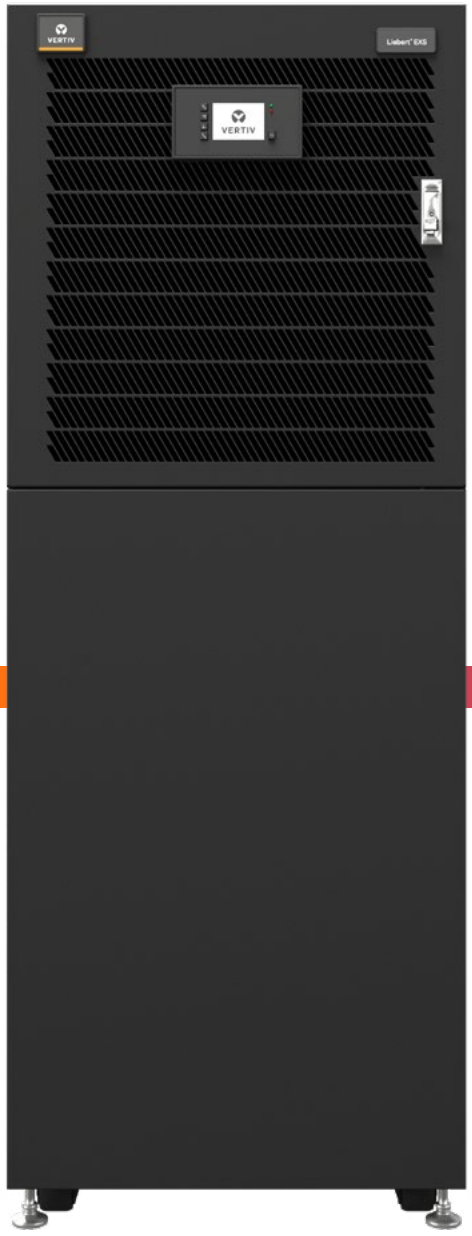
Liebert® EXS from 10 to 80 kVA

Optimized and integrated three-phase UPS solution with high efficiency power protection



About Vertiv™

Vertiv brings together hardware, software, analytics and ongoing services to ensure its customers' vital applications run continuously, perform optimally and grow with their business needs. Vertiv solves the most important challenges facing today's data centers, communication networks and commercial and industrial facilities with a portfolio of power, cooling and IT infrastructure solutions and services that extends from the cloud to the edge of the network. Headquartered in Columbus, Ohio, USA, Vertiv employs around 20,000 people and does business in more than 130 countries. For more information, and for the latest news and content from Vertiv, visit Vertiv.com.

Vertiv.com

OUR PURPOSE

We believe there is a better way to meet the world's accelerating demand for data - one driven by passion and innovation.

OUR GLOBAL PRESENCE

Manuf. and Assembly Locations **19**
Service Centers **270+**
Service Field Engineers **2,700+**
Technical Support/Response **330+**
Customer Experience Centers/Labs **17**

US AND CANADA
Manuf. and Assembly Locations **7**
Service Centers **120+**
Service Field Engineers **850+**
Technical Support/Response **120+**
Customer Experience Centers/Labs **4**

LATIN AMERICA
Manuf. and Assembly Locations **1**
Service Centers **20+**
Service Field Engineers **300+**
Technical Support/Response **25+**
Customer Experience Centers/Labs **2**

EUROPE, MIDDLE EAST AND AFRICA
Manuf. and Assembly Locations **5**
Service Centers **70+**
Service Field Engineers **600+**
Technical Support/Response **95+**
Customer Experience Centers/Labs **6**

