

Solutions
for Business-Critical Continuity™

Optimize IT

Bringing our Enterprise Data Center Expertise Into Your SMB



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Go to www.OptimizeIT.info for more details

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OptimizeIT

Brings Our Enterprise Data Center Expertise Into Your SMB



Why OptimizeIT™ From Emerson Network Power?

Emerson Network Power is the leading IT Infrastructure partner for large enterprises around the world. The objective of the OptimizeIT Program is to bring Enterprise Class IT Infrastructure Solutions to the SMB Market through our strong and skilled NSP partners.

100% of the Fortune 500 companies use Emerson IT Infrastructure solutions. Enjoy the same level of protection in your SMB with OptimizeIT.

A Modular Rack Based Approach Suited To The Scale Of Small And Medium Businesses

- The basic building block of the Enterprise space is the computer room or the data center. In SMB IT Infrastructure, the equivalent to this is the rack. As a consequence, our enterprise-level solutions for the SMB market is to a scale that is relevant to your business, namely the rack.
- This phase of OptimizeIT addresses a large area of demand within the scale of 0-10 racks
- **Product:** The modular approach is scalable to your compute environment (needs & density) and addresses the core components of IT infrastructure:
 - Power Quality
 - Thermal Control (Cooling)
 - Monitoring and Management
 - Physical Infrastructure (Racks)
- **Approach:** The same rigor to solving your problems will be brought from the enterprise resource and support teams through high value NSP partners.
- The components or scenarios that we will describe in the following pages are designed in such a way that they address your needs either by their business type or by categories of infrastructure challenges.

What You Will Find In This Document:

The focus of this document is to provide a framework to match your needs with the correct infrastructure solutions namely to Optimize your IT.

- How to characterize your needs
- A definition of infrastructure issues
- Solving infrastructure problems
- Optimize your IT

Key Features



Optimized Integration of Emerson Products and Services

Based on the unique needs of your business, we have integrated power, cooling, high availability monitoring and service into a pre-engineered, easy-to-order solution. Our Network Solutions Partners (NSPs) will deliver additional services, local expertise and support that make the Emerson solution easy for customers to order, configure, manage and implement.



Sophisticated, High-Availability Environment Monitoring

The Liebert RDU is at the heart of bringing enterprise-class solutions to small and medium businesses. The ability of a business to understand what has happened, what is currently happening, and what is going to happen through predictive analysis is at the core of OptimizeIT. This device has a range of settings that enables different levels of complexity in terms of data gathering, pre-set escalations and reporting.

OUT OF 100 DATA CENTERS SURVEYED

- 70% had a server with a high temperature alarm
- 70% had a cooling unit in a fault state

And no one knew about it!

Source:
Data Center User's Group



Integrated Solutions, Pre-Engineered Benefits

Only Emerson Network Power can offer you the advantages of having a fully integrated and pre-engineered solution, from rack to room. By consolidating all your products and services with Emerson through OptimizeIT, you are assured that everything works together as one configured system.



From The Global Leader in Enabling Business-Critical Continuity

Emerson Network Power's global network is headquartered in Columbus, Ohio, USA with regional headquarters in China, Philippines and Italy. Emerson Network Power has been an active participant throughout Asia Pacific for over 40 years. We have the broadest footprint in the industry, with offices and staff throughout Australia & New Zealand, in all Southeast Asian countries, across the whole Indian subcontinent, as well as China and North Asia.

