



Vertiv™ Liebert®

EXM2

100 to 250 kW

Highly Reliable and Efficient  
UPS designed to provide  
exceptionally stable  
performance



## 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](https://www.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 PRESENCE

#### 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**

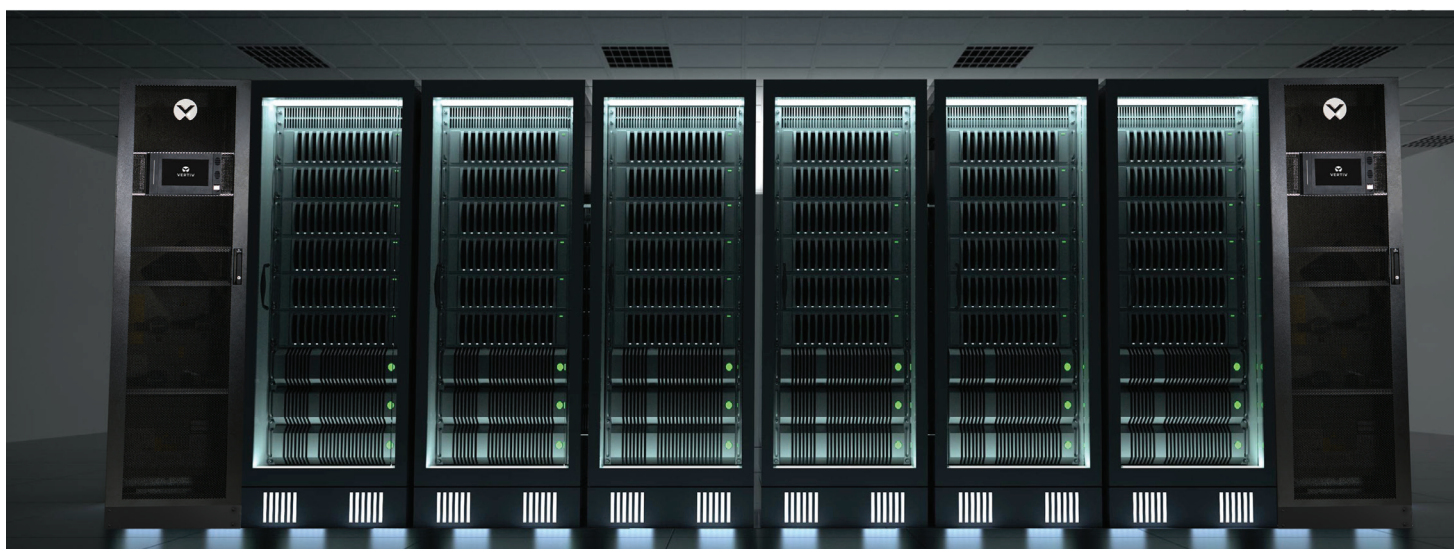
#### EUROPE, MIDDLE EAST AND AFRICA

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® EXM2, The Next Generation Mid-size UPS for Mission-critical Applications



### HIGHLIGHTS

- Power Capacity: 100, 120, 160, 200 and 250 kVA/kW
- Maximum efficiency in the Mid-size range: Up to 99% in Eco mode and Up to 97% in Dual Conversion mode
- Diverse application scenarios: In-Row, Room and Against-the-wall
- Flexible battery configuration: Lithium-Ion Batteries compatibility & adapts to two wire connection
- Symmetrical Power Factor (0.5 leading to 0.5 lagging)
- Scalable in parallel up to 1.5 MW
- High ambient temperature up to 50 °C with auto-derating above 40 °C
- Reliability boosters: Robust air channels, PCBs embedded with conformal coating

Vertiv™ Liebert® EXM2 drives its evolution from the flagship Liebert EXM/NXC- which has been widely recognized as proven and highly stable performing UPS in its range and has been supporting over thousands of critical sites across the globe. Backed by dedicated research of Vertiv experts, Liebert EXM2 is poised to lead in the industry with technologically advancements implanting all the next-gen attributes. Machine learning based- **Two modes of energy operation** allows the UPS to **choose the best energy credentials and assured**

**maximum availability.** Its **extraordinary double conversion efficiency up to 97%** ensures remarkable operational cost savings, reducing the both the Total Cost of Ownership (TCO) and environmental effect. On top of this, Liebert EXM2 adopts to a range of infrastructure conditions including **Lithium-ion battery compatibility and supports for the leading power factor** needs of modern server loads. Seamlessly operates up to 40 °C and **can tolerate high ambient temperature up to 50 °C** with auto-derating.