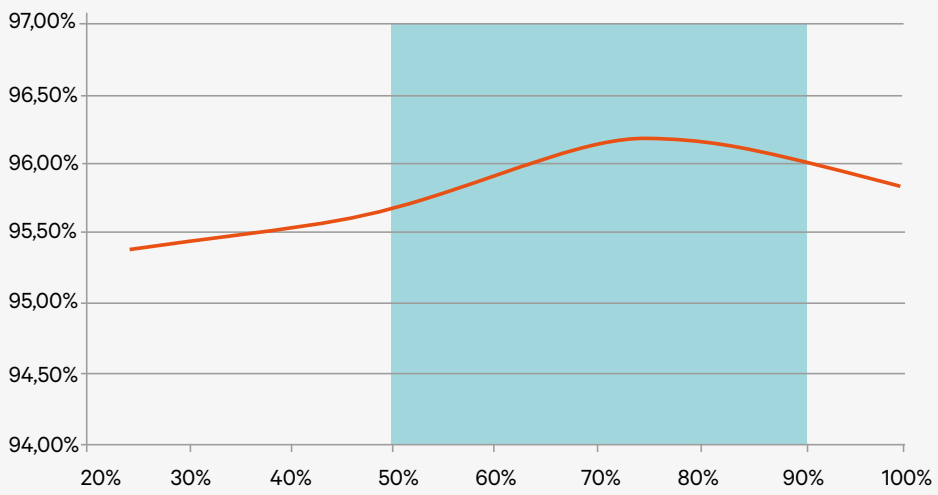
ASIA PACIFIC
Manuf. and Assembly Locations **6**
Service Centers **60+**
Service Field Engineers **950+**
Technical Support/Response **90+**
Customer Experience Centers/Labs **5**

Liebert® EXS from 10 to 80 kVA

Compact design and improved performances

The new Liebert® EXS is a monolithic transformer-free UPS which brings exceptional features for mission-critical applications. Its extraordinary double conversion efficiency up to 96.2% ensures **remarkable operational cost savings**, reducing both the Total Cost of Ownership (TCO) and the environmental impact.

At the same time, with its unity output power factor and high power density, Liebert EXS is able to provide the **utmost active power possible** in a **compact footprint**. In fact, its improved design reduces its footprint to a minimum, providing continuous power protection with **optimized internal runtime** in a standalone solution, making the Liebert EXS perfect for both IT installations and other **mission critical applications**, such as transportation, emergency lighting, healthcare, retail and government facilities.



Liebert EXS 10-20 kVA efficiency curve

FEATURES AND PERFORMANCES

- Output power factor up to 1
- Double conversion efficiency up to 96.2%
- ECO mode efficiency up to 99%
- Compact footprint with multiple internal runtime configurations (10-60 kVA)
- Available in 3/3 and 3/1 versions (10-20 kVA)
- Integrated maintenance bypass
- Integrated input and output breakers/switches
- Parallel capability for capacity and redundancy
- Li-ion battery option to adapt to all scenarios (30-80 kVA).

CENTRAL POWER SUPPLY SYSTEM (CPSS)

Liebert EXS can be used for **CPSS applications*** as defined in the **EN 50171** standard, and is hence capable of supplying the necessary **emergency power to essential safety equipment**. In fact, the unit can be used to power emergency escape lighting in case of normal supply failure and may also be suitable for powering other safety systems such as automatic fire extinguishing installations, signaling safety installations and smoke extraction equipment.

* Subject to additional prescriptions

RAILWAYS APPLICATIONS

Liebert EXS can be used for **railways applications** as defined in the **EN 50121** standard, and it's hence capable of supplying power to specific systems in urban stations and ensure high reliability to critical buildings.
In fact, the unit can be used to power on passenger information panels, safety signaling equipment, ticket machines as well as IT rooms and administration and control offices.

Flexibility

To ensure superior protection for critical loads, the Liebert® EXS range has been designed to optimize specific rating requirements, thus **enhancing flexibility** and installation space needs.

Liebert EXS's flexibility is further enhanced through:

- Single and three phase output configurations up to 20 kVA
- Integrated parallel capability up to 4 units
- Common or distributed battery bank
- Internal and external battery configurations for optimized back up time management
- Casters for easy UPS repositioning.

