

Liebert® eXM™, 80kW - 200kW

Efficient, Flexible Power Optimized for Medium Size UPS Applications





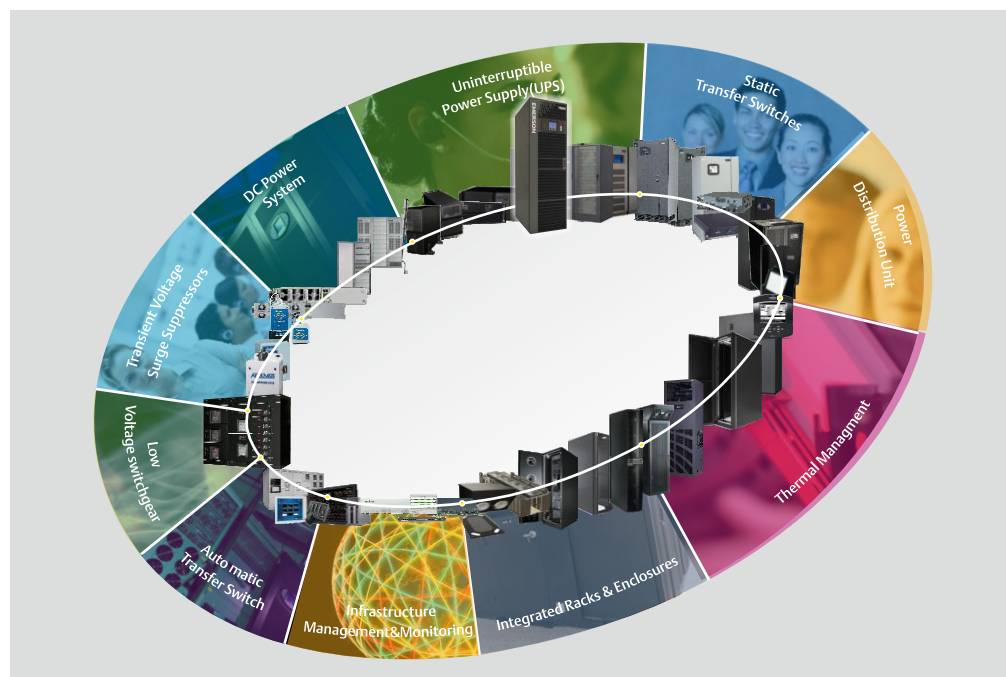
Emerson Network Power, a business of Emerson, a global company that leads by applying a unique combination of industry expertise, technology, and resources to make the future of our customers' enterprises and networks possible.

We are Emerson

Emerson Network Power's broad technology base and global expertise support a full spectrum of enterprise wide solution for today's business needs . We have been providing tailored solutions for protecting the operation of critical electronic systems in virtually every business segment right from customer premise equipment to global network .

Emerson. Consider It Solved.

Customers call on Emerson when the stakes are the highest. Why? Because they know that we bring them technology and engineering to create solutions for their success. Whatever their challenge, they know that with Emerson by their side, they can "Consider It Solved."



Supported by our right combination of knowledge, experience, product selection and service capability. We are the true solution provider of our customer's IT infrastructure, right from grid to chip level.

When the stakes are high, partner with Emerson Network Power to optimize your technology with "high-nines" reliability solutions specific to your infrastructure.

Medium Size UPS As Dynamic As Your Business

Small and medium sized businesses need UPS solutions that deliver lower first costs and ongoing operational savings, high reliability, and enable speed and flexibility in a dynamic IT environment

