

Data Center Services



# Liebert Services, Your Data Center Services Expert

## The Strength and Resources of Emerson

Emerson, a **150 year old, FORTUNE 120 company** has approximately **129,000 employees and 250 manufacturing locations worldwide.**



## Breadth of Product and Services

Liebert factory trained and authorized technicians are the experts because Emerson makes more data center critical infrastructure, has more technology and leading brands and we understand data centers better than anyone. We can provide integrated solutions for your data center through services on Emerson brands such as:



- Liebert AC Power
- Liebert Precision Cooling
- ASCO Power Switching and Controls
- Alber Battery Monitoring
- Avocent and Aperture – Infrastructure Management
- Knurr Racks
- NetSure - DC Power
- And many more equipment types and brands

## We are the Largest

Our factory trained service force is twice the size of the next largest competitor with **over 650 customer engineers** and field technicians in the United States alone. This means, no matter where you are in the US you are covered by the most knowledgeable engineers and technicians available.

## We Fix it Right the First Time

Because we are the OEM, we are the experts on Liebert equipment. With the lowest error rate in the industry, on average we can touch your equipment in **5,000 service events without an error.** Our power technical support group has over **20 dedicated experts**, each with an average of **17 years of experience** on Liebert equipment whose sole purpose is to support our Customer Engineers. We have access to the engineers who built the equipment, any updates or changes, and current knowledge of all issues and how to fix them correctly.

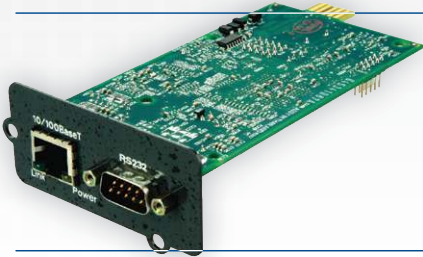
## We Invest in our People

With the most comprehensive and rigorous training and job progression process in the industry our Customer Engineers are the data center services experts. Each CE has to log over **450 hours** of hands on experience in our new state-of-the-art multi-million dollar training facility with an **11,000 square foot equipment lab** before ever touching your critical infrastructure and has a minimum of **20 hours** of training/continuing education each year.



## We are the Fastest

If we need to be dispatched to your site, our onsite response time averages **1.67 hours**. However, **over 80%** of calls are resolved over the phone by our expert staff that can be reached through 1-800-LIEBERT. And, because we are a continuous improvement organization we strive to decrease this and a number of other key performance indicators to better serve your needs.



## We Have the Parts

To make sure we get the right part to the right place at the right time we have the industry's most sophisticated parts logistics system. With over **\$10 million in parts inventory in 8 warehouses and parts hubs** throughout the US, parts availability is assured. **Nearly 100%** of emergency parts orders are delivered in **less than 24 hours**.

## We Have the Best Tools

We invest in the most advanced tooling and instrumentation available. Each CE has over **\$10,000** in gear with him at all times, so any issue can be resolved in the least amount of time possible.



## Your Partner in Safety and Support

Emerson maintains and follows all safety and compliance regulations necessary to keep CE's from harm, and protect our customers from liability.

## Account Management for Peace of Mind

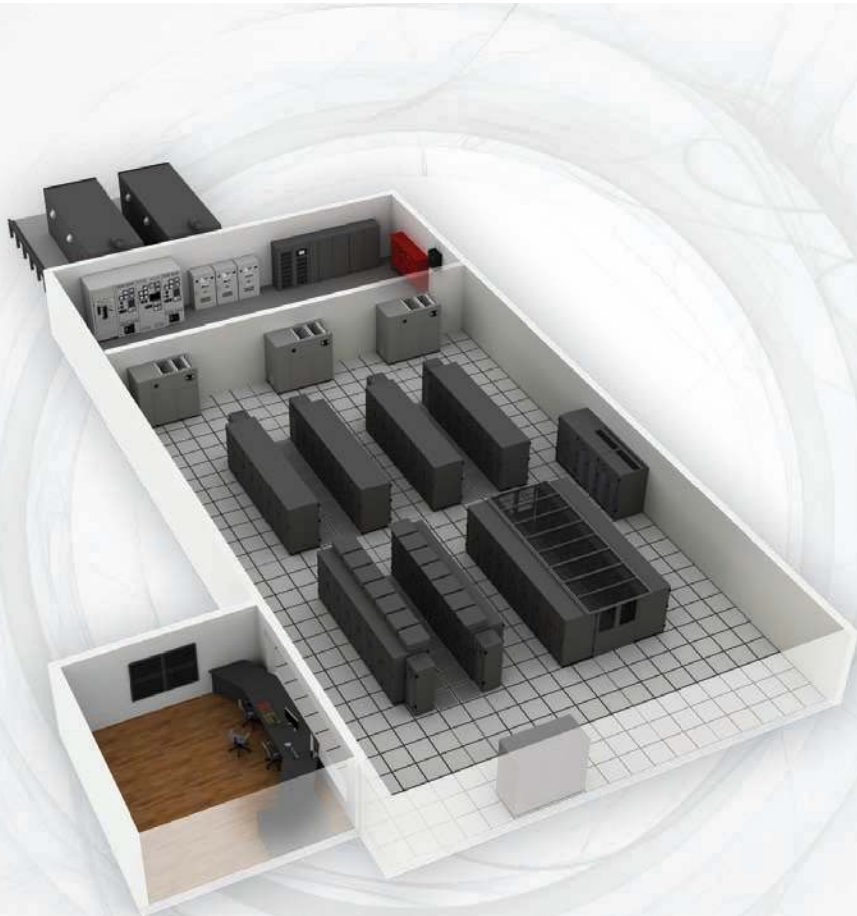
**Customer Relationship Management (CRM)** - A customer advocate and proactive partner to coordinate and manage all your service needs.