Output Configuration

Liebert EXS models up to 20 kVA can be configured on-site to deliver three (3/3) or single (3/1) phase output giving it the **flexibility to adapt** to changes in installation environments.

Integrated Autonomy (10-60 kVA)

Liebert EXS provides an optimized **integrated autonomy** which results in back up times in a **compact footprint.** Its internal architecture is able to house up to four battery strings, further optimizing integrated autonomy and delivering the added advantage of virtually eliminating the need for an external battery cabinet.

This furthermore **reduces installation costs** and minimizes the demand on physical space. In addition, Liebert EXS's powerful battery charger ensures **rapid recharge**, increasing its ability to manage longer back up times.

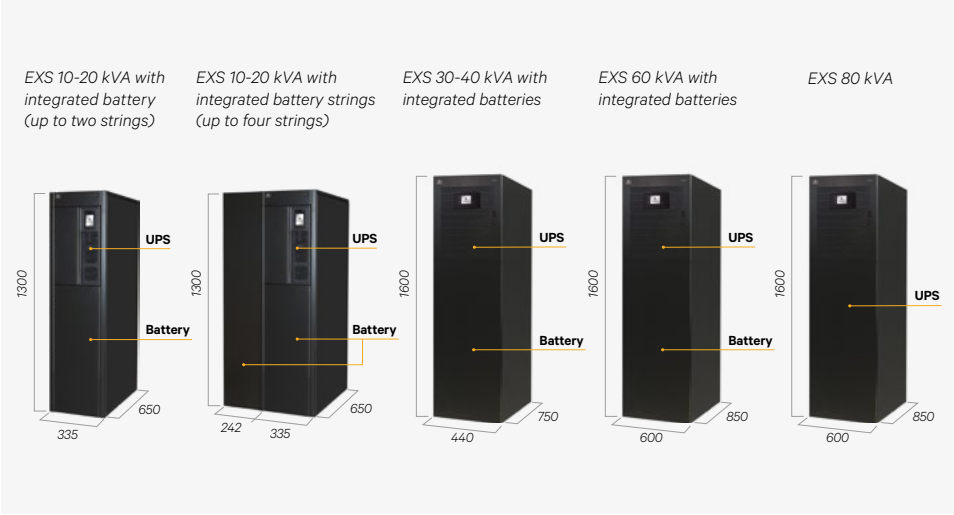
Lithium batteries compatible

Liebert EXS (30-80 kVA) can operate with both standard VRLA and new Li-ion batteries thus adapting to all possible requirements in terms of runtime, life expectancy and TCO, and showing extreme flexibility.

Full Galvanic Isolation

Liebert EXS offers integrated full galvanic isolation, meaning that an **isolation transformer** may be housed inside the UPS cabinet. This greatly reduces the system footprint, thus providing space saving advantages. The transformer may be connected to the input or to the output of the UPS, providing:

- Full galvanic isolation for medical and other critical applications
- Installation with two independent input sources (with different neutrals)
- Installation in distribution without neutral.



