incorrectly wired input AC supply, for example if the line and neutral wires are reversed. In this situation, the UPS flashes all the LED indicators and sounds an alarm on start-up.

High input voltage (132 volts and above) on start-up, causes the UPS to flash the "NORMAL" indicator and sound an audible alarm. Low or unavailable input voltage (105 volts and below) terminates start-up and causes the UPS to illuminate the "FAULT" indicator and the first two segments of the "LOAD" bar indicator.

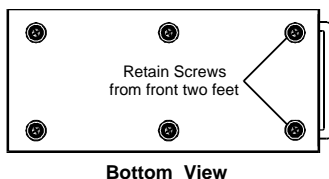
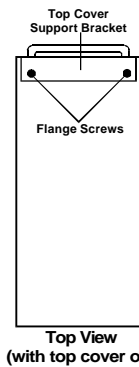
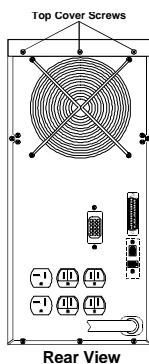
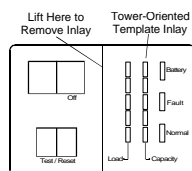
If you encounter any of these conditions, call a qualified electrician.

Place UPS in a location of unrestricted airflow. Maintain a minimum of 4 inches (10 cm) clearance at the front and rear of the UPS. Maintain an ambient temperature range of 50° to 95° F (10° to 35° C). **NOTE:** UPS operation in ambient temperatures above 77° F (25° C) reduces battery life.

Locate UPS where it cannot be accidentally turned off, in an area free of moisture, flammable liquids, gases, or corrosives.

## RACKMOUNT INSTALLATION

1. Turn the ON/OFF switch at the front of the UPS OFF. Remove tower-oriented template inlay from the front display area. The rackmount-oriented designations are printed on the UPS beneath the template inlay.
2. Remove the three top cover screws on the rear of the UPS. Push the top cover towards the rear of the UPS and lift off.
3. Remove the metal top cover support bracket. Retain the two flange screws near the front of the UPS.
4. Gently lay the unit on its right side (when viewing the unit from the front) and remove the six rubber feet. Retain the screws from the two front feet to fasten securing flanges.
5. Liebert offers kits for UPS rail or slide installation. Install the UPS on rackmount rails, slides or shelves. Use the installation instructions which came with your rackmount kit.
6. Switch OFF load equipment and plug it into the UPS output receptacles. Plug UPS into a dedicated and grounded wall receptacle, properly protected by a circuit breaker or fuse. Use a 15 amp device for the 1000 VA or 1500 VA units, and a 20 amp device for 2100 VA units. Turn ON the UPS.



# TOWER INSTALLATION

1. Turn the On/Off switch on the front of the unit OFF.
2. With load equipment switched OFF, plug it into the UPS output receptacles.
3. Plug UPS into a dedicated and **grounded** wall receptacle, properly protected by a circuit breaker or fuse. Use a 15 amp rated device for 1000 or 1500 VA units, and a 20 amp device for 2100 VA units. Turn ON the UPS.

## OPTIONAL BATTERY CABINETS

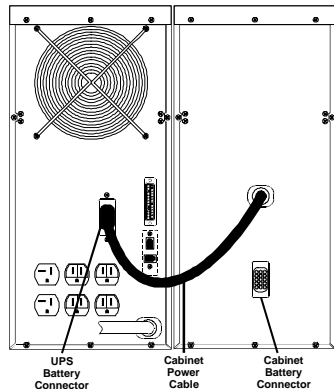
Connect up to two (2) optional battery cabinets to the UPS for additional run time. **DO NOT connect more than two (2) battery cabinets to UPS.** Cabinets fit beside UPS towers and underneath rackmount.

Unpack cabinet(s), carefully noting packing method. Retain packaging. To return cabinet(s), re-pack as originally shipped. Inspect them for freight damage. Contact carrier and/or distributor about freight damage or missing parts.

**CAUTION:** Battery cabinets are heavy. The UGX48VBATT and UGX96VBATT weigh 139 lbs; the UGX72VBATT weighs 111 lbs. Take proper precautions when lifting or moving them.

