



VERTIV[™]

Liebert[®]

EXL[™] UPS

800 and 1200kVA

Single Module and
Multi-Module Systems



A UPS as Dynamic as Your Data Center

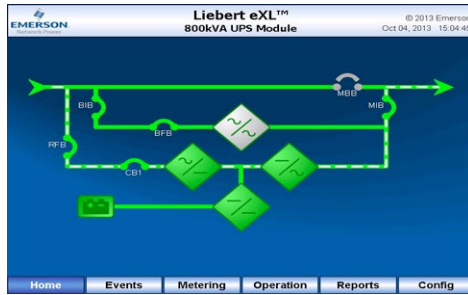
The Liebert® EXL™ UPS maximizes capital and operational efficiency, enabling today's dynamic data centers to be rapidly deployed and highly flexible. The UPS is purposefully designed to enable simple, intuitive operation and proactive service and maintenance. The design leverages Vertiv™'s application and systems expertise that provides industry-leading levels of reliability that you can depend on.

High Efficiency/Low TCO

- Transformer-free topology with up to 97% efficiency in double conversion mode.
- High capacity and unity power factor in a smaller footprint – provides more usable power, best space utilization, and reduced installation costs.
- Eco-mode ready, giving you future options for industry leading levels of efficiency in your data center.
- Accommodates IT load without de-rating, eliminating the need to oversize for leading load power factor.
- Lower installation costs with three-wire design and high input power factor.
- Optimizes PUE through lower operating losses and reduced cooling requirements.

Intelligent, Proactive Technology and Support

- Integrated control system and internal diagnostics allow enhanced visibility into operation and awareness of potential issues.
- Rich information, management and monitoring via integration with the Trellis™ platform. Easily compatible with other management solutions.
- Large, user-friendly HMI touch screen makes maintenance simpler and reduces likelihood of user error.



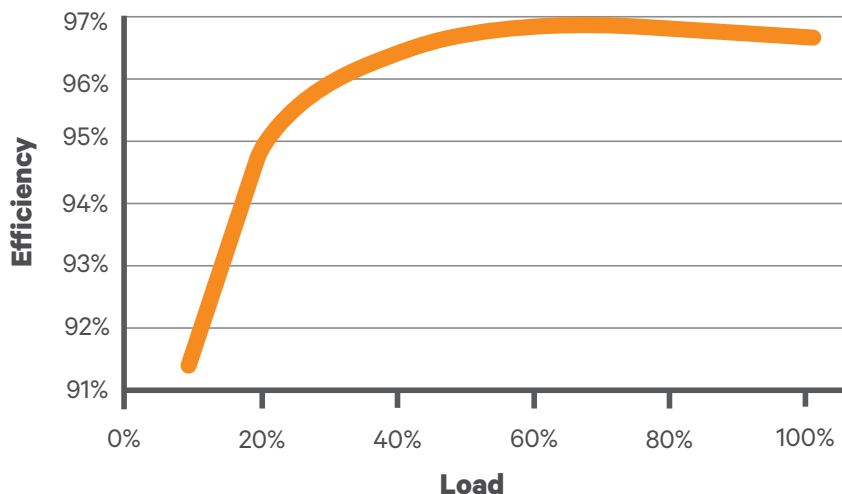
The large, on-unit HMI touch screen (10.4") provides comprehensive, real-time updates of critical system information.

Service and Support from Vertiv

Vertiv provides the industry's largest service network, ensuring that data center expertise is never far when you need it. From strategy to deployment, operation and expansion, our team can help you optimize your data center for efficiency and availability.

- System-level factory witness testing provides assurance that crucial power systems work together – before site installation.
- Factory-direct service technicians.
- LIFE™ Services for remote monitoring enables our experts to track your UPS performance 24/7/365 to optimize efficiency and availability.

Efficiency Curve – Liebert EXL UPS



This data represents typical performance of an 800kVA/kW system and is not a guarantee of minimum efficiency.



Liebert EXL UPS, 1200kVA model

Liebert® EXL™ UPS has a robust design for maximum efficiency, due to features such as:

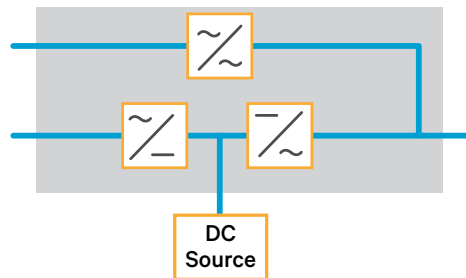
- Use of breakers instead of contactors - improves reliability and offers higher withstand rating.
- Continuous duty static bypass switch, vs momentary duty, improves reliability.
- Redundant fans – maintains airflow in the event of a single fan outage.

