Liebert® EXS™

10 to 80 kW

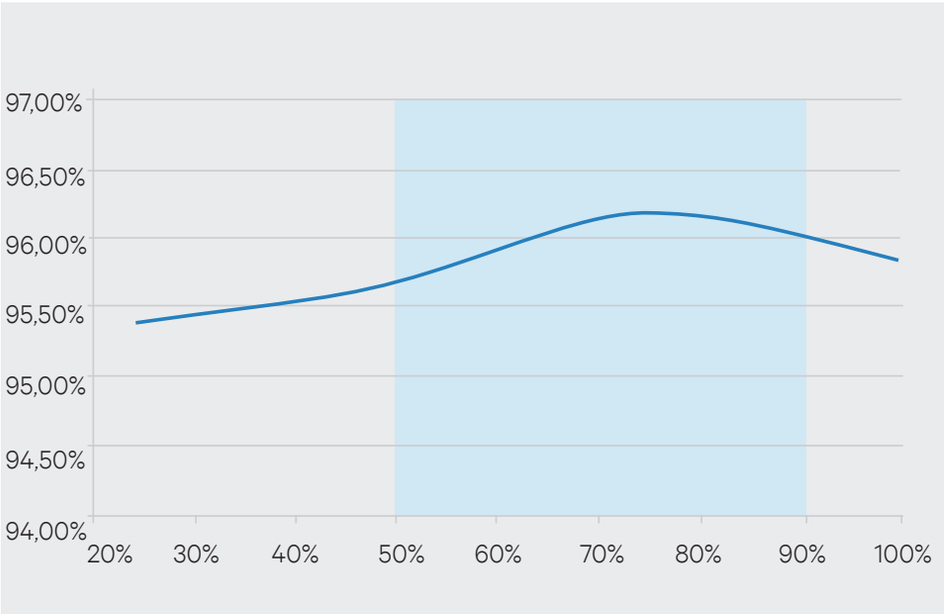
Optimized and integrated three-phase UPS solution with high efficiency power protection

Liebert® EXS from 10 to 80 kW

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 10-80 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
- 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

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

Integrated Autonomy (10-60kVA)

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.

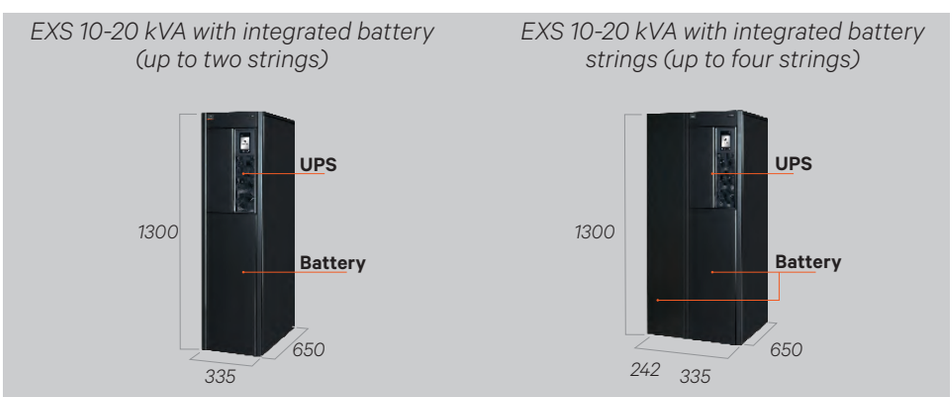
Full Galvanic Isolation

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.

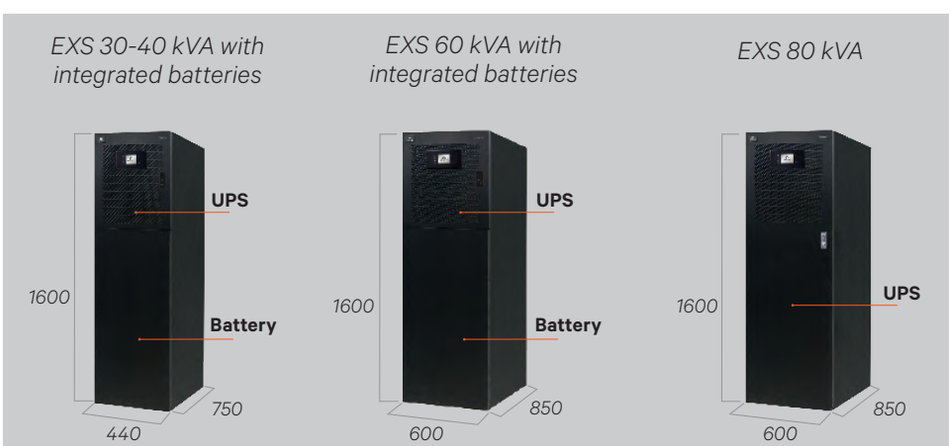
Output Configuration

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.



