LIEBERT® EXL™ S1 UPS

625-1200 kVA/kW

OVERVIEW

The Liebert® EXL™ S1 is a monolithic, transformer-free UPS that features optimized, industry leading footprint and power density, excellent operating efficiency and robust electrical protection to achieve superior cost savings.

Key Benefits

- Space-saving design minimizes footprint
- Maximizes power density
- Maximizes active power capacity
- Reduces operating expenses
- Drives down cost of ownership
- Easy to service and install
- Flexible configurations
- Eliminates upstream electrical disturbances
- Ensures robust power protection
- Compatible with modern electrical loads
- Delivers proactive remote services
- Intelligent and secure control is customizable by user
- Flexible energy store options

With Vertiv™ Services, your critical systems are fully maintained. Proactive support extends the life of your power systems, decrease your capital investment, optimizes system efficiency and effectiveness, and increases overall system availability.

READY FOR LIB Lithium-ion Batteries

Liebert EXL S1 625-800kVA/kW

Liebert EXL S1 1000-1200kVA/kW

Standard Features

- Redundant DC variable speed fans
- Advanced 400/600kW power cores
- Transformer-free design
- Up to 99% efficient
- Unity/Symmetrical power factor
- 100kA short circuit withstand rating
- Advanced status-at-a-glance touchscreen control panel
- Lithium-ion battery compatible
- Parallel up to 8 units
- Top and bottom entry cable access
- Front and top only service access
- Intelligent paralleling mode
- Parallel UPS system control and monitoring from a single touchscreen control panel

Optional Features

- Dynamic Online (VI) mode
- Single or dual input
- Dual asynchronous source common mode choke
- DC battery ground fault detection
- Centralized or distributed paralleling
- Seismic anchoring kit
- Load bus synchronization
- Backfeed disconnect
- Bypass current sharing inductors
- Emergency Power Off
- Unity communications card allowing dual simultaneous protocols
- Remote alarm status panel
- FCC Part 15 compliance

Efficient, Intelligent, Robust Features Optimize Performance

Benefit From The Saving Space Design

The Liebert® EXL™ S1 offers the industry's highest power density per square foot of any large-scale UPS.

You benefit by enabling more productive use of space. In new builds, you can choose to create more room for revenue-generating IT equipment or you might adjust designs and reduce data center construction costs.

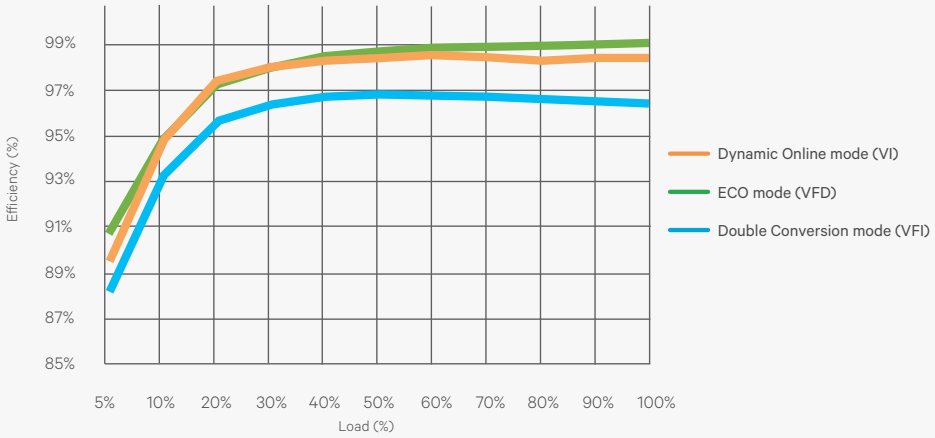
COMPARE AND SAVE

Total Efficiency

From operating savings, to low capital cost, the Liebert EXL S1 provides the optimal solution to maximize return.

For example, the system achieves high operating efficiency across a broad, practical load range. This is important as load capacities ramp up.

