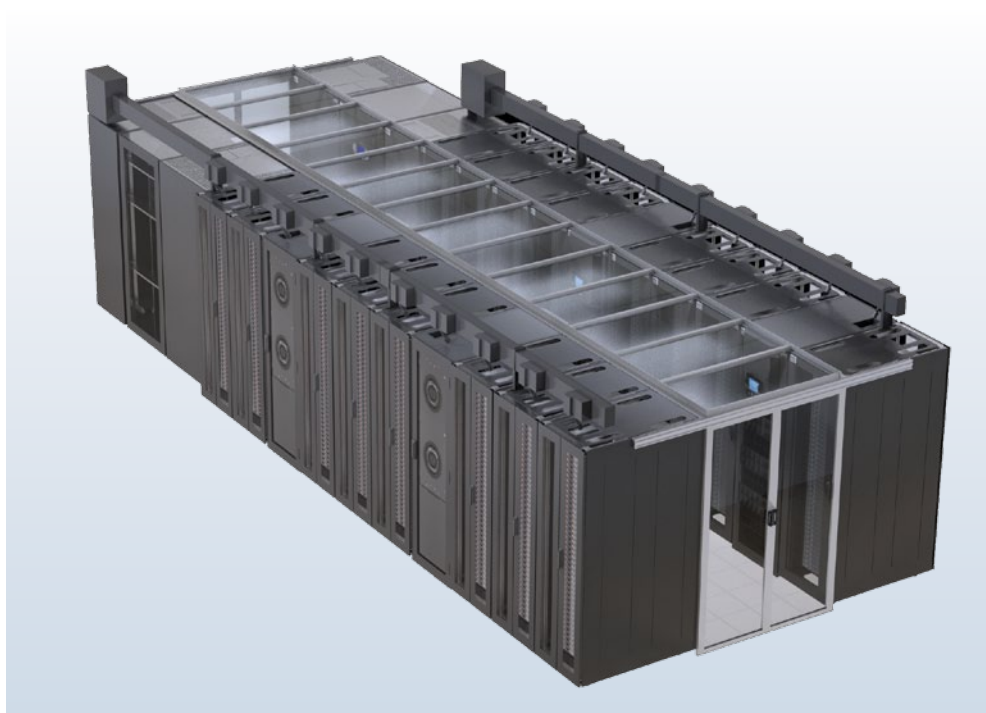


SmartAisle™

Intelligent, Integrated Infrastructure Using Row-based Building Blocks



Deploy An Efficient and Flexible Row-Based Infrastructure

Efficiency. Capacity. Availability. Control.

You Need Them – Now You Can Have Them All. Another First From Emerson Network Power.

As data center and IT managers undertake capacity expansions, they often require new approaches to physical infrastructure to improve efficiency without sacrificing current investments or compromising future flexibility.

Frequent changes in existing data centers often lead to incompatible infrastructure systems, hindering operational and energy efficiencies, and the flexibility to manage change. In new data centers, conventional approaches to infrastructure design can be costly or slow to implement.

Faced with these challenges, IT and data center managers seek infrastructure solutions that provide:

- Efficiencies in space utilization, energy usage and business productivity
- Economical deployment and optimal use of existing infrastructure
- Greater flexibility for managing change and a clear growth path toward higher capacity and density
- Simplicity of design and deployment

The SmartAisle™ offering is our intelligent, row-based solution that integrates power, precision cooling and control technologies to optimize the operational efficiency of your data center.

SmartAisle Offerings Integrate Industry Best Practices in Data Center Design and Operations Including:

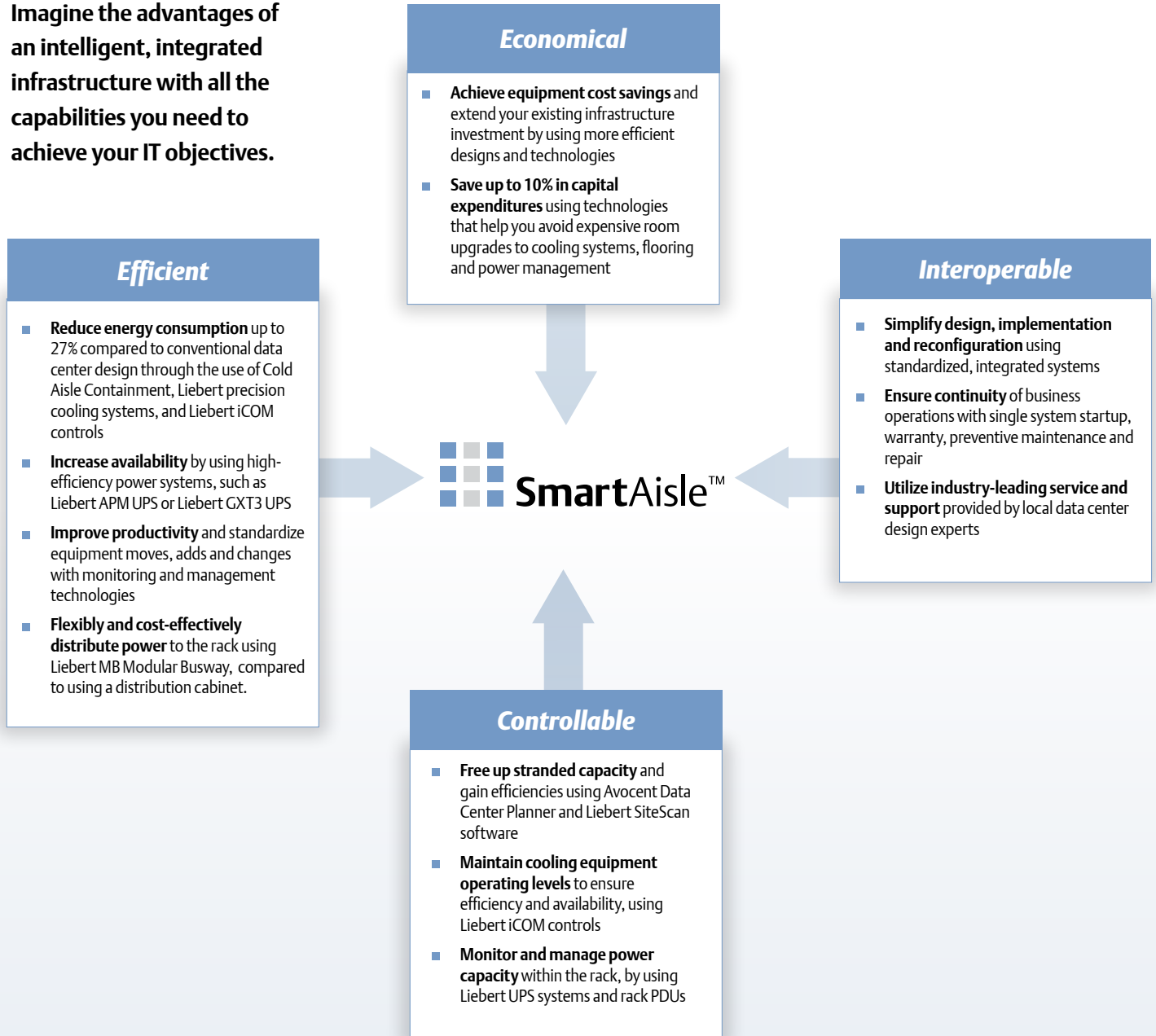
- Hot air and cold air separation
- Cold air containment
- High availability and high efficiency UPS
- High-efficiency precision cooling
- Space-savings, small-footprint
- Modularity for flexibility and easier expansion
- Integrated monitoring and control to optimize efficiency in planning and management
- Unique local service for design audits, configuration support, installation support, maintenance and repair



The Smart Solutions family helps you cost-effectively achieve and manage higher levels of density, availability and efficiency.

What Makes the SmartAisle Offering Unique?

Imagine the advantages of an intelligent, integrated infrastructure with all the capabilities you need to achieve your IT objectives.



Where to Use SmartAisle Infrastructure Solutions

No Other Solution Offers the Industry's Leading Infrastructure Systems for Such a Wide Array of Applications and Environments

SmartAisle configurations can be scaled to fit any size IT environment from a row of racks to large enterprise data centers. The SmartAisle offering brings together the widest range of innovative infrastructure technologies such as modular row-based UPS, configurable PDUs, modular busway, data center infrastructure management software and the industry's leading precision cooling technologies.

The SmartAisle approach can be used as a standalone solution to scale from just a few racks up to an entire data center (most cost effective up to 400kW total load), with integrated row-based power, precision cooling and infrastructure management. Or within a larger data center, it can be applied to meet capacity growth objectives, providing the infrastructure support needed to increase density without increasing footprint.

This highly efficient, flexible and easily implemented solution can be deployed in either raised floor or non-raised floor environments.