Liebert EXS architecture

READY FOR LIB Lithium-ion Batteries

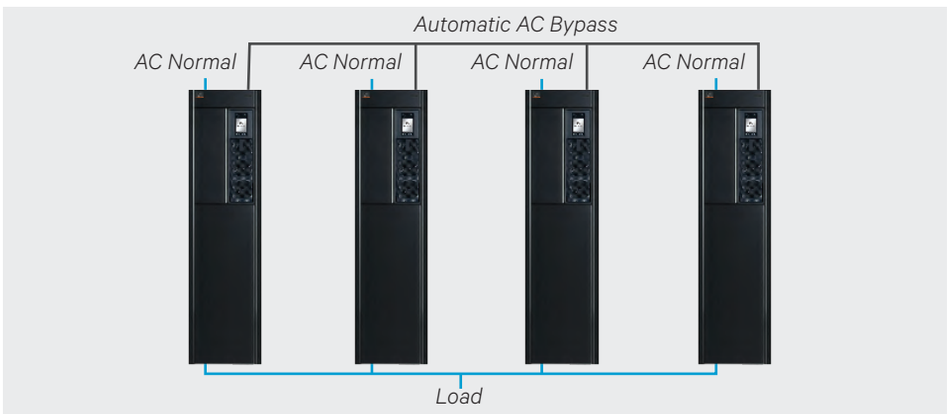


Liebert EXS architecture

In The Field

Parallel Ready

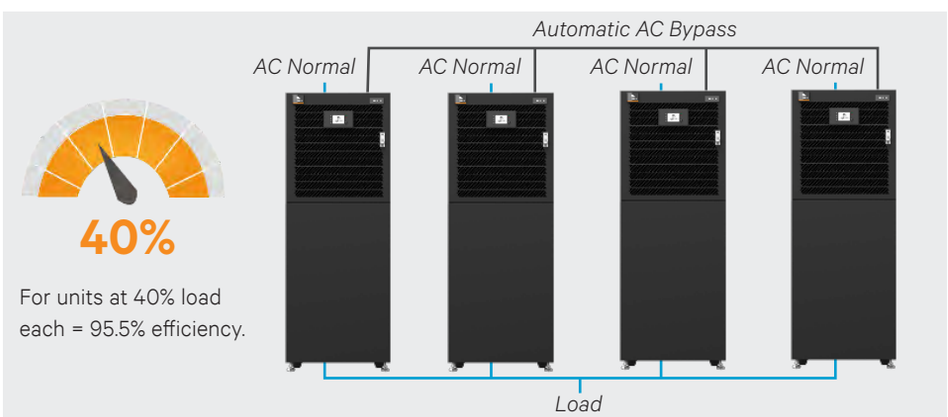
Liebert EXS can be connected with **up to four units in parallel**. A single unit can be upgraded to parallel operation via easy to modify software settings, allowing the system to be customized for the requested configuration. The loop parallel connection used in paralleling the system **delivers ultimate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

Intelligent Paralleling Feature

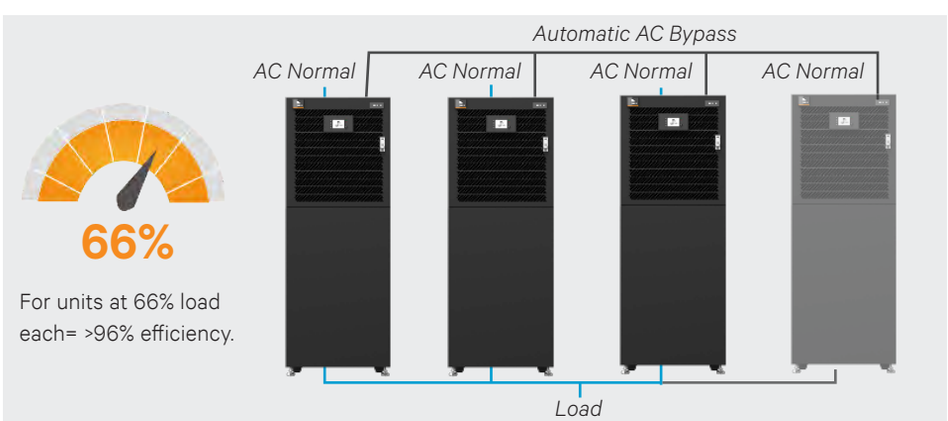
Activating the Intelligent Paralleling Mode optimizes efficiency at partial load, thus achieving greater operational cost savings. Enabling this feature allows the system to automatically adapt capacity to meet immediate load requirements by switching excess units to standby mode, while ensuring continued system availability. Furthermore, this mode allows each Liebert EXS unit to operate in standby mode for the same amount of time, ensuring an equal life span of module components.