Follow UPS installation procedures for your application (tower or rackmount).

Each battery cabinet has a power cable in the rear. Once the cabinet(s) are in place, plug the battery cabinet power cable into the UPS battery connector. For two battery cabinets, plug the power cable of the second battery cabinet into the battery connector of the first battery cabinet.



## UPS OPERATION

### Normal Mode

Normally, the utility supplies UPS power. The UPS filters and processes this power to provide computer grade power to the loads. The UPS also "float-charges" the batteries and displays the % UPS output load on the LOAD bar.

### Battery Mode

If the UPS senses low voltage or a power outage, the battery instantly supplies UPS power. In battery mode, the UPS sounds an alarm, turns OFF the AC indicator, and lights the BATTERY indicator. In this mode, the CAPACITY bar displays battery power remaining before depletion. Initially, the UPS sounds a 1 second tone every 4 seconds, but increases to 4 tones every second when there is approximately 2 minutes of battery time remaining.

The UPS supplies internal battery power to a full load for 10 minutes before shutdown. Increase this time by turning OFF non-critical equipment. Do not turn OFF UPS in battery mode while supporting a critical load.

### Battery Recharge

Upon return of utility power, the UPS automatically reverts to normal operation and recharges the battery. Significant battery discharge causes the CAPACITY bar to flash 1, 2, or 3 left most segments. As the battery charges, the segments stop flashing one by one until all light steadily, indicating full charge.

# FRONT PANEL CONTROLS & INDICATORS

## 1. UPS Power Switch

The UPS ON/OFF switch controls both UPS input power as well as output power to the loads. The "I" position signifies ON, and the "0" position signifies OFF. **CAUTION:** Resetting power switch causes loss of power to output receptacles. Shutdown critical loads before resetting power switch.

## 2. Load Bar Indicator

This 5-segment LED indicates relative electrical load placed on the UPS. The left most 4 segments are green, and the fifth segment is red. Each green segment lights at 25% load increments (no LEDs light until load on the UPS reaches 11%). Loads beyond 100% causes the red fifth segment to light.

## 3. Capacity Bar Indicator

This 5-segment LED indicates the approximate battery capacity during battery mode or a battery test. All segments light at full battery capacity and extinguish one by one in 20% increments until complete battery depletion. Normally, all segments should light after 4 hours recharge. See battery run time curves.

During normal operation, battery capacity below 60% causes the CAPACITY bar to flash its three left-most LED segments. To determine actual battery capacity, depress the "Battery Test" switch. Typically, the CAPACITY bar flashes following a power outage, when batteries have not fully recharged. If after 4 hours of recharge (or in the test mode) the 3 left most LEDs still flash, contact Liebert Technical Support at 1-800-222-5877 and ask about replacement batteries.

## 4. Battery Indicator (amber)

The UPS lights this indicator and sounds an alarm when in battery mode or during a battery test.

## 5. Fault Indicator (red)

The UPS lights this indicator when it detects a fault. The UPS flashes this indicator and sounds an alarm during over-temperature conditions.

## 6. AC Indicator (green)

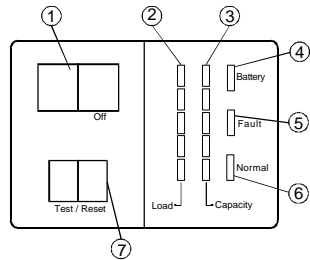
When lit, this LED indicates input utility power is available and the UPS power switch is ON. UPS flashes this LED and sounds an alarm with high input voltage.

## 7. Battery Test and Alarm Reset Switch

**Normal Operation:** Depress this switch to test battery capacity. The UPS operates in battery mode as long as the switch is depressed. Observe how many segments in the CAPACITY bar light to determine battery capacity. If the left three LEDs flash, replacement batteries may be necessary. Contact Liebert Technical Support at 1-800-222-5877.

**NOTE:** As long as the Battery Test switch is depressed the batteries discharge and shorten back-up time. Do not depress the switch longer than necessary, especially if the UPS supports a heavy load.

**Battery Mode:** Press this switch for a half-second to silence on-battery alarms. Once silenced, the UPS still sounds the low-battery alarm at the appropriate time. This switch cannot reset over-temperature, fault, high AC input, or bypass alarms.