- ① **High-efficiency precision cooling technologies and environmental controls** – Liebert CRV precision cooling system with Liebert iCOM controls matches cooling to rack load, and reduces cooling system energy consumption through:
 - Digital scroll compressor
 - EC plug fans
 - Teamwork control modes

- ② **Modular, scalable high-efficiency power** – Liebert APM UPS provides reliable, transformer-free, on-line, uninterrupted power, and Kirk Key Interlock maintenance bypass for safety

- ③ **Flexible power distribution** – Liebert MB Modular Busway is a flexible and more economical way to deliver power to the rack without the cost and hassle of power cable whips. It connects directly to rack PDUs

- ④ **Cold Aisle Containment** – inexpensively supports capacity increases by separating hot and cold air for increased efficiency

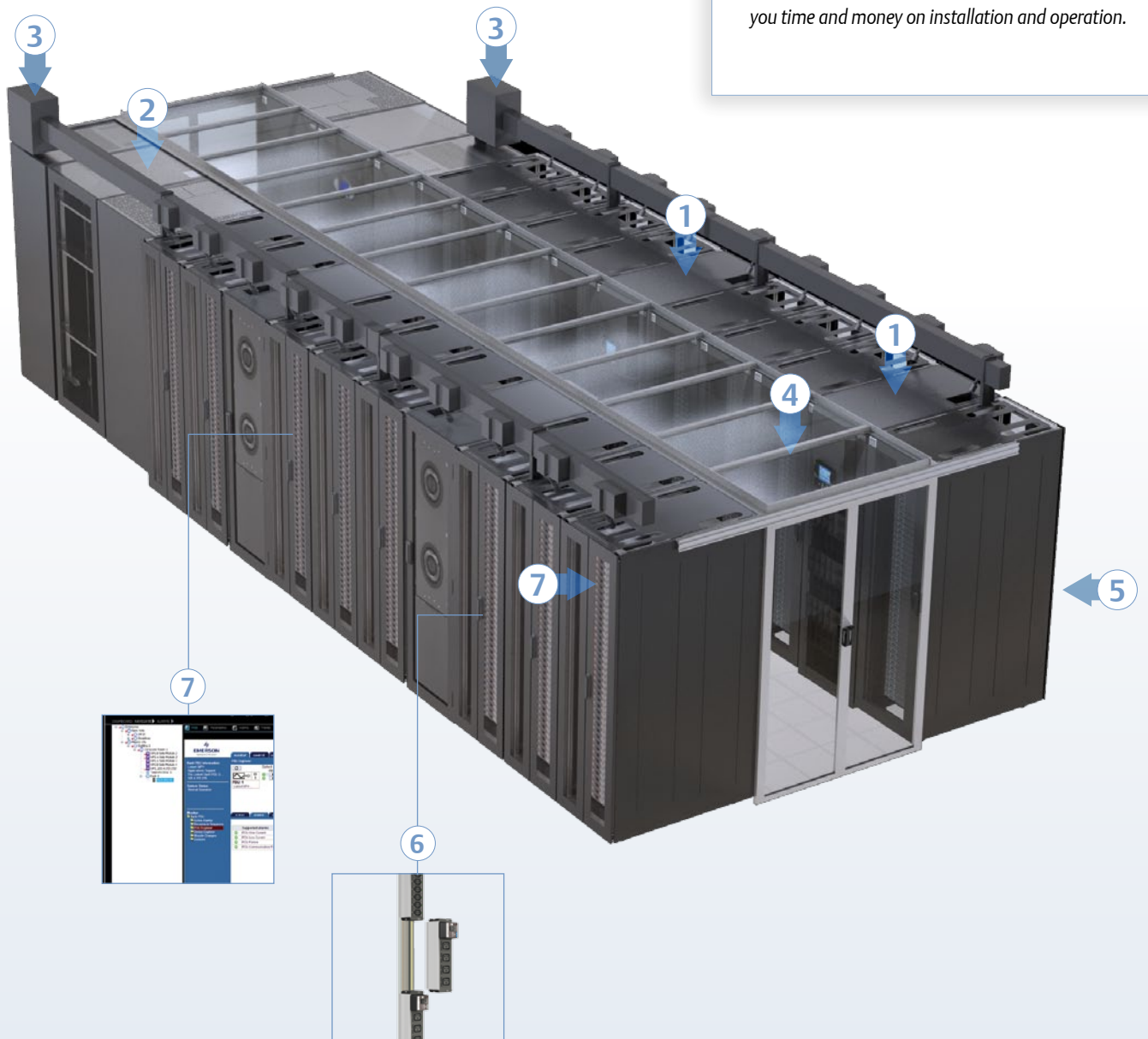
- ⑤ **Flexible platform for easy configuration** – Full-depth Knurr DCM racks maximize space utilization and allow you to add any type of IT or networking equipment and simplify cable management with tool-less accessories