Liebert EXS - Inteligent Parelleling

Fault Tolerance Feature[1]

The Liebert EXS provides enhanced fault tolerance at partial load versus a traditional fixed capacity monolithic UPS. It can tolerate internal power module failures and still support a partial load without going to bypass. Thereby, enhances the availability of your critical load.



Liebert EXS - Inteligent Parelleling

1.Applicable for 60 &80kVA variants.

Communication

Liebert® EXS features a multi-lingual LCD user interface allowing close control and monitoring of system status and performance. The UPS off ers the following communication features:
Liebert EXS's flexibility is further enhanced through:

- 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 Connectivity

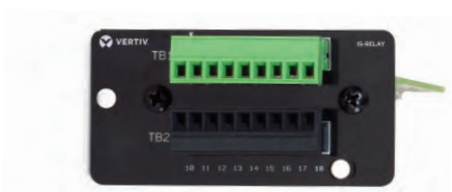
Vertiv™ shutdown software off ering prevents unexpected server shutdowns and **minimizes downtime** warning of pending power losses and initiating safe shutdown of operating systems if required. Vertiv Nform™ network communications system enables customers to leverage the distributed monitoring capabilities of network connected equipment, providing centralized management of distributed systems.

VERTIV™ *TRELLIS™*

Vertiv Trellis platform is a real-time infrastructure optimization platform that enables the unified management of data center IT and facilities infrastructure. The Vertiv Trellis platform software can manage capacity, track inventory, plan changes, visualize configurations, analyze and calculate energy usage, and optimize cooling and power equipment as well as enable for virtualization.
The Vertiv Trellis platform monitors the data center, providing a thorough understanding of system dependencies to help IT and facilities organizations keep the data center running at peak performance. This unified and complete solution, delivers the power to see the real situation in your data center, make the right decision and take action with confidence.

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.



IS-Relay
Relay Card

IS-Unity-DP
Card

10 - 20 kVA *30 - 40 kVA* *60 kVA* *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 troubleshooting, 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 Service 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