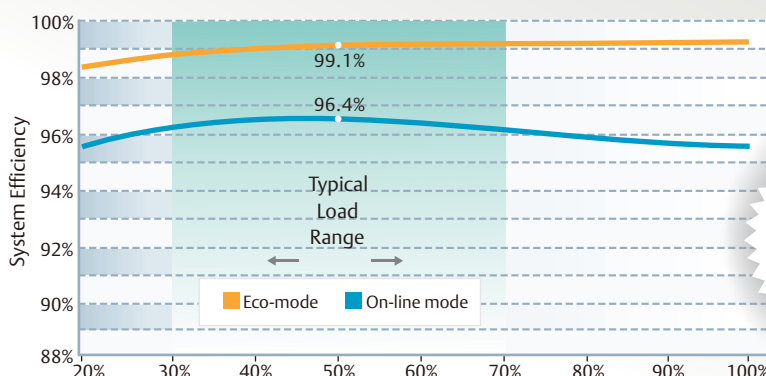
Emerson commitment is to deliver the most technologically advance product for our customer's mission critical applications, is once again reiterated by our next generation UPS series Liebert® eXM™

Highly Efficient, most flexible and reliable transformer free UPS for small and mid-tier applications.

Efficient power protection that can meet your capital requirements. Our latest ECO Mode option delivers over 99% efficiency, while the Double Conversion Mode has been optimized to exceed 96%.

Flexible configurations provides an ideal mix of both row-based and room-based benefits, optimized to deliver excellent performance at low total cost of ownership and allow organizations to meet stringent Service Level Agreements.

Reliability is the epicenter of Liebert® eXM™. Its Internal and external architecture is rugged enough to handle input faults, load faults, temporary overloads, input power disturbances and even industrial environment.



Liebert eXM efficiency curve in double-conversion mode: Liebert eXM UPS saves over USD1,000/year for every percentage point gain in efficiency. **USD 0.1/kWh



Highlights

- ✓ Double Efficiency exceeding 96% at partial load
- ✓ ECO mode availability for parallel configurations
- ✓ Unity output PF (kVA=kW)
- ✓ Powerful battery charging capability
- ✓ Flexible air flow management ; from back and top
- ✓ Top or bottom cable entry
- ✓ Integrated transformer option
- ✓ Full frontal access for installation and service
- ✓ LIFE™ remote diagnostic and preventive monitoring service
- ✓ Robust internal architecture makes it suitable for light industrial application

Liebert® eXM™'s Efficiency credentials and performance is certified by TUV -Rheinland in accordance with IEC/ EN 62040-1, IEC/ EN 62040-3



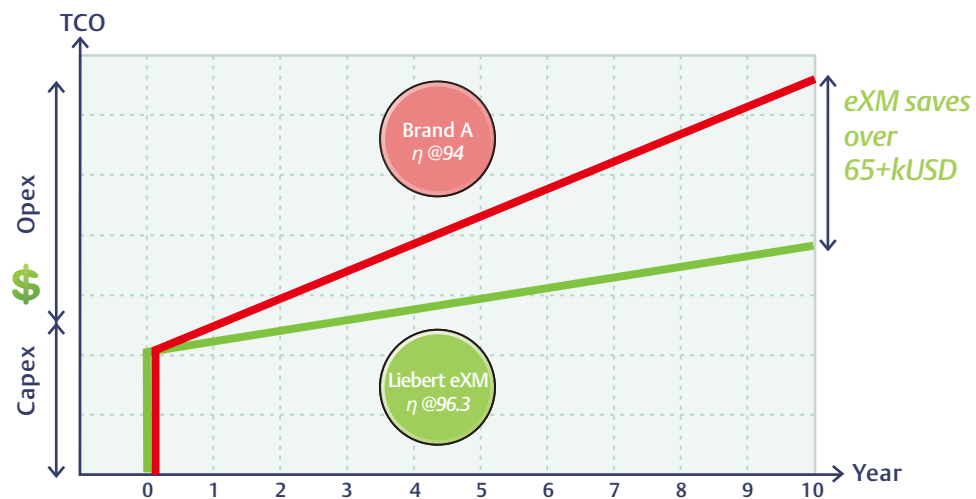
Efficient System

Since the need for improving energy efficiency has become more ubiquitous, many manufacturers have introduced energy efficient UPS system to meet the customers' needs on energy conservation. But they fail to communicate the true picture of efficiency with respect to load at the typical operating condition

Mostly, UPS efficiency is judged at full load calculations –but your system rarely runs at full load. Compare double conversion efficiencies in the 30-70 percent load ranges to get a true picture of operating costs. ***This is where Liebert eXM draw out the critical difference by consistently exceeding unmatched over 96% efficiency level.***