#### Healthcare



- Health Diagnostic Equipments
- Datacenter
- CPSS

#### Railway/Metro



- Communication System
- Automatic Fare Collection
- CPSS
- Operational Control Center

#### Enterprises



- Datacenter
- CPSS
- Work stations

#### Light Industries



- Critical Process Equipments
- Datacenter
- CPSS
- Work stations



## Flexible And Optimized Design

### Aesthetic Design Adapts Well Into Your Infrastructural Needs

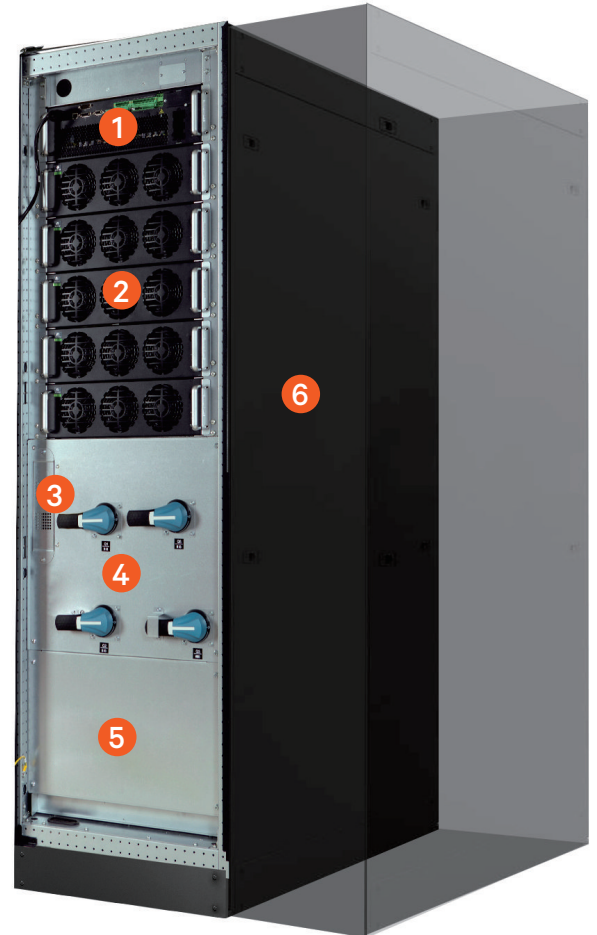
- Ideal for In-the-Row server rack applications
- Suitable to be installed against the wall using optional top fan kit
- Suitable to be installed adjacent to the wall
- **Compact and lightweight footprint** saves significant white floor space



- 1 Bypass Section
- 2 Power Section
- 3 Integrated Surge Protection
- 4 Switch Assembly
- 5 Cable Termination Section (Bottom as standard)
- 6 Top cable Termination panel (Optional)



100-160 kVA



200-250 kVA

## Highly Efficient and Lowest TCO

Liebert® EXM2 delivers an **outstanding double conversion efficiency of up to 97%**, which further increases up to 99% with the intelligent Eco mode, consequently **reducing operating costs and energy dissipation (kW)** to a minimum. This significantly minimizes the consumption of the cooling system, providing an overall TCO reduction and rapid payback time.

Furthermore, the Liebert EXM2 can optimize efficiency at partial load thereby attaining additional cost savings through the intelligent paralleling feature. Activating the

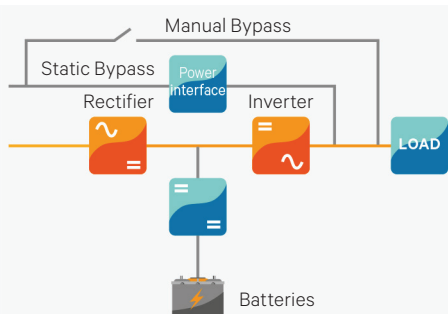
intelligent paralleling mode optimizes efficiency at partial load, thus achieving greater operational cost savings. Enabling this feature allows the system to automatically adapt capacity to meet immediate load requirements by switching excess units to standby mode, while ensuring continued system availability. Furthermore, this mode allows each Liebert EXM2 unit to operate in standby mode for the same amount of time, ensuring an equal life span of module components.

