



## Liebert® GXT5™ 5 to 20kVA FAQs

### 1. What are the product features of Liebert® GXT5™ Small?

The features as follows:

- A. Unit input & output power factor
- B. High efficiency up to 95.9% in online mode
- C. High efficiency up to 99% in Active ECO mode
- D. Energy Star® 2.0 certified
- E. Colored graphical display with gravity orientation
- F. Rack/Tower design with short depth for flexible installation
- G. Capability for parallel/redundant operations (applicable for 10, 16, and 20 kVA)
- H. Suitable for ambient temperatures up to 50 °C with derating.
- I. Improved battery care by temperature compensated battery charging
- J. Hot-swappable battery modules
- K. External battery cabinet with auto detection of up to 6 cabinets
- L. Supports the New Vertiv remote management tools (Vertiv Power Insight, SNMP/webcards, etc.)
- M. Programmable sockets for critical loads prioritization and energy optimization (up to 10 kVA)

### 2. How many programmable sockets are available in the Liebert GXT5? Which are those, and what are their key advantages?

Liebert GXT5 includes two groups of independent programmable sockets in 5 -10 kVA variants.

Each pair can be programmed for load shedding to turn OFF when:

- The UPS is overloaded while operating on battery power
- On battery for a pre-defined number of minutes
- A pre-defined backup time remains
- Battery capacity reaches a pre-defined level

Capacity wise programmable sockets are listed below.

Model No	Programmable sockets
GXT5-5000/6000IRT5UXLN (XLE)	2 groups of 3no - Programmable C13 output receptacles
GXT5-8000/10KIRT5UXLN (XLE)	1no - Programmable C19 output receptacle 1 group of 4no - Programmable C13 output receptacles

### Key advantages:

- Battery energy is reserved for most critical loads
- Longer runtimes for most critical load
- Helps on load prioritization
- More efficient energy management
- Improved battery care due to less intense discharge



Rear view of 5-6kVA UPS



Rear view of 8-10kVA UPS

### 3. What is battery cabinet auto-detection function and how does it benefit?

The battery cabinet auto-detection function is applicable when connecting to External Battery Cabinets (EBC) for additional runtime. The UPS can automatically detect up to six EBCs. Key advantages of this feature are as follows:

- No need to configure EBC quantity on the LCD
- Simplified configuration for the user
- Simply connect the battery detection cable to Group 3 of the green terminals

### 4. How does the hot-swappable battery module function work?

Internal battery module of the UPS & external battery module can be changed during the operation. Hence, this feature helps to reduce the downtime of the device.

### 5. How many external battery modules can be paralleled?

Total ten number of external battery cabinets can be paralleled to support long outage duration.

### 6. What kind of battery care feature is available in Liebert GXT5?

Liebert GXT5 has the following battery care features:

- Temperature compensated battery charging
- Loaded with new algorithm that estimates the accurate battery Status of Health (SoH), allows the user to take a necessary preventive plan accordingly.
- Recommended battery replacement date can be set by the user via LCD display.

### 7. How many Liebert GXT5 UPS units are connected in parallel for scalability and redundant operations?

Three numbers of the Liebert GXT5 10-20 kVA variants can be connected in parallel to deliver up to 60 KVA. It comes with an intelligent paralleling function. This feature allows to manage the active UPS modules that support the critical load to maximize the total system efficiency.

### 8. How many IntelliSlot™ ports are available for remote monitoring?

Liebert GXT5 supports one IntelliSlot port. It accepts either one of these two optional cards:

- The Liebert® IntelliSlot™ Relay (IS-RELAY) card provides dry-contact relay output for custom-wired applications.
- The Liebert® IntelliSlot™ Unity (RDU101) card provides SNMP and/or RS-485 monitoring of the UPS across the network and/or building management system and lets you monitor external temperature, humidity and contact-closure inputs using external sensors.

### 9. What is the function of Detachable POD for 5-10 kVA variants?

The Detachable POD comes with the following:

- Incoming breakers
- Maintenance bypass breaker
- Outgoing breakers & receptacles.

This integrated manual bypass enables the UPS device that can be hot-swapped during operation without powering down connected equipment.



