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> [Vertiv Liebert EXS \(Tower\) 20kVA/20kW 3-Phase UPS Instruction Manual](#)

Vertiv EXS20KXRN

Vertiv Liebert EXS (Tower) 20kVA/20kW 3-Phase UPS Instruction Manual

Model: EXS20KXRN

1. PRODUCT OVERVIEW

The Vertiv Liebert EXS is a compact, monolithic uninterruptible power system (UPS) designed to provide continuous, conditioned, and regulated output voltage. It utilizes true on-line, double-conversion technology, making it suitable for protecting sensitive equipment such as computers, servers, networking devices, and other IT infrastructure. This UPS delivers economical, efficient, and reliable three-phase power for critical loads up to 20kVA.

Key features include:

- **Reliable 3-Phase Power:** Offers a high level of power protection for critical systems.
- **Online Double Conversion:** Ensures high availability of IT systems by continuously conditioning power.
- **High Operating Efficiency:** Achieves over 93% efficiency in double conversion mode and up to 99% in eco mode, contributing to energy savings.
- **Advanced Battery Monitoring:** Capable of monitoring battery capacity, temperature, humidity, access, and leaks.
- **1.0 Output Power Factor:** Delivers maximum usable power to connected loads.



Figure 1: Vertiv Liebert EXS UPS units, showcasing different capacities.

2. SETUP AND INSTALLATION

The Liebert EXS UPS is designed for straightforward installation. It features an optimized design with flexible power distribution and battery arrangements to meet specific capacity and runtime requirements.

2.1 Component Identification



Vertiv™ Liebert® EXS 3-Phase UPS



Online UPS with the Highest
Level of Power Protection



Figure 2: Internal view and port layout of the Liebert EXS UPS, highlighting USB port, programmable dry contacts, Liebert IntelliSlot ports, ventilation holes, and flexible PDU power distribution.

Refer to Figure 2 for the location of key components and ports:

- **USB Port:** For local communication and configuration.
- **Programmable Dry Contacts:** Provides 2 input and 2 output contacts for external system integration.
- **Liebert IntelliSlot Ports:** Two ports are standard for simultaneous use of Unity and Relay cards, enabling advanced monitoring and communication.
- **Ventilation Holes:** Ensure proper airflow for cooling the UPS and batteries.
- **Flexible PDU Power Distribution:** Supports one PDU for 10kVA models and up to two for 15kVA and 20kVA models.

2.2 Initial Setup Steps

1. **Unpacking and Placement:** Carefully unpack the UPS. Ensure the installation location meets environmental requirements (temperature, humidity) and has adequate space for ventilation and maintenance access.
2. **Electrical Connections:** Connect the UPS to the facility's power supply and connect critical loads to the UPS output. All electrical work should be performed by qualified personnel.
3. **Battery Connection:** Connect the internal or external battery cabinets as per the specific model's instructions. The UPS features internal battery cabinets with auto-detection for accurate runtime reporting.
4. **Communication Setup:** Install the Liebert IS-UNITY DP communication card (factory installed) for remote management. Connect necessary network cables to the IntelliSlot ports for monitoring.
5. **Power On:** Follow the specific power-on sequence detailed in the full product manual to energize the UPS and bring it online.

3. OPERATING INSTRUCTIONS

Once installed and powered on, the Liebert EXS UPS operates automatically to protect connected equipment. The front panel display provides status information and allows for basic configuration.

3.1 Monitoring and Control

The UPS is integrated with the Liebert monitoring platform, supporting SNMP, Modbus, and relay communication protocols. This allows for comprehensive remote monitoring and management of the UPS status and performance.

Your browser does not support the video tag.

Video 1: Overview of the Liebert Uninterruptible Power Supply - EXS Series, demonstrating its features and benefits.

Vertiv Power Insight Management Software (available for download from Vertiv.com) can be used for advanced monitoring and management capabilities.

4. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your Liebert EXS UPS.

4.1 Integrated Maintenance Bypass

The UPS includes an integrated maintenance bypass cabinet. This feature allows for UPS maintenance or replacement without requiring a shutdown of the connected critical loads, ensuring continuous operation.

4.2 Battery Care

The advanced battery monitoring system helps in maintaining battery health. Periodically inspect batteries for any signs of damage or leakage. Follow manufacturer guidelines for battery replacement intervals.

4.3 General Maintenance

- Keep ventilation openings clear of obstructions to prevent overheating.
- Regularly check all cable connections for tightness and integrity.
- Consult the full user manual for detailed maintenance schedules and procedures.