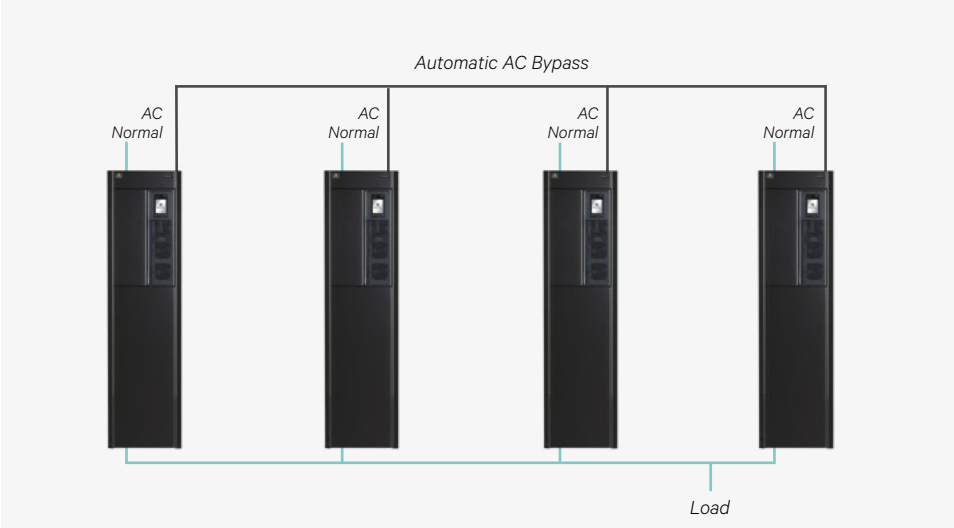
Liebert EXS architecture

In The Field

Parallel Ready

Liebert EXS can be connected with **up to four units in parallel**. A single unit can be upgraded to parallel operation via easy to modify software settings, allowing the system to be customized for the requested configuration.

The loop parallel connection used in paralleling the system **delivers ultimate reliability** and eliminates the possibility of a single point of failure, ensuring perfect load sharing and fast detection of any variation in the system status.



Liebert EXS - Parallel configuration

Communication

Liebert® EXS features a multi-lingual LCD user interface allowing close control and monitoring of system status and performance. The UPS offers the following communication features:

- Voltage-free contacts
- Intellislot for SNMP, Modbus or Relay communication
- USB interface

These communication capabilities make Liebert EXS **compatible with any building management system**.

Software

Vertiv connects and protects your network with core-to-edge solutions and unmatched expertise.
For maximum visibility and effective monitoring in one view, pair your Vertiv™ UPS with a software solution.

Serviceability

The architecture of the Liebert EXS is designed to optimize installation and simplify service with its easily removable power assembly.

This architecture considerably minimizes the time needed for repairs and optimizes serviceability. Liebert EXS also comes equipped with casters to facilitate ease of movement and relocation.

Vertiv Environet™ Alert

Vertiv Environet Alert provides industry companies with critical facility monitoring software that is affordable and easy to use. This solution delivers superior monitoring, alerting, trending and data organization. Get monitoring, alerting and trending at a price that's right for your business.

Vertiv Power Insight

Vertiv Power Insight is a complimentary web-based software designed for users with a distributed infrastructure that need a way to manage multiple devices. It is a simple to install, easy to use solution that provides a single interface for up to 100 UPSs or rPDUs.

Connectivity card

Liebert EXS 10 - 80 kVA

Vertiv LIFE™ Services Remote Diagnostic and Preventive Monitoring

Vertiv's service program is designed to ensure that your critical power protection system is maintained in an optimum state of readiness at all times.

The **Vertiv LIFE™ Services** remote diagnostic and preventive monitoring service provides early warning of UPS conditions and out of tolerances.
This allows effective proactive maintenance, fast incident response and remote trouble shooting, giving customers complete security and peace of mind.

With **Vertiv LIFE Services** you will benefit from:

Uptime Assurance

Constant monitoring of UPS parameters, thus maximizing the system's availability.

First Time Fix Rate

Pro-active monitoring and data measuring ensure that when our customer engineers are dispatched on-site, they arrive prepared for first time resolution.

Proactive Analysis

From Vertiv LIFE Services centers, our experts proactively analyze the data and trends of your equipment, to recommend actions to ensure their best performance.

Minimized Total Cost of Ownership of Your Equipment

The continuous monitoring of all relevant parameters in turn maximizes unit performance, reduces on-site maintenance and extends the life of your equipment.

Fast Incident Response

Vertiv LIFE Services allow for immediate definition of the best course of action, as a result of the regular communication between your Liebert EXS system and our **Vertiv LIFE Services** centers.