Flexible Configurations

- Continuous-duty, fully-rated static switch.
- Optional 100kA short circuit withstand design for high available fault current applications 65kA withstand standard.
- Utilizes circuit breakers as opposed to contactors to increase reliability.

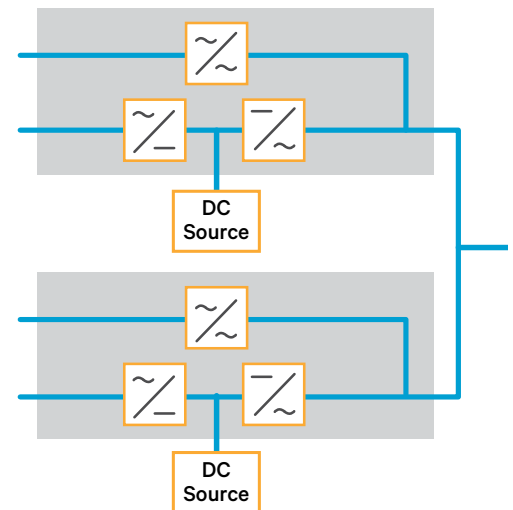
Single-Module Configuration

Single-module systems provide a basic protection configuration. The critical bus is powered by a single UPS system with bypass capability. Large capacity modules can replace multiple smaller modules in dual bus configurations, reducing complexity and increasing reliability.



1+N Parallel Configuration - Up to 6 Modules

- Paralleling of single UPS units, offers easy scalability for capacity or redundancy.
- Each module has its own single bypass static switch.
- Provides multi-module operation without the need for a system control cabinet.
- Bypass sharing is assured through integral bypass load sharing inductors, simplifying wiring and installation.

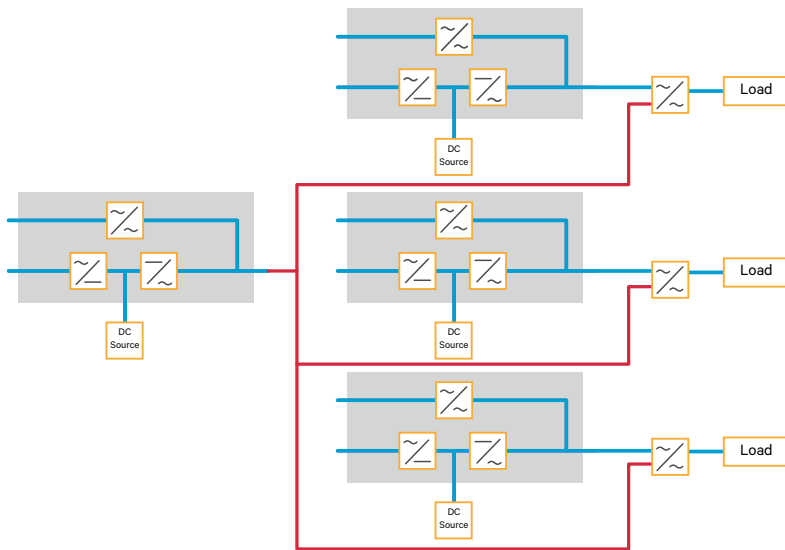


Dual Bus or 2N

A dual bus system features two identical UPS systems and supporting power systems, each capable of carrying the full load. During normal operation the two systems support the load. Each system may have redundancy built-in to maintain redundancy while one system is offline.

Reserve or Catcher Bus with Liebert® STS2 Static Transfer Switches

Creates a redundant overall system architecture, and can be created with downstream power distribution similar to a dual bus 2N architecture. Liebert STS2 static switches with Optimized Transfer ensure that your critical load is fully protected. This configuration allows the UPS to operate at higher utilization rates, while providing a highly fault tolerant power system design.



Catcher Bus/Reserve
Bus Tier 3-4

Battery cabinets for the Liebert EXL™ UPS are built to facilitate fast deployment, easy serviceability and long operational life. Select from your choice of leading battery manufacturers. Configurations for conventional top terminal and high-capacity front terminal type batteries.