- ⑥ **Flexible rack PDUs** – Liebert MPX adaptive rack PDU or Liebert MPH managed rack PDU provide flexibility and power control at the receptacle level, and faster implementation of IT equipment

- ⑦ **Comprehensive, remote data center infrastructure management** – Avocent appliances and software and Liebert Nform and Liebert SiteScan softwares provide comprehensive, remote monitoring and control

 **SmartAisle™**

Simple, fully integrated infrastructure – racks, precision cooling, monitoring, cable management and power systems are designed to work together, saving you time and money on installation and operation.






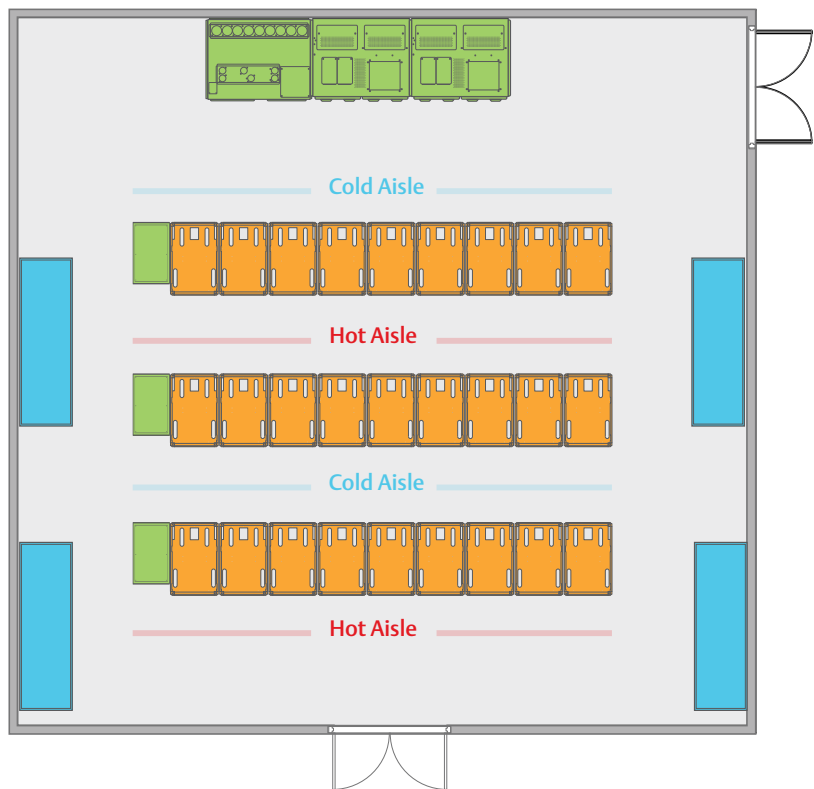
Economy and Efficiency

Compare the Costs of a Conventional Data Center Design Versus the SmartAisle Infrastructure Solution