# REAR PORTS & SWITCHES

## 1. Serial Communications Port

This port allows remote monitoring of alarm conditions (See next page).

## 2. Optional SNMP Ports

The SNMP (Simple Network Management Protocol) option provides intelligent Ethernet or Token Ring network communications. With SNMP software, it provides comprehensive remote UPS control and monitoring.

## 3. Battery Charger Switch (3000 VA ONLY)

This recessed switch supplies battery charger power even when the front power switch is OFF. Turn OFF for initial start-up; turn ON for normal operation after initial start-up.

## 4. Output Voltage Selector (3000VAONLY)

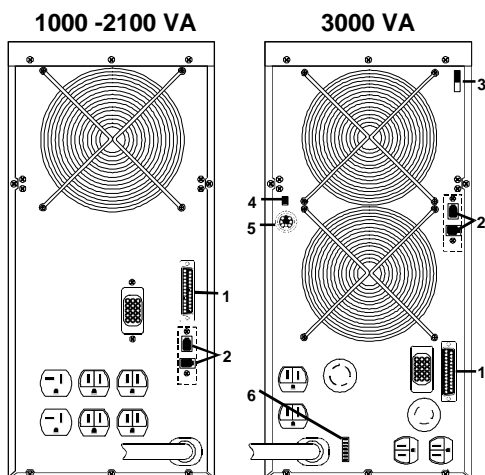
This switch on the rear of the unit allows choice of 208 or 240 VAC. NOTE: The output must match the input if bypass is enabled.

## 5. Optional Remote Emergency Power Off (REPO) Port (3000VAONLY)

The REPO option allows remote UPS shutdown in the event of emergencies.

## 6. Control DIP Switches (3000VAONLY)

The DIP switches control output frequency, bypass, and number of battery cabinets. Slide switches to the right to turn them ON, to the left to turn them OFF.



Switch #	ON	OFF
1	50 Hz	60 Hz
2	Enable Bypass	Disable Bypass
3	2 battery cabinets	1 battery cabinet
4	3 battery cabinets	
5	Keep ON	-
6-8	-	Keep OFF



# MONITORING & COMMUNICATIONS

The UPStation® GX UPS is capable of communicating with a stand-alone computer system, LAN server, UNIX host, or terminal via an EIA standard DB-25 female connector located on the rear of the unit.

The UPS typically uses this capability to provide status and power monitoring information to the computer system. For instance, during a power outage, the operating system uses UPS information to automatically save information in buffers, close files, and shutdown operations in an orderly fashion prior to exhausting the UPS battery.

Depending on your system configuration, the operating system may monitor power via the UPS and control UPS operations using a variety of interface hardware. The UPS communication interface port provides the signals and control pins required by monitoring and control applications.

Connect the UPS and your computer system with the appropriate cable and SiteNet®1 shutdown software (sold separately). Consult your local Liebert representative to determine the correct software kit for your application.

## Intelligent Communications

**Serial Communications Port** - Connection not to exceed NEC Class 2 limits. The DB-25 port provides several signals listed below by pin number:

PIN	FUNCTION
1	Reserved
2	RxD
3	TxD
4	Not Used
5	Not Used
6	Not Used
7	Signal ground
8	Not Used
9	Low battery relay contact (common)
10	Low battery relay contact (active opened)
11	Low battery relay contact (active closed)
12	Shutdown (active low)
13	Power failure (active high)

PIN	FUNCTION
14	On Inverter (active low)
15	On UPS (active closed)
16	On battery (active closed)
17	Common (for pins 15,16,18,24)
18	On battery (active open)
19	UPS shutdown (active high)
20	Not Used
21	Low battery (active low)
22	Not Used
23	Not Used
24	On Bypass (active closed)
25	Altos specification tri-voltage signal

In addition to power monitoring information signals, the UPS communicates intelligently with LAN servers, UNIX hosts, or other connected computer systems. Optional SiteNet® 2 software allows these additional capabilities:

- Quantitative monitoring of utility and UPS power
- Quantitative monitoring of internal UPS parameters
- Periodic tests of battery quality and replacement notification
- Timed and delayed shutdown of the UPS
- Logging of power disturbances and anomalies

Consult your Liebert sales agent for more information about SiteNet® 2 software.