### 10. What is the acceptable input supply range without discharging the batteries for Liebert GXT5 UPS?

#### **AC Input Voltage:**

220/230/240 VAC, single-phase, two-wire-plus-ground

#### **AC Input Voltage Tolerance:**

- 176-288 VAC (Ph-N) at full load
- 100-176 VAC (Ph-N) at linear de-rating
- 100 VAC (Ph-N) at half load

### 11. What is the input power factor of Liebert GXT5 (5-20kVA) UPS?

The input power factor of the Liebert GXT5 UPS is  $\geq 0.99$ , at full load.

### 12. What is the steady state output voltage stability of Liebert GXT5 UPS?

5-20 kVA: 200/208/220/230/240 VAC (Single phase output)

Steady state output voltage stability is  $\pm 1\%$

### 13. What is the inverter transient response & recovery time of Liebert GXT5 UPS?

For Single UPS: The inverter transient response will be  $\pm 5\%$  for a 0%-100%-0% step resistor load. The recovery time to restore the output voltage within steady state tolerance band is 30 ms for 16-20kVA and 60 ms for 5-10 kVA.

Note: Test method is according to IEC62040-3.

### 14. How does it satisfy the requirements of the modern, advanced servers?

Liebert GXT5 is designed to deliver 100% real power output (kVA=kW) from 0.65 lagging to unity power factor loads without any derating. Therefore, it is powerful and well equipped to meet both current as well as the futuristic demands, considering the critical IT equipment requirements in today's dynamic environment.

### 15. What is the efficiency at different percentages of loading for all the variants?

Following is the efficiency at varied percentages of loading for all the variants of Liebert GXT5 UPS. These figures have also been certified by energy verified agency.

Load	5 kVA	6 kVA	8 kVA	10 kVA	16 kVA	20 kVA
100%	94.93%	94.53%	94.68%	94.17%	94.35%	95.00%
75%	95.01%	94.83%	92.62%	94.88%	95.62%	95.86%
50%	94.80%	94.96%	92.07%	95.70%	95.94%	95.81%
25%	93.77%	93.35%	92.15%	91.42%	95.85%	95.63%

Note: 5-6 and 16-20 kVA efficiency levels are defined at nominal voltage of 240 V. 8-10kVA efficiency levels are defined at nominal voltage of 230 V

### 16. What is the maximum battery charger capacity of Liebert GXT5 UPS?

5000IRT5UXLN/6000IRT5UXLN: charging current is 2.25 A (Default, maximum 5 A)

8000IRT5UXLN/10KIRT5UXLN: charging current is 2.25 A (Default, maximum 8 A)

16kIRT9UXLN/20KIRT9UXLN: charging current is 2.25 A (Default, maximum 13A)

### 17. How many numbers of batteries can be connected to the Liebert GXT5 UPS?

Total 16 numbers of 12 V battery blocks can be connected 5-10 kVA variants.

Total 32 numbers of 12 V battery blocks can be connected 16-20 kVA variants.

### 18. What standards does the Liebert GXT5 UPS comply with?

Safety	UL-1788 (Fifth Edition),C-UL listed, IEC 62040-1: 2017 Edition 2.0, EN 62040-1:2008+A1:2013;
EMI/EMC/C-Tick EMC	IEC/EN/AS 62040-2 2nd Ed (Cat 2 – Table 6); FCC Part 15 (Class A) CISPR22 Class A (RFI)
ESD	IEC/EN EN61000-4-2, Level 4, Criteria B
Radiated Susceptibility	IEC/EN EN61000-4-3, Level 3, Criteria A
Electrical Fast Transient	IEC/EN EN61000-4-4, Level 4, Criteria B
Energy Efficiency Certification	ENERGY STAR: Program Requirements Product Specification for Uninterruptible Power Supplies (UPSs) - Eligibility Criteria, Version 2.0
Transportation and Shipping	ISTA Procedure 1E
Surge Immunity	IEC/EN EN61000-4-5, Level 4, Criteria A; ANSI C62.41 Category B

## 19. How many historical events can be stored on the LCD display?

A total of 2000 historical events can be stored & monitored through the LCD display.

## 20. What is the inverter overload capacity of Liebert GXT5 UPS?

The inverter overload limits without being transferred to the bypass are as follows:

<105%, continuous; 105% to 125%, 5 Minutes; 125% to 150%, 60 seconds; >150%, Minimum 200ms.