**Customer Services Network** - Online tool with equipment service history, customer training, service reports and factory notices. Comprehensive service knowledge at your fingertips.

## Multi-vendor Management

Whether it is a sister company within Emerson Network Power or another service provider in your geographic area, we have the resources to manage all aspects of your data center critical infrastructure. With a network of over **250 partners**, we can provide anything you need, with the ease of single-source accountability.





## SERVICES FROM LIEBERT GIVE YOU PEACE OF MIND

Our commitment to proactive solutions can significantly:

- extend the life of your power systems
- decrease your capital investment
- optimize system efficiency and effectiveness
- increase overall system availability

The cost of downtime can be staggering. It disrupts your business, distresses your customers, and impacts your bottom line. You need expert advice and expert response to assure your company's continuity and your peace of mind.

**With Liebert Services on the job, you can rest assured.**



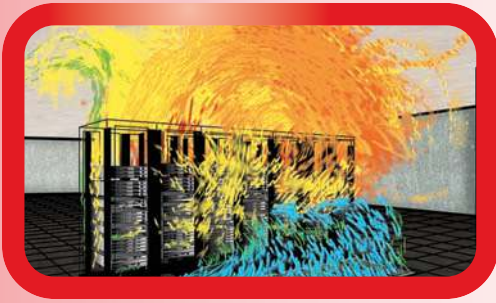
## POWER

- **We are the Experts** — Because we are the OEM, we are the experts on Liebert equipment. We have the engineering specifications, access to updates and changes, knowledge of current issues and how to fix them correctly.
- **With Liebert You are Covered** — Our factory trained service force is twice the size of the next largest competitor with over 650 customer engineers and field technicians in the United States alone. This means, no matter where you are in the US you are covered by the most knowledgeable engineers and technicians available.
- **Personalized Service** — Emerson offers a full range of preventive maintenance programs designed to meet your specific data center needs.
- **We Have the Best Tools** — We invest in the most advanced tooling and instrumentation available. Each CE has over \$10,000 in gear with him at all times, so any issue can be resolved in the least amount of time possible.
- **We Have the Parts** — To make sure we get the right part to the right place at the right time we have the industry's most sophisticated parts logistics system. This means, no matter where you are in the US we have a parts warehouse close, to serve you.
- **Your Partner in Safety and Support** — Emerson maintains and follows all safety and compliance regulations necessary to keep CE's from harm, and protect our customers from liability.



## COOLING

- **Liebert factory-trained service technicians** — are the best qualified to set-up, maintain and optimize Precision Cooling systems and controls.
- **More Sophisticated Cooling Technologies** — Digital scroll compressors, high density in-the-row cooling, and variable speed drives are just some of the changing technologies that you need an expert to service.
- **System Expertise and Understanding** — Only Liebert can combine the engineering knowledge of the latest precision cooling technology with knowledge of how to best integrate it into your overall system structure.
- **Trusted Advisor** — We can help you apply specialized strategies such as smart aisle containment, in-rack or in-row cooling that might be the most efficient solution to help your system adapt in the dynamic data center.
- **Energy Efficiency** — Service is part of a long-term cost saving plan that can substantially decrease energy consumption, which is critical to overall cost control.