## SNMP Communications

An optional internal SNMP card (and SiteNet® SNMP software) allows communication through several network management systems. Call your Liebert supplier.

# ALARMS

Alarms indicate faults, power outages, and UPS battery operation. The tone pattern varies according to the alarm:

**On-Battery / Utility Failure Alarm** - one beep every 4 seconds (greater than 2 minutes battery time remaining). Silence this alarm by depressing the "Alarm Reset" switch for a half-second. After silencing it, the low battery alarm still sounds at the appropriate time.

**Low Battery Alarm** - 4 beeps per second (less than 2 minutes battery time remaining). Silence this alarm by depressing the "Alarm Reset" switch for a half-second.

**UPS Shutdown** - A long continuous tone occurs for a few seconds after the UPS is off. Then the controls and display shut off.

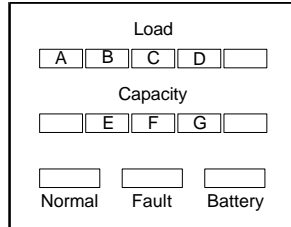
**High Temperature Alarm** - This alarm, along with a flashing FAULT indicator, indicates excessive internal UPS temperature. This alarm is two long beeps per second. Though the UPS continues to support its critical load, correct the condition immediately. Poor ventilation, prolonged overloads, or high-temperature environments may cause overheating. Immediately save work in process and correct the problem.

# TROUBLESHOOTING

If the UPS shuts down due to a fault condition, the "FAULT" indicator lights. The "FAULT" indicator also lights if the UPS exhausts its battery or receives a shut-down command via its communication interface port.

In addition to the "FAULT" light, one of several different LED segments in the "LOAD" or "CAPACITY" bar indicators light briefly also. These LED segments will indicate the name of the fault condition and the reason for the shutdown.

- A. Over-temperature condition.
- B. Output overload condition.
- C. Internal fault.
- D. UPS output is short-circuited.
- E. Internal fault.
- F. UPS shutdown due to battery exhaustion.
- G. UPS shutdown on command from communication interface port.



LED Indicators during a Fault Condition

If only the Fault LED lights, it indicates the UPS is in Bypass mode.

Refer to the Troubleshooting Guide on the next page to determine what to do if your UPS shuts down and indicates one of the shutdown codes.

# UPStation® GX Troubleshooting Guide

PROBLEM	REASON	SOLUTION
UPS fails to start up when turned ON.	UPS unplugged.	Switch UPS off, verify installation per instructions, and plug securely into utility.
	Low utility voltage, no utility voltage, or reversed input line and neutral conductor.	Call your maintenance department, qualified electrician, or utility company to correct voltage, or wait until utility voltage returns to normal.
	UPS output short-circuited or overloaded.	Switch UPS off and disconnect all loads. Verify that nothing is lodged in output receptacles. Check loads for defects or short circuits.
	Excessively high UPS temperature.	Allow a few minutes for the UPS to cool down. Check for adequate ventilation. Restart the UPS.
	Blown internal input fuse.	Contact Liebert Technical Support.
	Improper utility outlet wiring or ground fault. All front panel indicators flash with no power supplied to loads.	Call maintenance department or a qualified electrician to correct the problem.
AC LED flashes	Utility voltage too high.	Shutdown load equipment, disconnect UPS, and call your maintenance department or a qualified electrician to correct outlet wiring or ground fault.
Battery indicator lights & alarm sounds.	Utility power failure	Limited time before UPS shutdown. Terminate critical applications and save data. Shutdown all loads and the UPS.
Reduced battery time	Batteries uncharged	Plug UPS in and turn ON for a minimum of 4 hours to recharge batteries.
	Batteries unable to hold charge due to age	
Fault LED flashes	UPS overheated	Check for UPS overload, blocked ventilation openings, and excessively high room temperature.
Alarm sounds twice per second		
Fan operates at a high speed		
UPS shutdown, fault LED & diagnostic LED "A" light	UPS critically overheated	Check for UPS overload, blocked ventilation openings, and excessively high room temperature. Allow UPS to cool for 30 minutes, the restart.
UPS shutdown, fault LED & diagnostic LED "B" light	UPS overload	Reduce loads to UPS. Consult Liebert Technical Support.
UPS shutdown, fault LED & diagnostic LED "C" light	Internal fault	Requires service. Contact Liebert Technical Support.
UPS shutdown, fault LED & diagnostic LED "D" light	UPS short-circuit	Remove cause of short-circuit, if obvious. Check loads connected to UPS for defects or shorts.
UPS shutdown, fault LED & diagnostic LED "E" light	Internal fault	Requires service. Contact Liebert Technical Support.
UPS shutdown, fault LED & diagnostic LED "F" light	Battery charge exhausted	Plug UPS in and turn ON for a minimum of 4 hours to recharge batteries. We advise you not to run critical application during this period.
UPS shutdown, fault LED & diagnostic LED "G" light	Shut down command sent to communication port	If inadvertent, check system for correct cabling.