- Direct-Connect capability to attach directly to the left side of the UPS module for a clean, compact installation.
- Internal bussing to reduce field wiring and associated installation costs and time
- Seismic anchoring
- Individual circuit breakers for each cabinet, for easy, safe servicing and selective cabinet isolation in over-temperature or fault conditions
- Optional factory integrated Albér Battery Monitoring System
- Batteries mounted on pull-out drawers for safe, easy servicing

Proactively Avoid Battery Failures

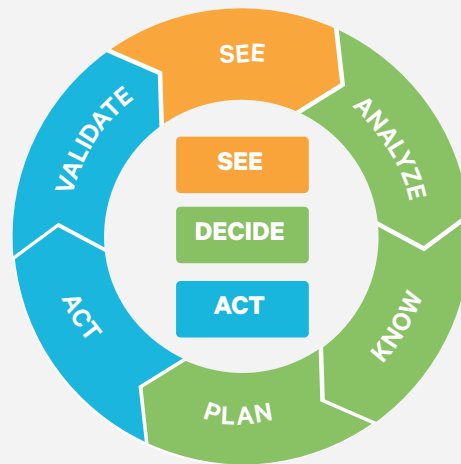
Since UPS battery failures continue to be the primary cause of unplanned data center outages, Liebert® EXL™ battery cabinets are available with factory installed and tested Albér® BDSUi™ battery monitoring systems. The Albér BDSUi continuously monitors all critical battery parameters and provides advance warning of a preventable battery failure as well as enables battery maintenance and replacement to be based on the condition of the batteries rather than arbitrarily timed schedules. Utilizing its patented DC resistance battery testing method, the Albér BDSUi battery monitoring systems gives customers real-time visibility across an entire battery system by verifying the integrity of the entire system including the internal cell, inter-cell, inter-tier, and mid-string disconnect switch resistances.

SEE

Helps you proactively address battery related issues that you could never see before by allowing you to visualize all critical information and know the real state of health of your batteries at all times (in real-time or historical trending).

ACT

Helps you take the right action with confidence at the right time by recommending the best corrective action.



DECIDE

Helps you make more informed decisions, faster by analyzing data and utilizing built-in decision support functions that determine what matters and what doesn't.

Battery Xplorer Screens

System View



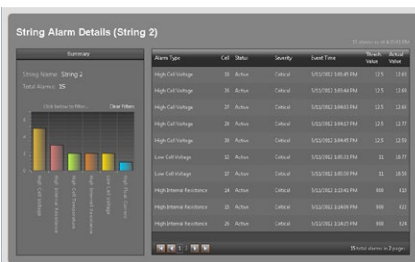
View data on parallel battery strings simultaneously.

String View



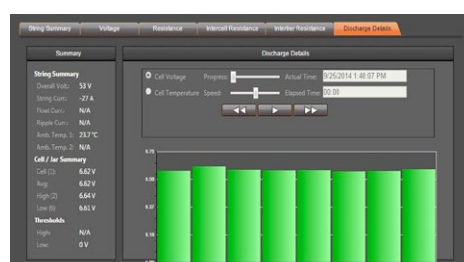
View a trend graph showing the history of all the string level parameters

Alarm View



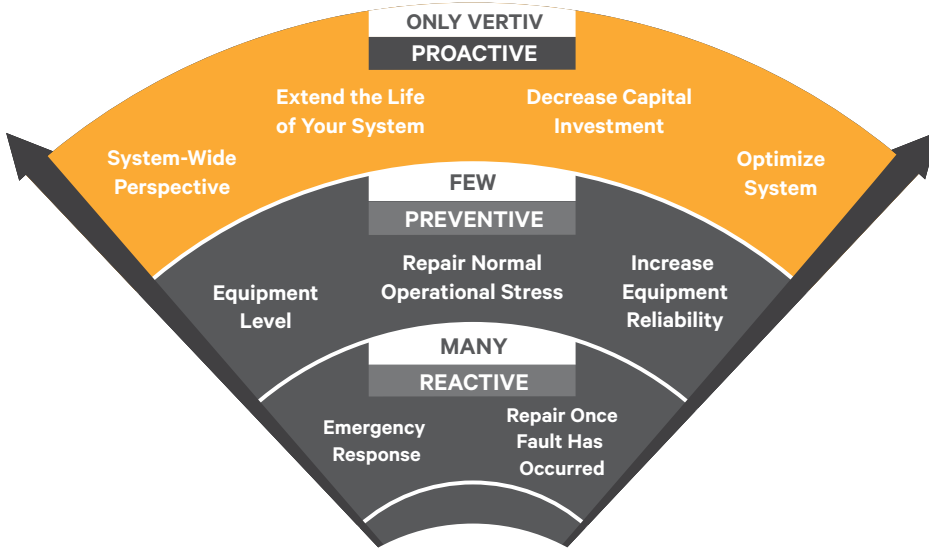
View active alarms in a sortable and customizable grid.