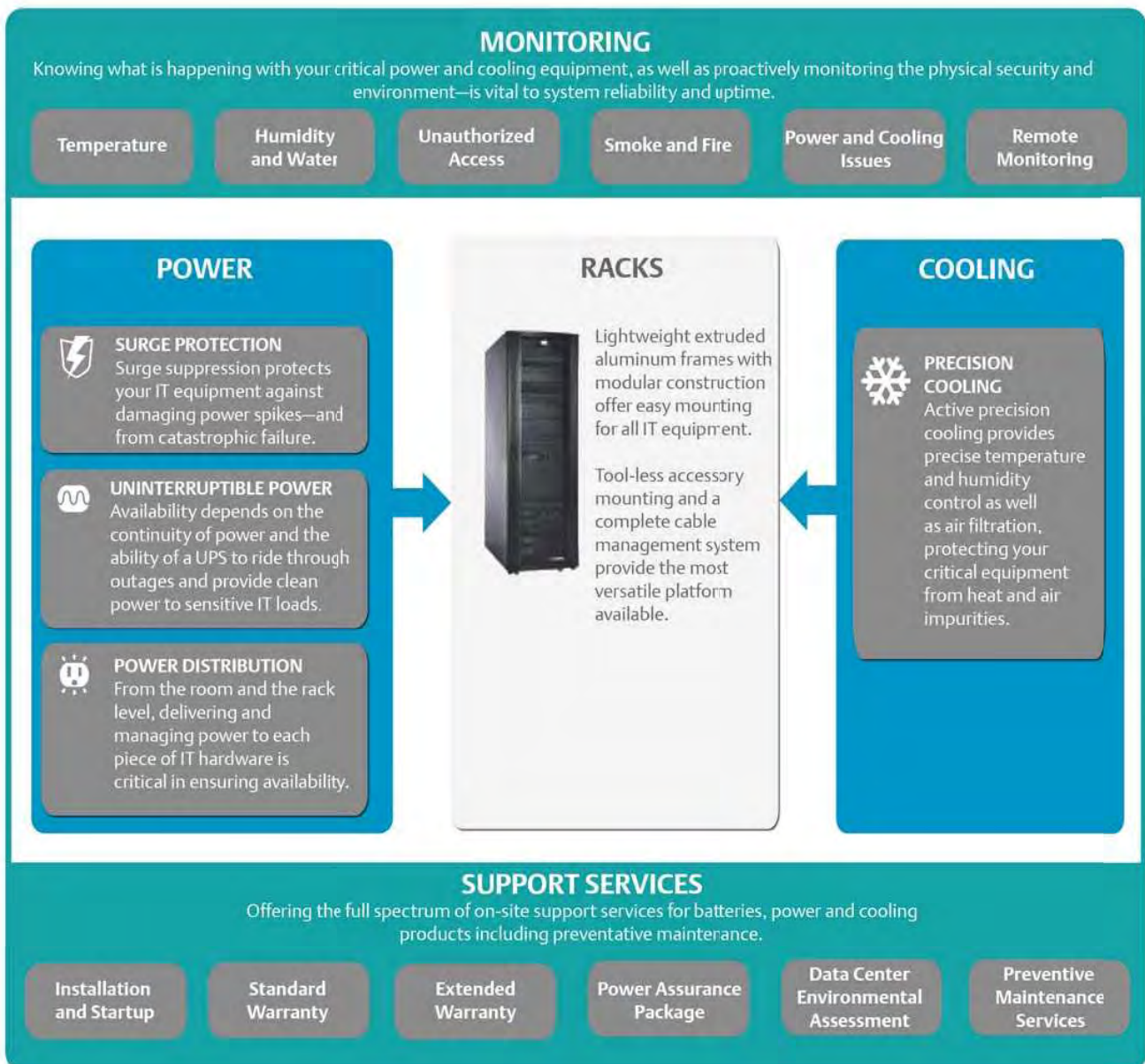
Enterprise Level IT

For Small and Medium Business

Achieving enterprise level network availability is defined by the quality of the installation, management, and ongoing support of the network's infrastructure. Continuous availability in turn rests on the power and cooling infrastructure that supports these systems and is comprised of the following:

1. Power Quality
2. Cooling
3. Enclosure and Physical Infrastructure
4. Monitoring And Management
5. Proactive Maintenance

These are the components that form the different OptimizeIT scenarios - bringing our high level data center expertise all the way to the SMB rack.



Matching Your Needs *With The Right Solution*



Identifying your needs

One of the most significant differentiators that separates Emerson from other vendors in the Enterprise Infrastructure space is our recognition that the solution to any given problem is defined by customer's needs.

Other vendors take the opposing view where your needs are bent and shaped to fit their commoditized solutions.

With a broad product portfolio and resource infrastructure, Emerson's approach is to understand your business and your specific needs and offer the most appropriate solution set.

The first phase of OptimizelT offers a solution that scales from 0 to 10 racks. How do we figure out what is best for your business?

Our approach has been to understand this through either insight into the customer's business or via categorization of infrastructure challenges.

Customer types can be characterized by questioning:

- What is your role in the business? Is IT a major or a minor part of your job description?
- What are the issues you and your business are faced with?
- What is the impact of downtime on your business? Will a few minutes downtime result in considerable loss of revenue?

To assist you, we have identified three typical customer issues and the appropriate OptimizelT solution for each. The Customer Types listed are typical - you may identify with one or more of these types through the issues they have with their business or with their individual job functions.

Typical Customer Types

Identify business and IT infrastructure issues similar to yours



 SMB
Small Office

Ms. Shruti Sharma, Office Administrator for Tiger Productions

Who Is This Customer?