# MAINTENANCE

The UPStation® GX UPS normally requires very little maintenance.

Keep the sealed, maintenance-free batteries fully charged to obtain designed life of 5 years. During normal operation, the UPS continuously charges the batteries.

To store or deactivate the UPS for any length of time, charge it no less frequently than once every 6 months. Switch UPS OFF when not connected to the utility AC. To charge the batteries, connect the UPS to the utility and turn it ON for a minimum of 4 hours.

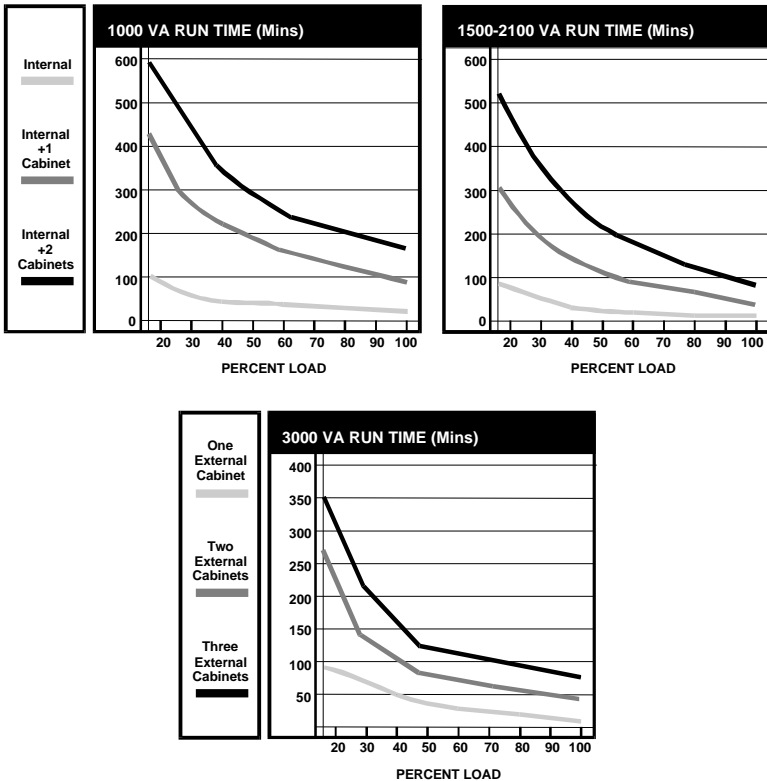
Replace batteries after 5 years or sooner if exposed to adverse conditions. Refer battery replacement to qualified service personnel only. Heed cautions at the front of this manual at all times. Call Liebert Technical Support at 1-800-222-5877 for battery replacement instructions.

## Battery Safety Precautions

**WARNING:** Battery maintenance procedures expose hazardous live parts. Refer servicing to qualified personnel only.

**CAUTION:** Call a qualified battery supplier to dispose of batteries according to local environmental laws. Do not open or mutilate batteries. Released electrolyte is harmful to skin and eyes and may be toxic.