EXL S1 Modes of Operation AC-AC Efficiency

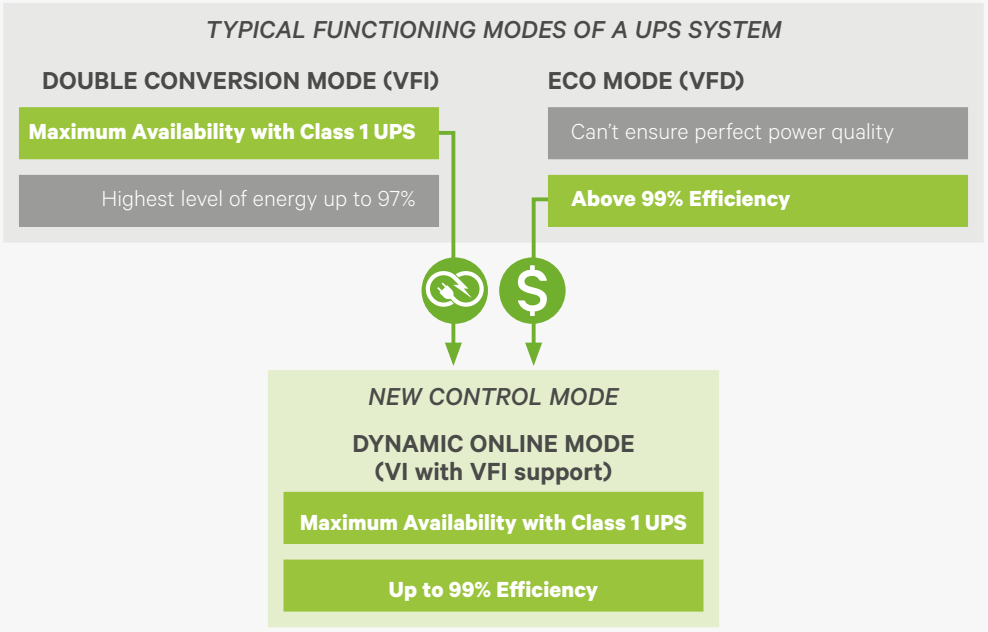


Dynamic Online mode: No more availability tradeoff with efficiency

Dynamic Online mode is the latest high efficiency mode of operation offered by Vertiv, developed for those that do not want to trade off any level of availability for incremental gains in efficiency.

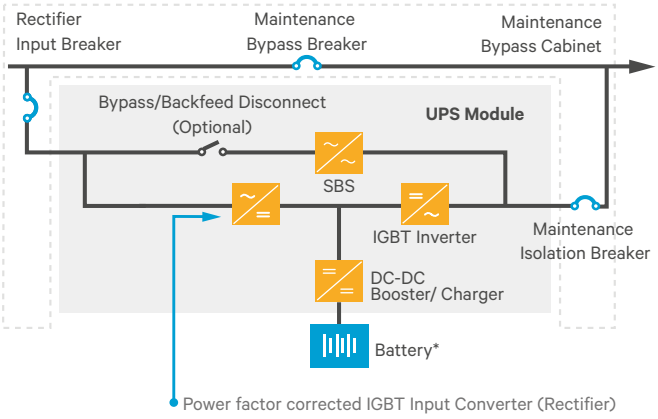
Dynamic Online mode enables **operating efficiency up to 99% without sacrificing availability.** In fact, while in this mode, the inverter can instantaneously assume the load and maintain the output voltage within the IEC 62040 Class 1 specification, thus offering the same level of availability typically achieved in a double conversion operating mode.

Dynamic Online mode is therefore able to combine the superior availability of a double conversion operating mode with the excellent energy cost savings of a high efficiency mode for a reduced total cost of ownership.



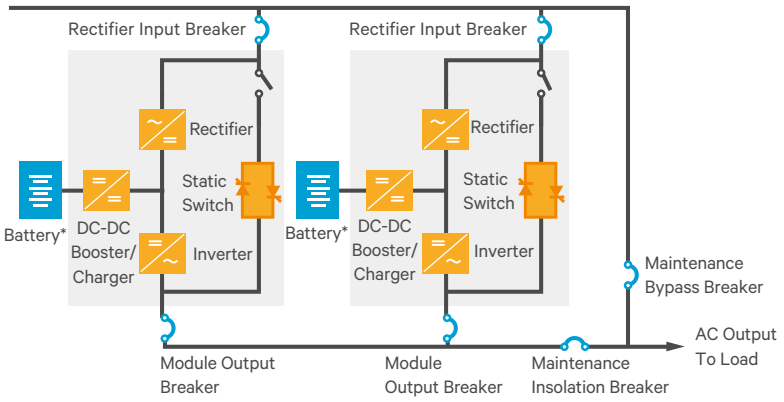
Flexible Configurations

Single Module System



Designed for use with an external maintenance bypass cabinet to ensure compliance with the latest OSHA requirements.

Distributed Bypass Multi-Module System



External Isolating and Bypass Breakers

*Battery breaker in cabinet-not shown

Distributed bypass mult-module design uses distributed 100% continous duty rated static switches in each module, which provides a low initial cost due to simplified paralleling switchgear.

Color Touchscreen Control Panel

- Multiple access security levels with user-customizable views
- User-friendly graphical interface and Interactive single-line mimic diagram
- Dedicated warning/alarm and event log
- Dedicated measurements page
- Status at a glance LED light bar indicates warning and alarm conditions

Smart, Convenient Design for the Modern Data Center

- Compact, yet easy to install and service. Flexible, yet robust and adaptable.