Reporting

You will receive a comprehensive report detailing the working order of your equipment and its operational performance.

Liebert® EXS Specifications

Technical Characteristics							
Ratings (kVA)	10	15	20	30	40	60	80
Input							
Nominal input voltage (V)	380/400/415 (three-phase + N + PE)						
Input voltage range without battery discharge (V)	173 to 498*			228 to 475*			
Nominal frequency (Hz)	50/60						
Input frequency range (Hz)	40 to 70						
Input power factor at full load (kW/kVA)	0.99						
Current THD at full linear load (THDI%)	≤ 3%*						
Bypass voltage tolerance (%)	selectable from +20 to -40						
Bypass frequency tolerance (%)	±20 (±10 selectable)						
Battery							
Battery blocks per string	24-40*			26-40*			
Voltage temperature compensation (mV/°C/Cell)	-3.0						
Battery charger max. current (A)	13			12.5		25	
Output							
Nominal output voltage (V)	380/400/415 (three-phase + N + PE) or 220/230/240 (single-phase + N + PE)			380/400/415 (three-phase + N + PE)			
Nominal output frequency (Hz)	50/60						
Maximum active power (kW)	10	15	20	30	40	60	80
THDv at full linear load (%)	2						
Inverter overload capacity	105% for 60 min; 125% for 5 min; 150% for 1 min; >150% for 200ms			105% for 60 min; 125% for 10 min; 150% for 1 min; >150% for 200ms			
Double conversion efficiency	Up to 96.2%						
ECO mode efficiency (%)	Up to 99%						
Dimensions and weight							
Dimensions (W x D x H) mm	335 x 650 x 1300 (standard version) 577 x 650 x 1300 (extended version)			440 x 750 x 1600		600 x 850 x 1600	600 x 850 x 1600
Net/Shipping weight (excluding battery) kg	85/115 (standard version)			147/250		215/265	260/270
Net/Shipping weight (including 2*32 batteries) kg	285/315 (standard version)			600/650		700/750	NA
General							
Noise at 1 m (dBA)	≤58					<60	<60
Maximum altitude	1500 m without derating (max. 3000 m)						
Operating Temperature (°C)	up to 50*			up to 40			
Protection level IEC (60529)	IP20						
General and safety requirements for UPS	EN/IEC/AS/BS 62040-1						
EMC requirements for UPS	EN/IEC/AS/BS 62040-2						
Environmental aspects	EN/IEC/AS/BS 62040-4						
UPS classification according to CEI EN 62040-3	VFI-SS-111						
Central Power Supply Systems (CPSS) applications*	EN 50171						
Rail applications*	EN 50121-1 EN 50121-5						