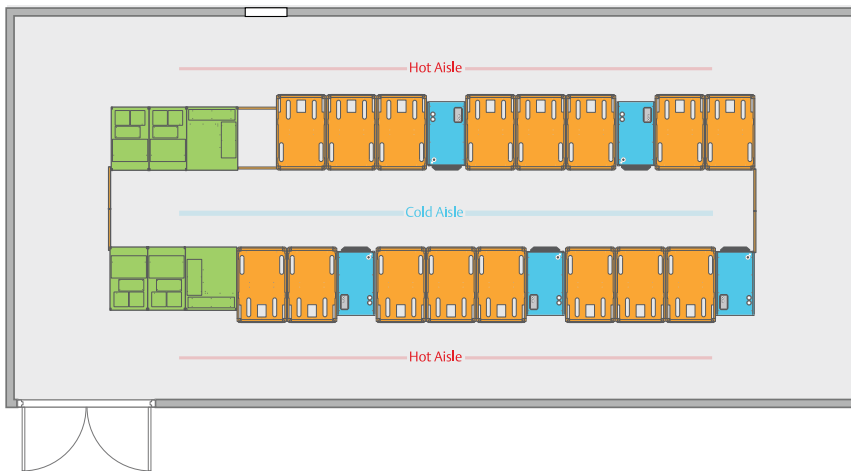
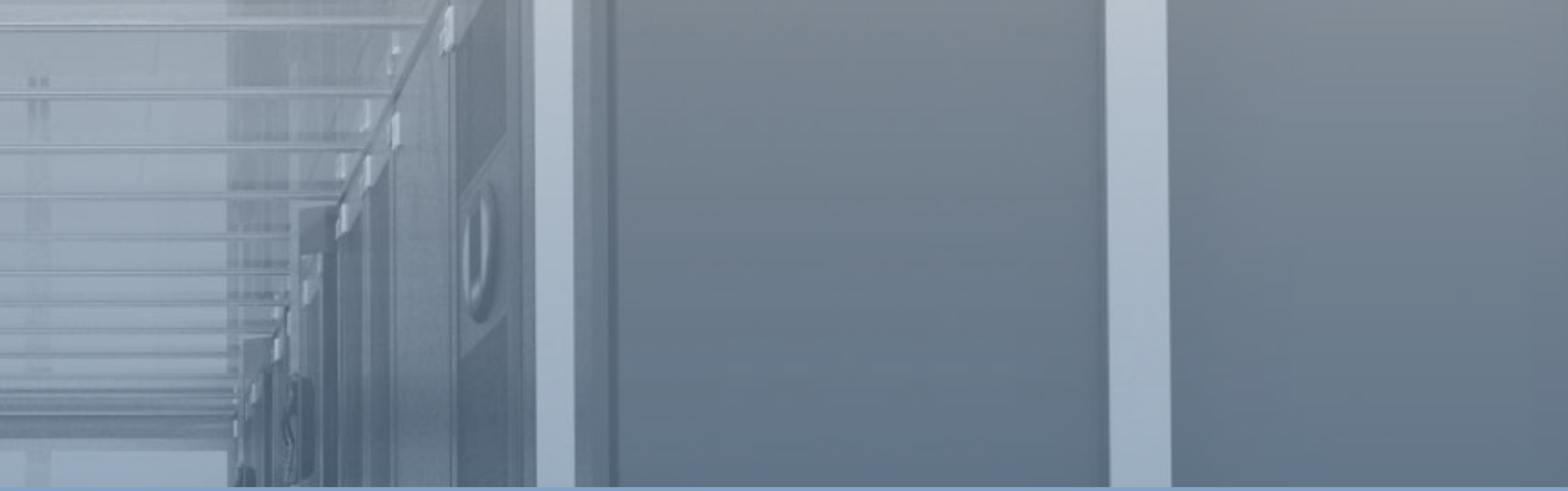
Conventional

Number of Racks: 27
Density: 5.9
Total IT Load: 160 kW
Cooling units: 4 x 20 ton Precision Cooling systems Units
Power: 2 x 100 kVA room-level UPS systems and power distribution

-  Precision Cooling
-  AC Power
-  Racks and Integrated Cabinets



	Conventional Data Center Design	SmartAisle Design	Cost Savings	"% Advantage SmartAisle"
Room Costs	\$515,000	\$459,000	\$56,000	11%
Infrastructure Costs	\$415,000	\$391,000	\$24,000	6%
Total Capital Expense	\$930,000	\$850,000	\$80,000	9%
Energy Consumption	\$63,500	\$46,500	\$17,000	27%
5 Year OpEx	\$318,000	\$233,000	\$85,000	27%
5 Year TCO	\$1,248,000	\$1,083,000	\$165,000	13%



SmartAisle

- Number of Racks:** 16
- Density:** 10kW per rack
- Total IT Load:** 160 kW
- Cooling units:** 6 row-based precision cooling units
Cold Aisle Containment
- Power:** 2 Row-based UPS systems
Modular Power Busway



The SmartAisle solution offers significant efficiencies and substantial savings in room upgrades, power and power distribution, racks, footprint, flooring and annual energy consumption. And the SmartAisle solution provides greater flexibility and a clear growth path.

Emerson Network Power, a business of Emerson (NYSE:EMR), is the global leader in enabling *Business-Critical Continuity™* from grid to chip for telecommunication networks, data centers, health care and industrial facilities. Emerson Network Power provides innovative solutions and expertise in areas including AC and DC power and precision cooling systems, embedded computing and power, integrated racks and enclosures, power switching and controls, monitoring, and connectivity. All solutions are supported globally by local Emerson Network Power service technicians. Liebert AC power, precision cooling and monitoring products and services from Emerson Network Power deliver *Efficiency Without Compromise™* by helping customers optimize their data center infrastructure to reduce costs and deliver high availability.

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- Surge Protection