Easy, safe access to communication and monitoring connections via top unit panel - no high voltage components.

Compact power modules are efficiently cooled by redundant DC variable speed fans and thoughtfully designed for ease of service.

Convenient jumpers allow for single or dual input connections.

Intelligent Paralleling

Activate for improved efficiency at partial load. The system can automatically adapt capacity to load requirements and then switch non-loaded units to standby mode, while still delivering continued system availability.

Four units at 33% load each = 96% efficiency.

Two units at 65% load each = 96.8% efficiency.

- Maximizes double conversion efficiency
- Balances system usage
- Improves component lifespan
- Enhances energy and TCO reduction

TECHNICAL SPECIFICATIONS		
UPS Rating (kVA)	625/750/800	1000/1100/1200
Output Active Power at 104°F (40°C) (kW)	625/750/800	1000/1100/1200
Input AC Parameters		
Input Voltage to Rectifier/ Bypass (VAC)	480, 3-phase, 3-wire	
Permissible Input Voltage Range	+10%, -15%	
Input Frequency (Hz)	60 ± 5Hz	
Input Power Factor	≥ 0.99	
Input Current Distortion (THDi) at Nominal Voltage at Full Load (%)	≤ 3.0	
Power Walk-in (seconds)	1 to 90 (selectable in 1 second increments)	
Battery & DC Parameters		
Battery Type	Lithium ion, VRLA (Valve Regulated Lead Acid), VLA (Vented Lead Acid)	
Nominal Battery Bus (VDC) / Battery Float Voltage (VDC)	480 / 540	
DC Ripple at Float Voltage	< 1.0% (RMS value) < 3.4% Vpp	
Temperature Compensated Battery Charging	Standard with Vertiv™ Battery Cabinets	
Output Parameters		
Load Power Factor Supported (Without Derating)	0.7 Leading to 0.4 Lagging	
Output Voltage (VAC)	480, 3-phase, 3-wire	
Output Voltage Regulation (%) / Output Voltage Regulation (50% Unbalanced Load) (%)	< 1.0 (3-phase RMS average) / < 2.0 (3-phase RMS average)	
Output Frequency (Hz)	60 ± 0.1%	
Output THD at Nominal Voltage (Linear Load) (%)	≤ 1.5 (RMS value)	
Output THD at Nominal Voltage including a 100kVA Non Linear Load per IEC 6204-3 (%)	≤ 5.0 (RMS value)	
Translent Recovery 100% Load Step / 50% Load Step / Loss of/Return to AC Input Power	±4% / ±2% / ±2% (RMS average for one cycle)	
Voltage Displacement (Balance Loads) / Voltage Displacement (50% Balance Loads)	120 deg ±1 deg / 120 deg ±2 deg	
Overload at Nominal Voltage and 77°F (25°C)	110% continuously, 125% for 10 minutes, 150% for 60 seconds, 200% for 200 miliseconds	
Physical Characteristics		
Dimensions with Standard I/O Cabinet, W x D x H Dimensions with BFD, Sharing Inductor or Common Mode Choke I/O Cabinet, W x D X H	78.8 in x 36.0 in x 79.1 in 109.4 in x 36.0 in x 79.1 in	104.5 in x 36.0 in x 79.1 in 128.1 in x 36.0 in x 79.1 in
Weight with Standard I/O Cabinet, Unpackaged Weight with BFD, Sharing Inductor or Common Mode Choke I/O Cabinet, Unpackaged	3508 lbs 5665 lbs (max)	4667 lbs 6523 lbs (max)
Color	Black, RAL 7021	
Protection Class, UPS Enclosure	NEMA 1, IP 20 (with and without front door open)	
Environmental		
Operating Temperature	32°F to 104°F (0°C to 40°C)	
Relative Humidity	0% to 95%, non-condensing	
Operating Altitude	Up to 3300 ft (1000 m) without derating	
Communications		
Options	2 Liebert® Intellislots	
Card Compatibility	IS-UNITY-DP, IS-485EXI	
Protocols Available	MODBUS-IP, MODBUS-485, BACNET-IP, BACNET-MSTP, SNMP, HTTP, LIFE™ Services	
Standards		
Transportation / Safety	ISTA Procedure 3B / UL 1778 5th Edition; CSA 22.2 NO 107.3	
EMI / Surge	IEC 62040-2; FCC Part 15, Class A / ANSI C624.41, Category B3	
Seismic / ENERGY STAR®	IBC 2015, CBC 2016, ASCE, OSHPD / 1000-1200 kVA/kW Qualified, 625-800 kVA/kW Pending	

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