## PROFESSIONAL ASSESSMENT

### Availability, Performance, and Cost Control

- Enhance IT system availability by identifying and eliminating hot spots.
- Apply vital recommendations for data center expansion and optimization planning.
- Ensure optimum electrical infrastructure performance through a detailed assessment of design, operations, and maintenance.
- Identify opportunities to significantly reduce data center energy costs without compromising availability.

### Safety & Compliance

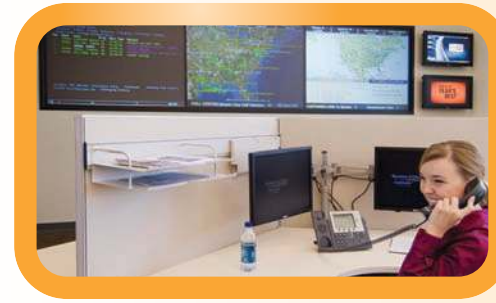
- Identify and mitigate potential electrical hazards when employees or contractors work on or near energized conductors or circuits.
- Validate and update critical system documentation, determine potential single-points-of-failure within a system, maintain compliance with safety regulations.
- Provide accurate technical documentation for safe and error-free maintenance of your data center infrastructure.

### Comprehensive Reports

- Complete with site survey data and clear, detailed recommendations for improved data center performance, availability, efficiency, safety and compliance.

### Return on Investment

- Data and recommendations provide the data center manager with quantifiable justification for any recommended improvements needed to enhance data center performance and efficiency.



## REMOTE MONITORING

### Identify Failures Faster

- With our advanced communications system, we monitor a real-time connection between your critical equipment and our Monitoring system. Your connection is secure and guaranteed.
- We monitor all critical equipment in your data center from critical power, cooling, generator, ATS and sensor monitoring. Liebert or non-Liebert, we monitor it all.
- Comprehensive monitoring reports help you understand your critical systems to take proactive steps to ensure your system availability.

### Root Cause Analysis

- Trending data and remote diagnostics allow Emerson to help you find the cause of a problem. Our technical support staff is always there to help.
- We know when there is a problem or when one is developing in your critical system.

### Escalation Strategy

- With our premium remote monitoring and remote services, we offer service escalation to notify or dispatch your customer engineer of any system anomaly that requires action.
- An escalation plan is a critical to your overall business continuity plan. Remote Monitoring Service includes a custom escalation plan to notify key decision makers in your company.



## SOLUTIONS

- **Regular Planning** — When you adhere to a long term service plan that includes preventive maintenance, monitoring and assessments, optimization of the entire infrastructure is the result.
- **Reduce Confusion** — Daily demands such as expansion, consolidation, and increasing customer expectations regarding performance and availability can be met with custom solutions from Emerson.
- **Partner in Availability** — Critical IT systems require a comprehensive service strategy that can be best implemented by a technical expert with the knowledge of your entire data center infrastructure. With the breadth of products and services available through Emerson we can provide a comprehensive service solution to meet any need.
- **Multi-Vendor Management** — We manage a nationwide network of service providers covering all types and brands of data center infrastructure equipment. Service providers must meet Emerson's stringent supplier qualification requirements and must meet ongoing service quality standards.
- **Make Things Simple** — Trust and enlist a service partner that can take a holistic approach to your overall critical infrastructure services needs.

## Preventive Maintenance Services

- UPS/Power Equipment
- Batteries
- Precision Cooling Equipment
- Switchgear
- DC Power Equipment
- Non-Liebert UPS/Power Equipment
- Generators

## System Upgrades & Replacements

- Full bank Capacitor Replacement
- UPS Capacity Upgrades
- Variable Frequency Drives (VFD) Upgrades
- iCOM Control Upgrades

## Professional Assessment and Testing

- Infrared Inspection
- Electrical Infrastructure Assessment
- Cooling Assessment
- Data Center Efficiency Assessment
- Short Circuit/ Coordination Study
- Arc Flash Study
- One-Line Diagram Update
- Site Acceptance Testing
- Load Testing
- Switchgear Testing
- Circuit Breaker Testing
- Ground Testing
- Data Center Audit

## Remote Monitoring Services

- Site Level
- UPS Monitoring
- Battery Monitoring
- Precision Cooling Monitoring
- Other Critical Equipment Monitoring

## Service Management and Support

- Customer Relationship Management
- Customer Resolution Center
- Customer Services Network
- Turnkey Project Management

# Emerson Network Power



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## Customer Resolution Center

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## Emerson Network Power

The global leader in enabling Business-Critical Continuity™

- AC Power
- Embedded Computing
- Outside Plant
- Racks & Integrated Cabinets
- Connectivity
- Embedded Power
- Power Switching & Controls
- **Services**
- DC Power
- Monitoring
- Precision Cooling
- Surge Protection

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