Vertiv™ Liebert® GXT5 Lithium-Ion

Frequently Asked Questions

Is the warranty on the GXT5 Lithium-Ion UPS longer than a UPS with lead acid (VRLA) batteries?

The purchase of a Liebert GXT5 Lithium-Ion UPS includes a 5-year advanced replacement warranty.

Are lithium-ion batteries safe?

Lithium-ion batteries in a stationary UPS application are safe and reliable. They use a sophisticated battery management system (BMS) to manage battery charging and to prevent batteries from overheating.

Do GXT5 Lithium-Ion solutions have any specialized fire suppression requirements compared to traditional lead acid UPS systems?

In most instances you would not require any dedicated fire suppression when transitioning to a single-phase Lithium-Ion UPS. For example, in the USA, NFPA 855 requires fire suppression in individual Energy Storage Systems of 20 kWh or greater, or in any room with a total capacity of 600kWh or more. As an example, the Liebert GXT5 LI 10kVA MV UPS has a 3kWh battery, well below the 20kW threshold for an individual Lithium-Ion Energy Storage System. Additionally, the upcoming NFPA 855-2021 is anticipated to exempt UPS systems from this requirement entirely but is not official until it's published. NFPA 70 article 480 and 706, as well as UL 9540 and 1778 already include this exemption.

What are the advantages of lithium-ion batteries?

The key benefit of using lithium-ion batteries in a UPS application is that the battery will last 2 to 3 times longer than a VRLA battery pack. This reduces the cost of ownership and makes it easier to manage remote UPS installations. The lithium-ion batteries are also much more resilient to higher temperatures and allow for more power in smaller spaces. Lithium-Ion batteries are also much lighter than VRLA batteries making them easier to install.

What is the average useful life of the battery used in the GXT5 Lithium-Ion UPS?

The GXT5 Lithium-Ion battery pack is designed to last 8 to 10 years, while VRLA batteries typically last about 3 to 5 years. Lithium-ion batteries typically last about 10 years while operating at 25°C.

With lithium-ion carrying more power in less space, will a physically smaller UPS still provide the same level of protection?

Yes, the smaller physical size of the GXT5 Lithium-Ion compared to a VRLA UPS was achieved without compromising protection or quality. The space savings is entirely due to the battery being smaller and lighter.

How can I understand if the GXT5 Lithium-Ion UPS will provide enough runtime at my specific IT design load?

Vertiv has a battery runtime calculator available on our website to help estimate battery runtimes. These runtimes are estimates only and actual runtimes will vary up or down depending on environmental conditions.

Is there a downside to a UPS with lithium-ion batteries compared to traditional VRLA batteries?

The only downside is that many lithium-ion UPS options are more expensive than VLRA options. However, VRLA UPSs will require battery replacements every 3 to 5 years so the GXT5 Lithium-Ion UPS in many cases has a much lower total cost of ownership.

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How do you calculate total cost of ownership (TCO)?

To calculate the Total Cost of Ownership of a VRLA UPS, add the purchase price of the UPS, plus the parts and labor cost to replace the VRLA battery pack 2 to 3 times during the useful life of the UPS. In this same timeframe, the lithium-ion UPS will likely still be on its original battery, making the total cost of ownership significantly less. The actual number of battery replacements required will vary based on ambient temperature, IT load, and the average number of charge/discharge cycles on the battery.

Can this product be transported safely?

Yes, the GXT5 Lithium-Ion meets UN 38.3 and UN3480 to safely ship the UPS and lithium-ion batteries by air, land, and sea. Per UN3480, when shipping by air the battery state of charge (SOC) must be ≤30%.

Does the GXT5 Lithium-Ion UPS meet international safety standards?

Yes, the GXT5 Lithium-Ion UPS meets IEC 62040-1:2008+A1 2013, IEC 62619 1st Ed., UL 1778, UL 1642 (Li-Ion Battery Cells), UL 1973 (Li-Ion Battery Pack w/UPS).

What chemistry of lithium-ion battery is in the GXT5 Lithium-Ion, and why was it selected?

The GXT5 Lithium-Ion battery pack is made of Lithium-Iron-Phosphate (LiFePO4) batteries that provide excellent safety and can last 10 years or more in ideal operating conditions.

Are the GXT5 Lithium-Ion battery packs hot-swappable?

Yes, the GXT5 LI battery packs are hot-swappable.

What is the process for Recycling old batteries? Can Vertiv support this?

Yes, Vertiv has a trade-in program and will provide shipping and recycling of old batteries. This program includes recycling of both VRLA and Lithium-Ion Batteries.

Is the operating temperature range of GXT5 Lithium-Ion different than VRLA?

The GXT5 Lithium-Ion UPS can operate without derating between 0 - 40°C like the VRLA UPS, and up to 50°C with a 10% to 20% derating (depending on the model; please refer to the UPS User Manual for details). VRLA batteries are more susceptible to reduced lifespan above 25°C making Lithium-Ion batteries more suitable for operation at higher temperatures.

Is the GXT5 Lithium-Ion available with external battery cabinets for longer runtime?

Yes, GXT5 Lithium-Ion supports up to 8 EBC's per UPS for extended runtime needs. EBC's are hot-swappable and user-replaceable to allow for the full EBC to be replaced, if required.

Vertiv.com | **Vertiv Headquarters,** 1050 Dearborn Drive, Columbus, OH, 43085, USA

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