The efficiency and electricity cost savings of Liebert EXM2 can be

attributed to:

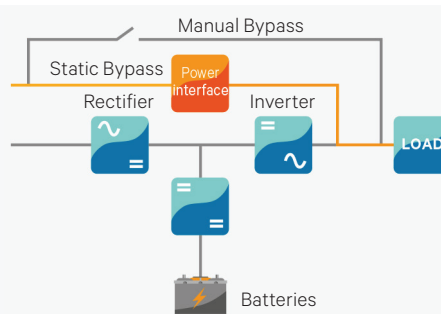
- Latest generation IGBT
- Adoption of a three-level T-type converter topology
- DC controlled fan speed
- Intelligent paralleling mode
- Advanced digital technology and fast transfer

The seamless activation of Liebert EXM2's functioning modes ensures the **highest level of efficiency without compromising power quality and availability.**



### Maximum Power Control (VFI)

Provides the highest level of power conditioning and protects the load from all electrical network disturbances.



### Maximum Energy Saving (VFD)

Detects when conditioning is not required and allows the energy flow to pass through the bypass line.



## Robust & Proven Design

### Innovative Internal Air Channel

Designed in such a way that internal hot air drives directly towards heat sink without distressing the PCB's and other internal sensitive circuits, **improving the service life of components and UPS reliability.**

### Conformal Coating

Applied as standard feature for all PCBs in Liebert® EXM2. Its primary purpose is to **protect electronics from environmental elements and corrosion.** The coating acts as both a protective shield and insulative material for a PCB.

### Higher Short Circuit Handling Capacity

During the short circuit, load will be transferred via bypass to clear higher short circuit currents.

Fuse is considered optionally to clear short circuit capacity of **up to 65 kA.**

### Tolerates Higher Ambient Temperatures

Internal components and circuitry of Liebert EXM2 are designed to **seamlessly operate up to 40 °C** without any capacity impact and further **can sustain high ambient temperature up to 50 °C with auto-derating.**

### Integrated Backfeed Protection

Backfeed protection prevents any potential risk from electric shock on the UPS bypass input AC terminals in the event of a failure of the bypass static switch SCR. The control circuit will include a contact which activates an optional internal isolating device upon backfeed detection.

### Scalable up to 1.5 MW

**6 units of hot scalable intelligent paralleling helps to achieve maximum capacity up to 1.5 MW.**

Comes with Integrated Parallel and LBS communication ports, and allow single touch to initiate inverter ON/OFF for all parallel connected UPS system.

### Symmetrical Power Factor Compatibility

Liebert EXM2 is fully adapted to meet diverse system requirements in terms of power capacity and redundancy allowing different system designs.

- Output Power Factor up to 1
- No power derating from 0.5 lagging to 0.5 leading
- Optimum space/power ratio

## Smart Scalability



33% 

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



66% 

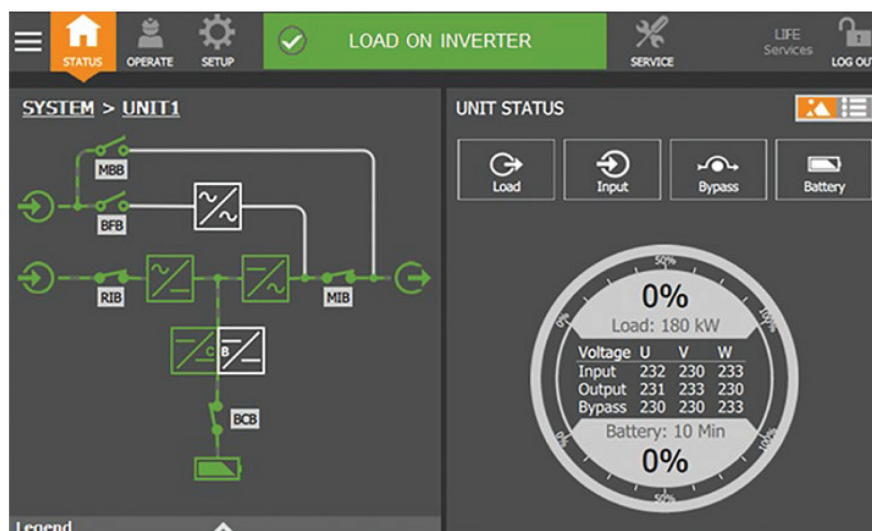
Liebert EXM2 Intelligent Paralleling: three units at 65% load each = 96.8% efficiency