# BATTERY RUN TIMES



# 1000-2100 VA GX SPECIFICATIONS

Model Rating (VA/Watts)	1000 VA / 700 W	1500 VA / 1050 W	2100 VA / 1500 W
<b>INPUT</b>			
Voltage	120 VAC, 2-Wire Plus Ground		
Voltage Range	+10%, -20% (transfer to battery at -21%)		
Frequency	60 Hz ±5%		
Current	8 Amps	12 Amps	16 Amps
Power Factor	Minimum .94 at Full Load		
Voltage Transients	Meets Requirements of IEEE 587 Category A		
Power Cord	6' / 1.88m w/NEMA 5-15 Plug (15 A)	6' / 1.88m w/NEMA 5-20 Plug (20 A)	
<b>OUTPUT</b>			
Voltage and Current	120 VAC at 8.4 A	120 VAC at 12.5 A	120 VAC at 17.5 A
Voltage Regulation	±3%		
Frequency Locked to Utility	60 Hz ±1Hz		
Output Distortion	Maximum 5% THD with Non-Linear Load		
Waveform	Sinewave		
Overload	150% Full Load Amps for 10 Cycles Max, 120% Full Load Amps for 1 Sec		
Load Power Factor Range	0.6 Lagging pf to Unity (Rated at 0.7 pf)		
Transient Response Time	100% load step to within 90% nominal output voltage within 30 milliseconds		
Bypass Transfer	4 –6 Milliseconds		
Efficiency (AC to AC)	82 % at 100% Load		
Receptacles	4 NEMA 5-15R (2 Duplex)	4 NEMA 5-15R (2 Duplex) 2 NEMA 5-20R (1 Duplex)	
<b>BATTERY</b>			
Backup w/Int. Battery Only	10 Minutes		
Backup w/ 1 Ext. Cabinet	90 Minutes	40 Minutes	
Backup w/ 2 Ext. Cabinets	160 Minutes	90 Minutes	
Battery Quantity	4 per Cabinet (Int) 8 per Cabinet (Ext)	6 per Cabinet	8 per Cabinet
Nominal Voltage	48 VDC	72 VDC	96 VDC
Battery Rating	12 V / 7 AH, Internal Battery –12 V /15 AH, External Battery		
Transfer Time	Uninterrupted		
Battery Recharge Time	4 Hours to 90% (10 Minute Discharge Rate Internal Battery)		
Battery Type	Sealed, Maintenance-Free		
<b>ENVIRONMENTAL</b>			
Operating Temperature	10° to 35° C		
Storage Temperature	-20° to 40° C (with Internal Battery)		
Relative Humidity	0 to 95% Non-Condensing		
Operating Altitude	Full Rating, Up to 3,000 M – 10% Derating per 1,000 M above 3,000 M		
Electromagnetic Noise	Meets FCC Part 15, Subpart J, Class A		
Audible Noise	45 dBA at 1 Meter	50 dBA at 1 Meter	
Agency Approvals	UL 1778, CSA No. 107		
<b>PHYSICAL</b>			
Dimensions HxWxD	7" x 17" x 21" / 177 mm x 432 mm x 534 mm		
UPS Weight w/Int. Battery	71 lbs. / 32.0 kg	83 lbs. / 37.4 kg	97 lbs. / 43.7 kg
External Cabinet Weight	139 lbs. / 62.6 kg	111 lbs. / 50.0 kg	139 lbs. / 62.6 kg
Rear & Front Clearance	4" / 102 mm		