* Conditions apply

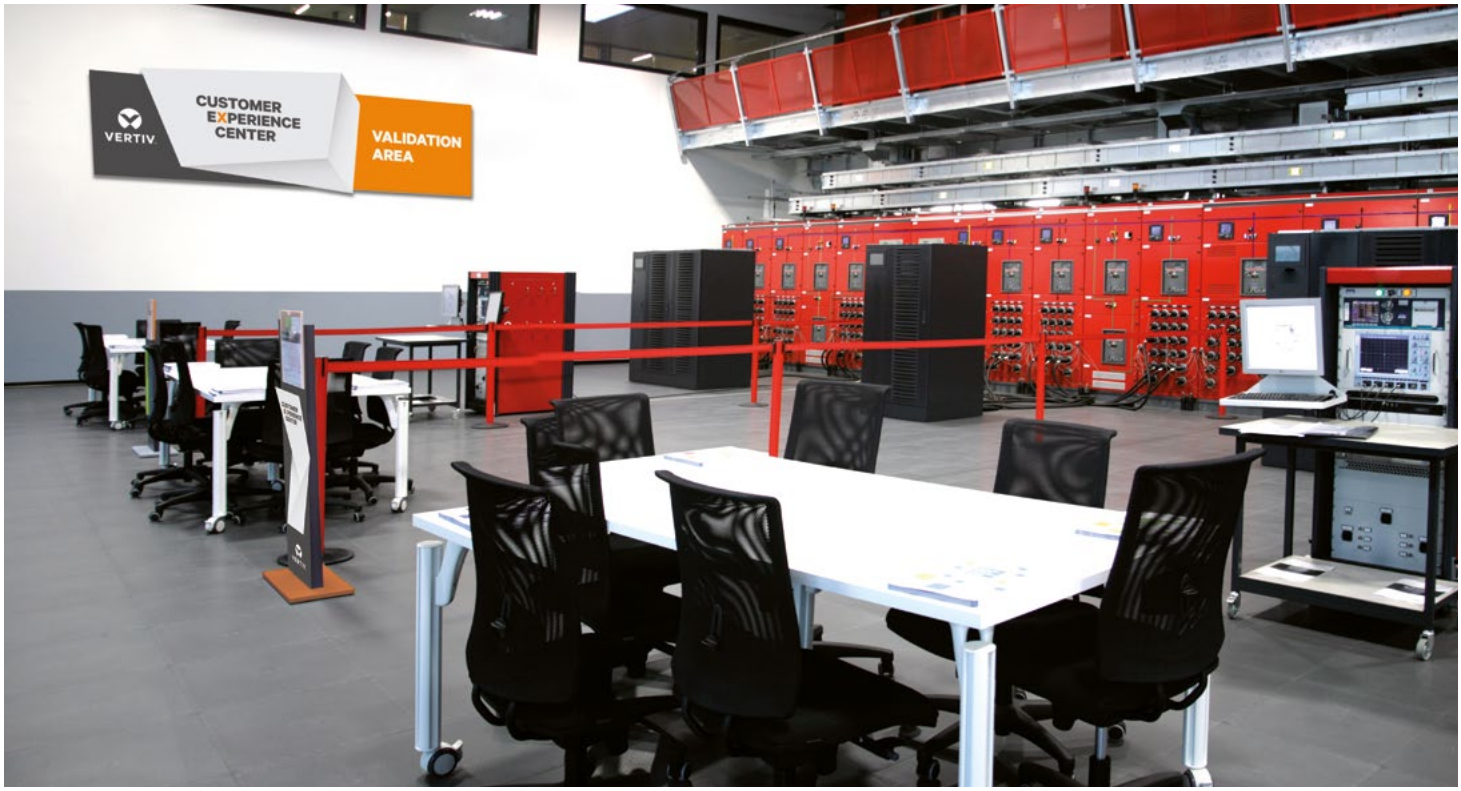
Customer Experience Center

Vertiv™ state-of-the-art Customer Experience Center located in Castel Guelfo (Bologna - Italy), enables our customers to experience first-hand a wide variety of data center technologies, supported by constant consultation from R&D and engineering specialists.

Customers visiting the center will be able to witness pre-installation demonstrations, covering the technical performance, interoperability and efficiency of Vertiv UPS systems under real field conditions. These processes can be experienced from the facility's control room, where real-time performance measurements and reporting will be available while providing full visibility of the demonstration area. The center can host simultaneous tests at full load of up to 4000 A.

The customer validation area specifically dedicated to UPS consists of four testing stations, each one providing up to 1.2 MVA of capacity. Testing includes individual modules, as well as complete power systems, with the added possibility of the customer's switchgear support systems being connected, thus guaranteeing smooth, rapid installation and commissioning of large power systems.
Testing is also customized based on the complexity, size and number of UPS components in the configuration.
Our Customer Experience Center offers three validation experiences:

- Demo - carried out on new products to demonstrate UPS performance
- Standard - validation test showing UPS standard technical performances in compliance with UPS catalogue and IEC 62040-3 standards
- Customized - session tailored to validating customer's specific technical performance needs.



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