## 21. Does Liebert GXT5 support the ECO mode? What is the system efficiency in the ECO mode?

Yes, Liebert GXT5 UPS supports the ECO mode. In the ECO mode, the load is powered by the bypass when the bypass voltage is normal. When the bypass voltage is abnormal or fails, the load is then powered by the inverter. During this period, the UPS transfers the load back to the inverter in <20 msec. The efficiency in this mode is up to 99%. This feature can also be activated/deactivated from the LCD display.

## 22. Is it possible to replace or configure the communication card online?

Yes, it is possible to replace or configure the communication card (i.e. RDU 101 or Relay card) online; it supports plug-and-play without any requirement of a UPS shutdown.

## 23. Is it possible to replace the LCD display board of the UPS online?

No. It is not possible to replace the LCD display board of the UPS online.

## 24. Does Liebert GXT5 has a cold start feature?

Yes, it has a cold start feature in which the load can be powered up by using batteries when the mains supply is unavailable.

## 25. Can Liebert GXT5 UPS be used as a frequency converter?

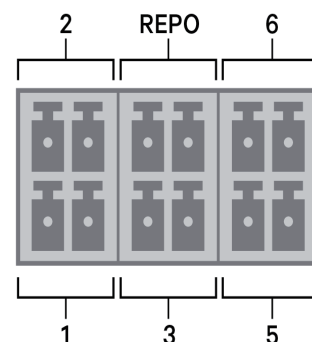
Yes, all models of Liebert GXT5 are capable of frequency conversion. Frequency conversion mode can be selected using the configuration program. Allowable frequency operating modes include:

- Auto Sensing - 50 Hz or 60 Hz – Bypass Enabled
- Auto Sensing - 50 Hz or 60 Hz – Bypass Disabled
- Frequency Converter - 50 Hz – Bypass Disabled
- Frequency Converter -- 60 Hz – Bypass Disabled

## 26. How many input & output dry contact ports are available and what is its current carrying capacity?

The I/O dry contact port capacity is 125 VDC, 0.5 A; 30 VDC, 1 A

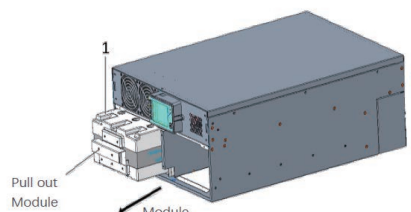
- Input port 1: Disable/Battery mode/Any mode shutdown – User can be set via LCD display page
- Input Port 2: Disable/Battery mode/Any mode shutdown – User can be set via LCD display page
- Battery detection: automatically detects number of EBCs when pins 5 and 6 are connected to the detection port
- REPO input: REPO power supply, 5-Vdc
- Output port 1: Low Battery/On battery/On bypass/UPS fault – User can be set via LCD display page
- Output port 2: Low Battery/On battery/On bypass/UPS fault – User can be set via LCD display page



## 27. What is the internal battery configuration & how many modules does the UPS hold?

GXT5 5-10 kVA variants can house two internal battery modules and 16-20kVA variants can house four internal battery modules. Each module can house 8 no. of 9 AH, 12 V Valve-regulated, non-spillable, lead-acid battery blocks.

Make: Leoch DJW12-9.0 (default), 12 V x 9 AH.



5-10kVA UPS



Battery Module

## 28. What is the kVA & KW capacity of the GXT5 UPS at rated ambient temperature?

Liebert GXT5™ UPS has a unity Output PF, irrespective of the rated ambient temperature. However, the capacity will be auto-corrected based on the ambient temperature.

Ratings	5 kVA	6 kVA	8 kVA	10 kVA
40 °C	5 kVA / 5 kW	6 kVA / 6 kW	8 kVA / 8 kW	10 kVA / 10 kW
45 °C	4.75 kVA / 4.75 kW	5.7 kVA / 5.7 kW	7.6 kVA / 7.6 kW	9.5 kVA / 9.5 kW
50 °C	4.5 kVA / 4.5 kW	5.4 kVA / 5.4 kW	7.2 kVA / 7.2 kW	9 kVA / 9 kW

Ratings	16 kVA	20kVA
40 °C	16 kVA / 16 kW	20 kVA / 20 kW
45 °C	15.2 kVA / 15.2 kW	19 kVA / 19 kW
50 °C	14.4 kVA / 14.4 kW	18 kVA / 18 kW