## User Interface and Advanced Diagnostic

Liebert® EXM2 makes your mission critical space a peaceful place through its **advanced diagnostic capability**, measuring and logging, enhanced event analysis as well as an intelligent colored multi-language touch screen display.

Liebert EXM2 advanced DSP control platform together with the patented Vector Control technology enables increased performance of three-level power converters and real time control of output power quality, **guaranteeing continuous operation and premium protection for your business.**



### Bypass Input

Voltage and frequency measurements.

### Mains Input

Current, voltage and frequency values of the three input phases.

### Warning/fault

Alerts of anomalies on bypass, rectifier, inverter, booster/charger, battery and load.

### Events log

Date and time of important UPS events, alarms and other warnings.

### Measurements

Voltage, current and frequency values of each internal functional block.

### Battery

Status/values including temperature, cell voltage, capacity run time and testing.

### Vertiv™ LIFE™ Services

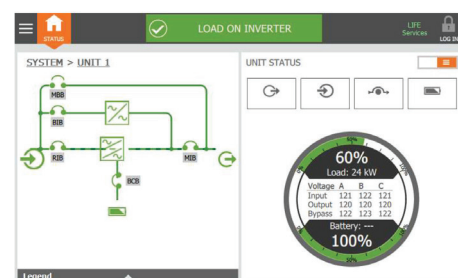
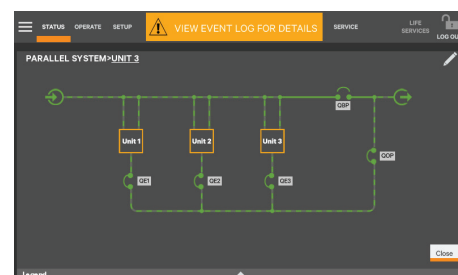
Status of Vertiv LIFE Services connections and calls.

### Tools

LCD settings and language selection.

### Output

Voltage, current, frequency, and battery measurements.



## Flexible Monitoring & Management Options

### Hardware Connectivity

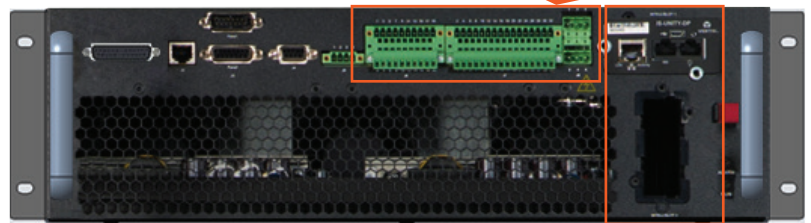
Liebert® EXM2 allows for the monitoring and control of networked UPS through different protocol options:

The integration of UPS with Building Monitoring and Automation Systems via MODBUS RTU, MODBUS/TCP Protocols and environment sensors.

The integration with synoptic panels via a dry contact board.

### User configurable Input and Output contacts


- Monitoring external breakers
- Monitoring "on generator" signal
- Permissive signal for SKRU
- Trip external breakers



### IS-UNITY-DP CARD

- Supports Two Simultaneous Third party protocols (SNMP, Modbus TCP or RTU (485), BACNet IP or MSTP (485))
- WEB Browser 
- Email Notifications
- SMS Text Messages
- SN Series Sensor Support
- Vertiv™ LIFE™ Services