Similarly, under ECO mode Liebert® eXM™ constantly delivers over 99% efficiency across the typical load range and It is able to do so even in parallel operation without the need for an external

TCO performance at typical 40-60% load level



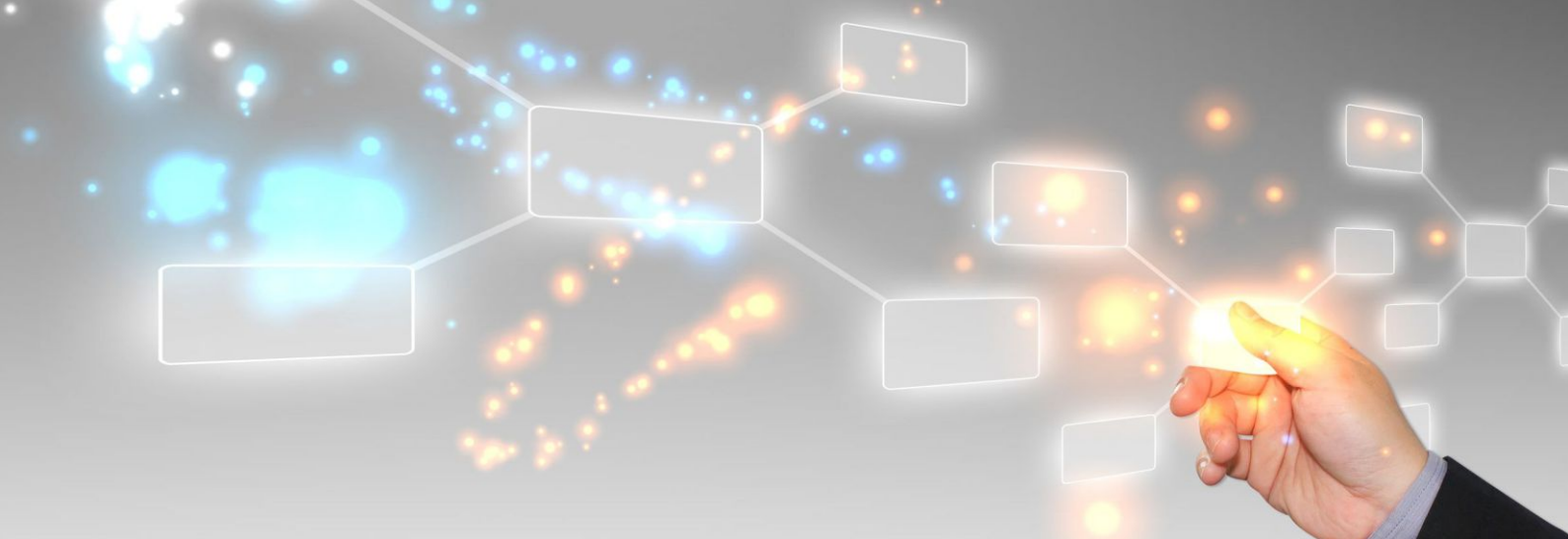
accessories thus saving on initial cost and also, while ensuring high level of availability by transferring the load to inverter and vice versa in less than 2ms, in case of utility voltage anomaly or failure.

When two or more UPS are paralleled to reach the required capacity, an integrated Intelligent Paralleling algorithm can be established. Intelligent Paralleling evenly distributes the operating hours across the

connected UPS units by rotating the active ones thus maximizing

the total system efficiency.

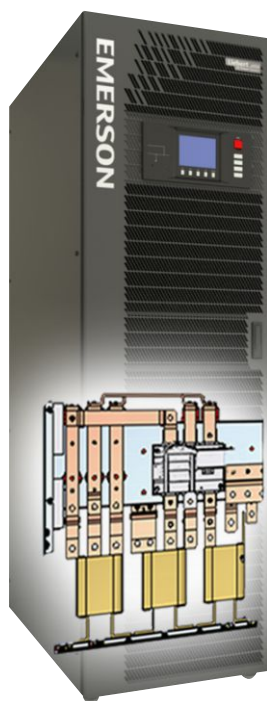
With its advanced efficiency techniques, Liebert® eXM™ contributed to minimizing the carbon footprints of mission critical applications, helping data centers to meet the industry's environmental and efficiency compliance standards.