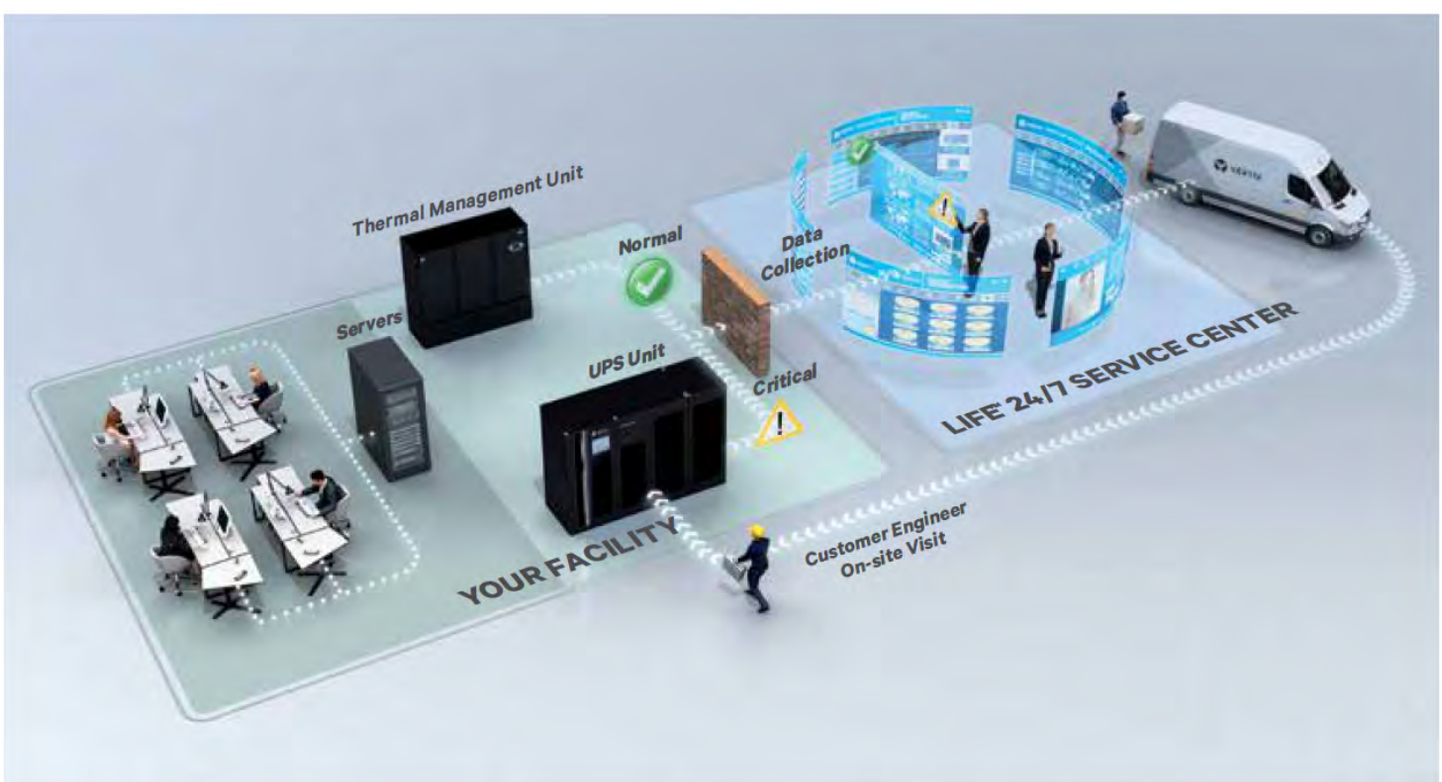
The continuous monitoring of all relevant parameters in turn maximizes unit performance, reduces on-site maintenance and extends the life of your equipment.

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 Service centers.

Reporting

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



Technical Specifications

Ratings (kVA / kW)	10	15	20	30	40	60	80
Input							
Nominal input voltage	380 / 400 / 415 V (three-phase + N + PE)						
Input voltage range without battery discharge	173 to 498 V*			228 to 475 V*			
Nominal frequency	50/60 Hz						
Input frequency range	40 to 70 Hz						
Input power factor at full load	0.99 kW / kVA						
Current THD at full linear load	≤ 3 %*						
Bypass voltage tolerance	selectable from + 20 % to - 40 %						
Bypass frequency tolerance	± 20 % (± 10 % selectable)						
Battery							
Battery blocks per string	24 to 40*			26 to 40*			
Voltage temperature compensation	-3.0 mV / °C / Cell						
Battery charger max. current	13 A			12.5 A		25 A	
Output							
Nominal output voltage	380 / 400 / 415 V (three-phase + N + PE) or 220 / 230 / 240 V (single-phase + N + PE)			380 / 400 / 415 V (three-phase + N + PE)			
Nominal output frequency	50/60 Hz						
Maximum active power	10 kW	15 kW	20 kW	30 kW	40 kW	60 kW	80 kW
THDv at full linear load	2 %						
Inverter overload capacity	105 % for 60 min; 125 % for 5 min; 150 % for 1 min; > 150 % for 200 ms			105 % for 60 min; 125 % for 10 min; 150 % for 1 min; > 150 % for 200 ms			
Double conversion efficiency	Up to 96.2 %						
ECO mode efficiency	Up to 99 %						
Dimensions and weight							
Dimensions (W x D x H)	335 x 650 x 1300 mm (standard version) 577 x 650 x 1300 mm (extended version)			440 x 750 x 1600 mm		600 x 850 x 1600 mm	
Net / Shipping weight (excluding battery)	85 / 115 kg (standard version)			170 / 200 kg		215 / 245 kg	230 / 260 kg
General							
Noise at 1 m	≤58 dBA					<60 dBA	
Maximum altitude	1500 m without derating (max. 3000 m)						
Operating Temperature	up to 50 °C*			up to 40 °C			
Protection level IEC (60529)	IP20						
General and safety requirements for UPS	EN/IEC/AS 62040-1						
EMC requirements for UPS	EN/IEC/AS 62040-2						
UPS classification according to IEC EN 62040-3	VFI-SS-111						

Note:

** Conditions apply.*

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