### IS-UNITY-LIFE CARD

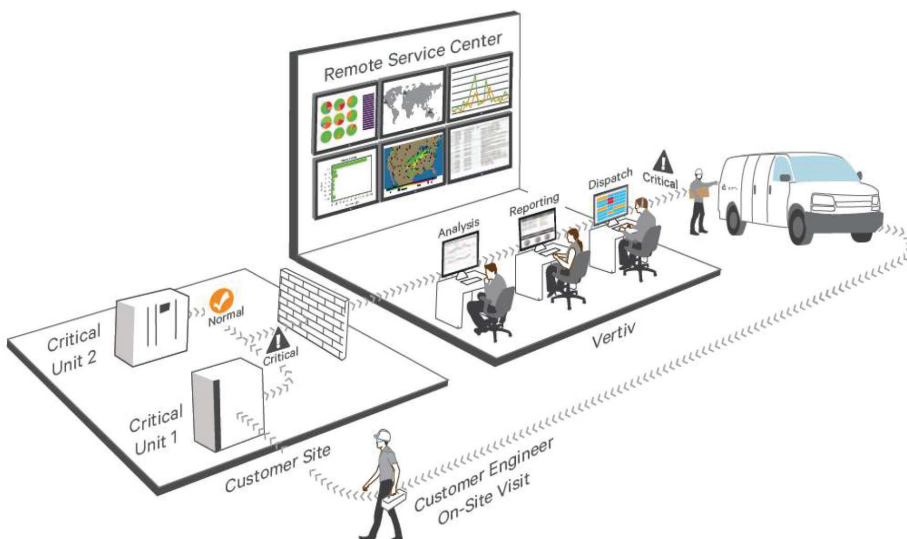
- SNMP
- Email Notifications & SMS Notifications (through LIFE Server)
- Vertiv™ LIFE™ Services 

### IS-RELAY CARD

- Dry contact alarm notification



## Remote Diagnostic and Preventive Monitoring Service



### Vertiv LIFE Service

#### Reduce The Risk of Unexpected Downtime (MTBF)

- Data trend analysis
- 24/7 alarm monitoring

#### Obtain The Best Possible Response Time (MTTR)

- Real-time call in case of an emergency

#### Unit is Fixed at The First Site Visit (MTTR)

- Remote troubleshooting and required parts identified before going on-site



## Technical Specifications

Nominal Ratings (kVA/kW)	100 kVA	120 kVA	160 kVA	200 kVA	250 kVA
<b>Input</b>					
Nominal input voltage (V)	380 / 400 / 415 (three-phase and sharing neutral with the bypass input)				
Input voltage range without battery discharge (V)*	228 to 478				
Nominal input frequency (Hz)	50 / 60				
Input frequency range (Hz)	40 to 70				
Bypass voltage tolerance (%)	Upper limit: +10, +15, or +20, default: +15 Lower limit: -10, -20, -30, -40, default: -20				
Bypass frequency tolerance (%)	50 / 60				
Input power factor (kW/kVA)	0.99				
Input THDi*	<3% (full load), 4% (half load)				
<b>Battery</b>					
Battery bus voltage (VDC)	360 to 528, 2 Wire				
Battery charger max. (A)	30	45	45	60	75
<b>Output</b>					
Nominal output voltage (V)	380 / 400 / 415 (three-phase and sharing neutral with the bypass input)				
Nominal output frequency (Hz)	50 / 60				
Nominal active power (kW)	100	120	160	200	250
THDv with 100% linear load (%)	1				
Inverter overload capacity	105 % for Continuous; 125 % 10 min; 150 % for 1 min; >150 % for 200ms				
<b>Efficiency</b>					
Online mode efficiency	Up to 97%				
Eco mode efficiency	Up to 99.2%				
<b>Dimensions and weight<sup>1</sup></b>					
Dimensions (W x D x H), mm	600 x 850 x 1600			600 x 850 x 2000	
Shipping dimensions (W x D x H), mm	800 x 1000 x 1800			800 x 1000 x 2180	
Weight, kg	315	350	350	412	447
Shipping weight (excluding battery), kg	345	380	380	443	478
<b>General</b>					
Noise at 1 m dBA	<65				
Altitude	1500 m no derating, 1500 to 3000 m derate power by 1 % per each 100 m increase				
Protection level	IP20 IP21, IP31 optional				
General and safety requirements for UPS	IEC 62040-1				
EMC requirements for UPS	IEC 62040-2				
UPS classification according to IEC EN 62040-3	VFI-SS-111				
Central Power Supply Systems (CPSS) applications*	EN 50171				
Rail applications*	EN 50121-1; EN 50121-5				

\* Conditions apply

1. Excluding side cabinet