Discharge View



View data captured during a discharge event

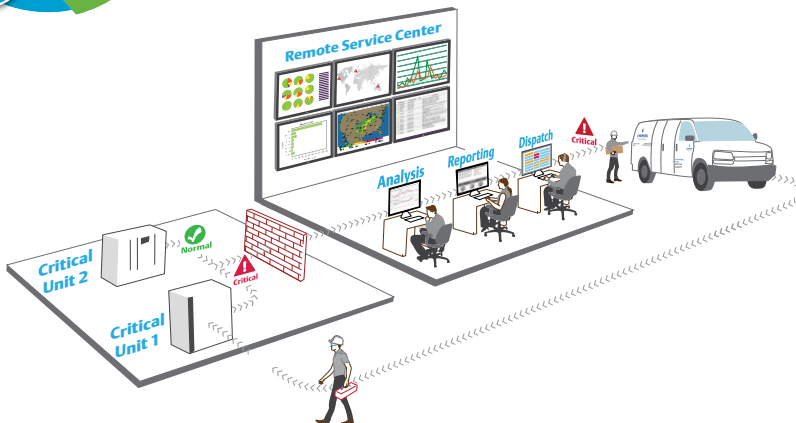
Vertiv™ Services



LIFE Services

With LIFE Services, Vertiv provides continuous remote diagnostics and proactive service dispatch for Liebert® EXL™ UPS. Our experts use advanced service level data and IP-based communications to anticipate, identify, diagnose and respond to problems before they can cause downtime or hinder performance.

Doing so, we can help your team save time and focus on strategic tasks while improving productivity and reducing unplanned outages. All communication is out-bound only to minimize or eliminate the risk of security breaches.



Service and Support from Vertiv

Vertiv provides the industry's largest service network, ensuring that data center expertise is never far when you need it. From strategy to deployment, operation and expansion, our team can help you optimize your data center for efficiency and availability with:

- System-level factory witness testing to provide assurance that crucial power systems work together before site installation.
- The largest network of factory-trained local service and support in the industry. Expertise is never far away when you need it, whether it be during strategy, deployment or operation.
- Factory-direct service technicians to help protect your investment and optimize performance.



Product Specifications

LIEBERT® EXL™ UPS MODEL SIZE	800 KVA / KW	1200 KVA / KW
Input AC Parameters		
Rectifier Type	IGBT Active Rectifier	
Input Voltage to Rectifier	VAC 480 3-phase, 3-wire	
Input Voltage to Bypass	VAC 480 3-phase, 3-wire	
Input Voltage Range	VAC +10%, -15% (-30% battery assist)	
Input Frequency, Hz	60	
Permissible Input Frequency Range, Hz	55 to 65	
Input Power Factor	>0.99	
Reflected input THDi at nominal voltage at full load %	<5%	
Power Walk-In, sec	1 to 30 (selectable) in 1 sec. increments	
Battery & DC Parameters		
Battery Type	VRLA (Valve Regulated Lead Acid) or FLA (Flooded Lead Acid)	
Nominal Battery Bus, VDC	480V	
Battery Float Voltage, VDC	540V	
DC Ripple Voltage in Float and Const V Ch. mode, %	<1 (RMS value) < 3.4% Vpp	
Temperature Compensated Battery Charging	Standard (with temperature probe)	
Output Parameters		
Inverter Type	High Efficiency Transformer Free IGBT PWM Controlled Inverter	
Output Power, kVA/kW	800 kVA / kW	1200 kVA / kW
Load Power Factor Supported (Without Derating)	0.7 Leading to 0.7 Lagging	
Output Voltage	480 VAC 3-phase, 3-wire	
Output Voltage Regulation	< 1% (3-phase RMS average)	
Output Voltage Regulation (50% Unb. Load)	< 2% (3-phase RMS average)	
Output Frequency, Hz	60 Hz	
Output Frequency Regulation, %	± 0.1%	
Output THD at Nominal Voltage (Linear Load), %	3%	
Output THD at nominal voltage Including a 100kVA Non Linear Load per IEC 62040-3, %	<6% (max)	
Efficiency AC-AC Double Conversion	>96%	
Transient Recovery	IEC 62040-3, section 5.3.1 Figure 1	
Voltage Displacement	120 deg +/- 1 deg (50% unbalanced load)	
Unbalanced loads current capacity	50% of nominal phase current	
Overload	110% for 10 minutes, 125% for 2 minutes, 150% for 15 seconds, 200% for 10 cycles	
Physical Characteristics Single Module System		
Width, Depth, Height in inches (mm)	125.2 in x 33.5 in x 76.8 in (3145 mm x 850 mm x 1950 mm)	171.7 in x 33.5 in x 76.8 in (4330 mm x 850 mm x 1950 mm)
Weight, unpackaged, lbs (kg)	5,735 lbs. (2,601 kg.)	8,050 lbs. (3,660 kg.)
Color	Black, RAL 7021	
Protection Class, UPS Enclosure	NEMA 1, IP 20 (with and without front door open)	
Standards		
Safety	UL 1778 4th Edition; CSA 22.2 107.3	
Surge	ANSI C62.41 B3	
Other certifications pending		



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