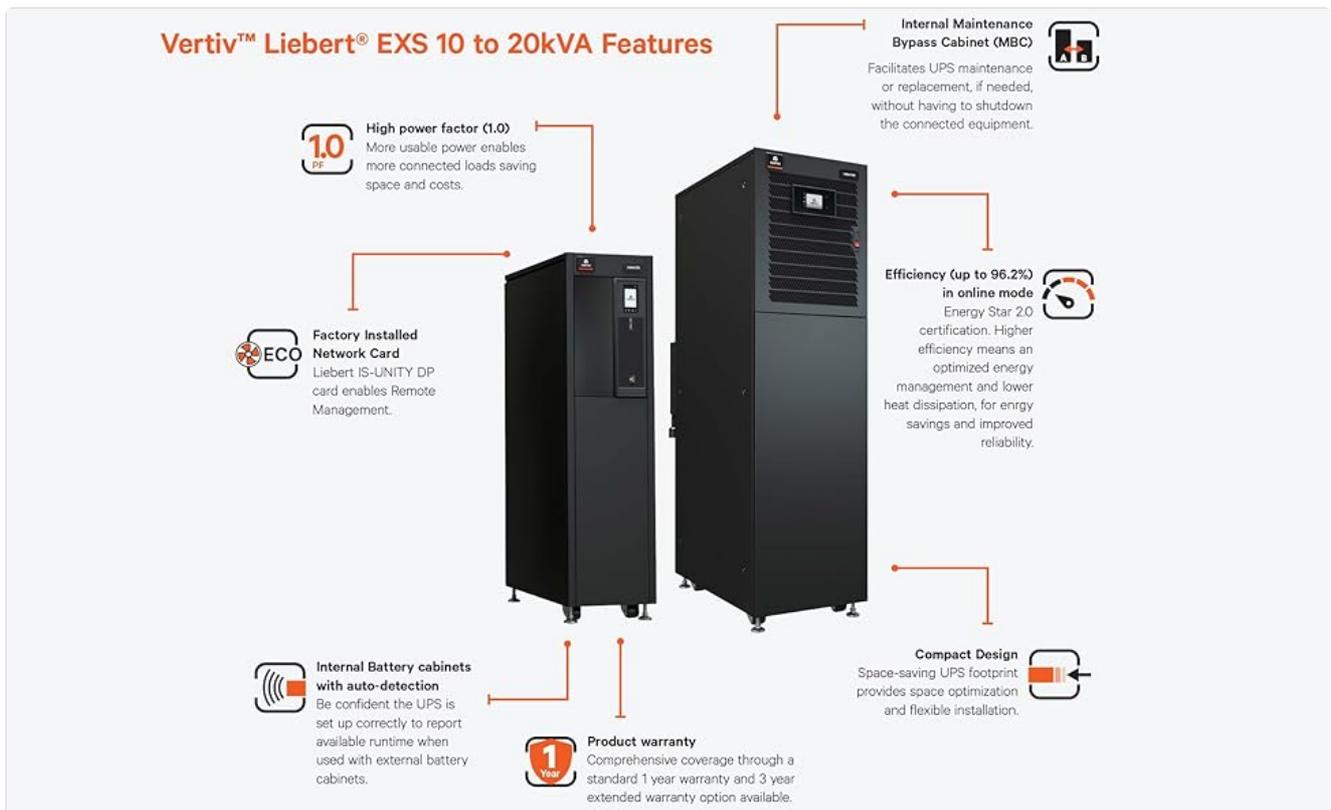


Figure 3: Key features of the Liebert EXS UPS, including the Internal Maintenance Bypass Cabinet and Factory Installed Network Card.

5. TROUBLESHOOTING

This section provides general guidance for common issues. For specific error codes and advanced troubleshooting, refer to the comprehensive product manual.

5.1 Common Issues and Solutions

- **UPS Not Powering On:** Verify that the input power cable is securely connected and that the facility's power supply is active. Check the main circuit breaker.
- **Alarm Sounds:** An alarm indicates a system event or fault. Check the UPS front panel display for specific error messages or status indicators. Consult the manual for the meaning of the alarm code.
- **Short Runtime on Battery:** This may indicate aging batteries or an excessive load. Check battery health via the monitoring system and ensure the load does not exceed the UPS capacity.
- **Connected Equipment Not Receiving Power:** Verify that the UPS is online and that output circuit breakers are not tripped. Check connections to the critical loads.

If an issue persists after attempting these basic troubleshooting steps, contact Vertiv technical support.

6. SPECIFICATIONS

Specification	Value
Model Number	EXS20KXRN
Power Rating	20kVA / 20kW
Input/Output Voltage	208/120VAC (220/127VAC)
Phase	3-Phase, 4 Wire
Product Dimensions (D x W x H)	29.5 x 17.3 x 62.9 inches (74.9 x 43.9 x 159.8 cm)
Item Weight	1042 pounds (472.6 kg)
Battery Cell Composition	Lead Acid
Integrated Card	Liebert Intellislot Card (is-Unity-DP)
Runtime	15-Min Extended Runtime
Color	Black

7. WARRANTY AND SUPPORT

7.1 Product Warranty

The Vertiv Liebert EXS UPS comes with comprehensive warranty coverage. A standard 1-year warranty is included, with an option to extend to a 3-year warranty. Please refer to your purchase documentation for specific terms and conditions.

7.2 Technical Support

For technical assistance, troubleshooting beyond basic steps, or warranty claims, please contact Vertiv customer support. Contact information can typically be found on the Vertiv official website or in your product packaging.