Flexible Configuration and Design Options

Liebert® eXM™ provides a power protection solution of proven quality for customer's IT services. Attributes like flexible air flow management; from front and top and top cable entry optimized the total cost of ownership of the electrical infrastructure and easily adapts to different installation requirement. **From a row of racks in a data center to the corner of a equipment room** (fed from cables running above the units or beneath the raised floor)

For installations that require full galvanic isolation. Some ratings of Liebert® eXM™ can come equipped with an integrated transformer, offering a certified proven solution with a zero footprint impact.



Liebert eXM with inbuilt isolation transformer

Customized to fit specific needs

Liebert® eXM™ is designed to take care of your dynamic distribution needs, Liebert® eXM™; 80-120kVA can house complete distribution assembly; including input, output, bypass and maintenance switch . Inbuilt distribution assembly reduces the capital and commissioning expenses to be incurred to set up switch distribution infrastructure .

For higher ratings, an optional switch side car can be ordered to facilitate the full arrangement of switch assembly. This side car arrangement greatly optimized the overall space and initial cost by also enabling top cable entry.



Liebert eXM detached from the wall



Liebert eXM adjacent to the wall



Liebert eXM (160-200 kVA) with switch sidecar



High Availability

Liebert® eXM™ has been designed to maximize the availability of secure power, leveraging Emerson's experience and expertise in designing high MTBF UPS solutions and Low MTTR through a Design-for-Serviceability/Maintainability construction.

There are numerous factor contributes to the reliability of Liebert® eXM™. But, One of them is the **rugged internal topology** wherein the internal air channel is designed in such a way that internal hot air drives directly towards heat sink without distressing the PCB's and other internal sensitive circuits consequently the improved service life of component prevent premature failure and ensure utmost reliability.

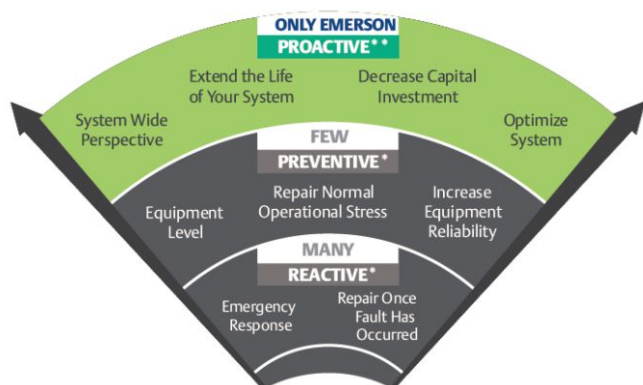


Liebert® eXM™ provides enhanced fault tolerance at partial load versus a traditional fixed capacity monolithic UPS. It can tolerate internal power module failures and still support a partial load without going to bypass.

Liebert® eXM™ battery charger can deliver 15% of the nominal UPS power for battery recharge, so being able to provide adequate current to charge even batteries with a long backup time, thus making it ideal for prolong battery powered application.

Serviceability

Many Services organizations can perform basic repair activities and maintain equipment at the some level of competency, but Emerson Network Power services can take your critical maintenance to the next level -proactive maintenance that can significantly extend the life of you power systems.



LIFE™ Remote Diagnostic and Preventive Monitoring Service

The LIFE™ 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 LIFE™ services you will benefit from:

- Uptime Assurance
- First Time Fix Rate
- Proactive Analysis
- Minimized Total Cost of Ownership of Your Equipment
- Fast incident Response
- Reporting



Intelligent and intuitive, interface, system monitoring and DCIM solutions combine to make your infrastructure ready to enhance performance today and tomorrow.



Customer Monitoring Interfaces

Human-Machine Interface

A comprehensive, easy to use LCD interface provides robust monitoring and control, as well as a user-friendly graphical display, reducing the likelihood of human error.