## 3000 VA GX SPECIFICATIONS

<b>Model Rating (VA/Watts)</b>	3000 VA / 2100 W at 240 VAC, 2600 VA / 1820 W at 208 VAC
<b>INPUT</b>	
Voltage	240 VAC or 208 VAC, 3-Wire plus Ground
Voltage Range	+10%, -20% (transfer to battery at -21%)
Frequency	47 to 63 Hz
Current	15 Amps (12 Amps RMS per phase)
Power Factor	Minimum .94 at Full Load
Voltage Transients	Meets Requirements of IEEE 587 Category A & B
Power Cord	6' / 1.88 m w/NEMA L14-20 Plug (20 A)
<b>OUTPUT</b>	
Voltage and Current	120 VAC at 25 A, 208 VAC at 12.5, 240 VAC at 12.5 A
Voltage Regulation	±3%
Frequency Locked to Utility	Selected nominal 50 or 60 Hz ± 1Hz
Output Distortion	Maximum 5 % THD with non-linear load
Waveform	Sinewave
Overload	150% Full Load Amps for 10 Cycles Max, 120 % Full Load Amps for 1 Sec
Load Power Factor Range	0.6 Lagging pf to Unity (Rated at 0.7 pf)
Transient Response Time	100% Full Load Amps for 10 Cycles Max, 120 % Full Load Amps for 1 Sec
Bypass Transfer	4 -6 Milliseconds
Efficiency (AC to AC)	85% at 100% Load
Receptacles	4 NEMA 5-15R (2 Duplex), 1 NEMA L6-30, 1 NEMA L12-20
<b>BATTERY</b>	
Backup w/1 Ext. Cabinet	10 Minutes
Backup w/2 Ext. Cabinets	25 Minutes
Backup w/3 Ext. Cabinets	50 Minutes
Battery Quantity	6 per Cabinet (1 to 3 cabinets may be connected)
Nominal Voltage	72 VDC
Battery Rating	12 V / 15 AH
Transfer Time	Uninterrupted
Battery Recharge Time	4 Hours to 90% (10 Minute Discharge Rate, 1 Cabinet)
Battery Type	Sealed, Maintenance-Free
<b>ENVIRONMENTAL</b>	
Operating Temperature	10° to 35° C
Storing Temperature	-20° to 40° C with Battery, -35° to 50° without Battery
Relative Humidity	0 to 95% Non-Condensing
Operating Attitude	Full Rating, Up to 3,000 M – 10% Derating per 1,000 M above 3,000 M
Electromagnetic Noise	Meets FCC Part 15, Subpart J, Class A
Audible Noise	52 dBA at 1 Meter
Agency Approvals	UL 1778, CSA No. 107
<b>PHYSICAL</b>	
Dimensions HxWxD	7" x 17" x 21" / 177 mm x 432 mm x 534 mm
UPS Weight	49 lbs. / 22.2 kg
External Cabinet Weight	111 lbs. / 50.3 kg
Rear & Front Clearance	4" / 102 mm

## LIMITED WARRANTY

We are pleased that you have purchased our UPStation® GX product to enhance the reliability of the available AC power to your sensitive electronic equipment.

Liebert Corp. warrants to the original user that the UPStation® GX product is, and will remain, free of defects in materials and workmanship for a period of two years from date of purchase (proof of purchase will be required). During the warranty period, Liebert will repair or replace (at Liebert's option) products purchased which fail to meet above warranty. Extended warranty contracts are available.

**NOTE: Warranty is void if the battery is allowed to discharge below the minimum battery voltage cutoff point. TO PREVENT SUCH DISCHARGE - DO NOT** leave the unit POWER switch ON for more than 2 days without AC power being supplied to the UPS. The battery must be recharged every 6 months if not in use.

Circuit breaker resetting is not covered by this warranty and may indicate use beyond capability of the product. No warranty applies to products which have been abused, mishandled, modified, damaged by act of God or source external to the product, repaired by others, or which have product serial numbers removed or altered.

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To make a warranty claim for replacement, first call your Liebert supplier with the unit model number and serial number. He will obtain the required warranty return authorization from Liebert Corporation. Customer is to package and ship the defective unit to Liebert as outlined on the Warranty Return Tag. The Warranty Return Tag needs to be completed with description of defect, installer's name and telephone number, and must accompany the defective unit back to Liebert. The Warranty Return Tag is included with the packing of the new or reconditioned part from Liebert.

UPStation® GX is a trademark of Liebert Corporation.



1050 Dearborn Drive Columbus, OH 43229 614-888-0246

## UPStation® GX

### 1000-3000 VA

### Technical Support

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Worldwide FAX tech support.....	614-841-5471

**The Company Behind The Products** With more than 500,000 installations around the globe, Liebert is the world leader in computer protection systems. Since its founding in 1965, Liebert has developed a complete range of support and protection systems for sensitive electronics:

- Environmental systems: close-control air conditioning from 1.5 to 60 tons.
- Power conditioning and UPS with power ranges from 250 VA to more than 1000 kVA.
- Integrated systems that provide both environmental and power protection in a single, flexible package.
- Monitoring and control — on-site or remote — from systems of any size or location.
- Service and support, through more than 100 service centers around the world, and a 24-hour Customer Response Center.

While every precaution has been taken to ensure Corporation assumes no responsibility, and disclaims all liability for damages resulting from use of this information or for any errors or omissions.

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