A Single-line mimic diagram shows system status at a glance.

Hardware Connectivity

Liebert® eXM™ 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
- The integration with synoptical panels via a dry contact board

Software Connectivity

Liebert® Nform™ will monitor the Liebert eXM via SNMP protocol. Authenticated alarm management, trend analysis and event notification delivers a comprehensive monitoring solution.

Liebert® SiteScan™ Web allows users to virtually monitor and control any piece of critical support equipment. Its features include real-time monitoring and control, data analysis, trend reporting, and event management.



Trellis™ Platform Emerson Network Power's Trellis™ platform is a real-time infrastructure optimization platform that enables the unified management of data center IT and facilities infrastructure.

The Trellis platform software can manage capacity, track inventory, plan changes, visualize configurations, analyze and calculate energy usage, and optimize cooling and power equipment.

The 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.



Liebert® eXM™ Technical Specifications

Nominal Ratings(kVA/kW)	80kVA/kW	100kVA/kW	120kVA/kW	160kVA/kW	200kVA/kW
Input					
Nominal input voltage(V)	380/400/415				
Input voltage range without battery discharge(V)	229~478				
Nominal input frequency(Hz)	50/60				
Input frequency range(Hz)	40-70				
Bypass voltage tolerance(%)	Upper limit: +10%, +15%, or +20% default: +15%; Lower limit: -10%, -20%, -30% or -40% default: -20%				
Bypass frequency tolerance(%)	+/- 10% or +/- 20%, default: +/-10%				
Input power factor(kW/kVA)	>0.99				
Current THD at full linear load(THDi%)	<3%				
Battery					
Number 12V battery per string(min-Max)	30-44				
Temperature compensation (mV/°C/cl)	-3.0 (selectable from 0 to -5.0 around 25°C or 30°C, or inhibit)				
Battery Charger max. power (A)	20	30	30	40	50
Output					
Nominal output voltage (V)	380/400/415				
Nominal output frequency (Hz)	50/60				
Nominal active power (kW)	PF=1				
THDv with 100% linear load (%)	<1%				
Inverter overload capacity	110% for 60 min; 125% 10min; 150% for 1 min				
Efficiency					
Double conversion efficiency	Up to 96.4%				
ECO mode efficiency	Up to 99.1%				
Dimensions and weight					
Dimensions (W x D x H) mm	600 x 1000 x 2000				
Weight(Net weight)	385	430	430	475	520
General					
Nosie at 1 m(dBA)	61				65
Altitude	≤1500; derate power by 1% per 100m between 1500m and 300m				
Ventilation	Front to back standard/ Front to top (optional)				
Protection level IEC (60529)	IP 20 STANDARD				
General and safety requirements for UPS	EN62040-1 / IEC62040-1 / AS62040-1				
EMC requirements for UPS	EN62040-2 / IEC62040-2 / AS62040-2 (Class C2*)				
Method of specifying the performance and test requirements of UPS	EN62040-3 / IEC62040-3 / AS62040-3 (VFI-SS-111)				

* Class C3 is standard whereas class C2 is optional
Specifications are subject to change without any prior notification

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India T: 91-22-33154400 F: 91-22-25828358	Philippines T: 63-2-7207400 F: 63-2-6203693
Indonesia T: 62-21-2513003 F: 62-21-2510622	Singapore T: 65-64672211 F: 65-64670130
Japan T: 81-3-54038594 F: 81-3-54032924	Thailand T: 66-2-6178260 F: 66-2-6178277 to 78
Korea T: 82-2-34831500 F: 82-2-5927883	Vietnam T: 84-4-37628908 F: 84-4-37628909
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Emerson Among Top 50
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2014
(APAC recognition)

Leader in Asia's data center infrastructure management (DCIM) market by IDC
marketscape report

2014
(APAC recognition)

Asia Pacific Data Center Integrated Power Infrastructure Growth Excellence Leadership Award by Frost and Sullivan

UPS Performance certified* by

* As per IEC/ EN 62040-1, IEC/ EN 62040-3

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