- **Job function:** IT is just one of her many hats
- **Core Business Service:** Bookings for Local Events
- **Network:** Small LAN
- **Support:** Basic, Outsourced
- **Typical Issues:** Power outages
- **Downtime Impact:** Lose Bookings / Business
- **Basic Concern:** System Availability

The Value of OptimizeIT to this Customer

- My Safety Net
- Saves me time
- Easy to Manage

Features and Benefits For Ms. Sharma

- Structured rack system / Sound Data Connections
- Power Backup / Eliminate downtime due to Power Failures
- Dedicated Cooling / Eliminate failures due to heat
- Basic monitoring / I know that everything is ok



 SMB
Medium Business

Daniel Major, IT Manager for American Electronics

Who Is This Customer?

- **Job function:** IT is the core focus
- **Core Business Service:** Multinational Manufacturing
- **Network:** WAN that supports 200 users in different cities
- **Support:** In-house
- **Typical Issues:** IT under resourced to meet network and systems complexities
- **Downtime Impact:** Severe business interruption (direct impact on IT manager)
- **Basic Concern:** Reduce downtime and maintain SLAs

The Value of OptimizeIT to this Customer

- Crisis Prevention
- Improves my performance
- Saves me time
- Easy to manage

Features and Benefits For Mr. Major

- Structured rack system / Sound Data Connections
- Dedicated Cooling / Elimination of failures due to heat
- Power Backup / Eliminate downtime due to Power Failures
- Advanced Information / Exception reporting
- Predictive Reporting / How much capacity do I have
- Planning / Where do I need to apply improvements



 SMB
Enterprise

Michael Tang, IT Director for Shop Fresh Mart in SEA

Who Is This Customer?

- **Job function:** IT Leader in the organization
- **Core Business Service:** Retail
- **Network:** WAN: 500 stores with varying complexity across the region
- **Support:** Complex, Outsourced
- **Typical Issues:** Diverse and complex infrastructure
- **Downtime Impact:** Interruption to supply chain, stockouts, lost revenue
- **Basic Concern:** Understand network performance and prevent failures / Bring value to the Business through IT

The Value of OptimizeIT to this Customer

- Solves My Problems
- Improves my performance
- Helps me plan
- Saves me time
- Easy to Manage

Features and Benefits For Mr. Tang

- Structured rack system / Sound Data Connections
- Dedicated Cooling / Elimination of failures due to heat
- Power Backup / Eliminate downtime due to Power Failures
- Advanced Information / Exception reporting
- Predictive Reporting / How much capacity do I have
- Planning / Where do I need to apply improvements

Maximum Availability with High Availability Monitoring

What Powers OptimizeIT Value for the SMB

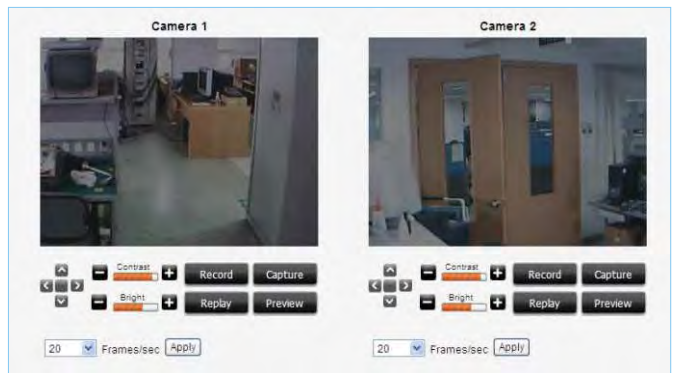
How does OptimizeIT bring Value to you?

OptimizeIT enables Enterprise Class IT Infrastructure through the provision of integrated enclosure, power, cooling and service . Critically it also enables the most vital element – namely 360° visibility of all system components. This enables review, real time monitoring as well as insight into system performance going ahead so OptimizeIT customers can most effectively manage – and plan – their IT Infrastructure.

How do they get this visibility? With the Liebert RDU.

What the Liebert RDU can help you find out

- Security
Has somebody accessed the rack or entered the computer room?
- Power Management
*What capacity do I have left in my rack?
What is the status of redundancy?*
- Temperature
*Is your rack getting too hot?
What is the humidity status in the rack?*
- UPS Overload
*Is the UPS being overloaded?
What is the status of the UPS battery?*
- Smoke / Fire
Is there smoke or fire in the rack or the room?
- Water Leaks
Is there water present in the rack or the room?



More importantly...

Are these issues about to happen or are they likely to happen again?

Maximum Visibility and Escalation

1 GET NOTIFIED:
Receive SMS Alert

2 FIND OUT WHAT IS GOING ON:
Go To User Screen



3 RECORD:
Remote view and capture the incident on video



4 REACT:
Troubleshoot by viewing related events anticipate other possible issues

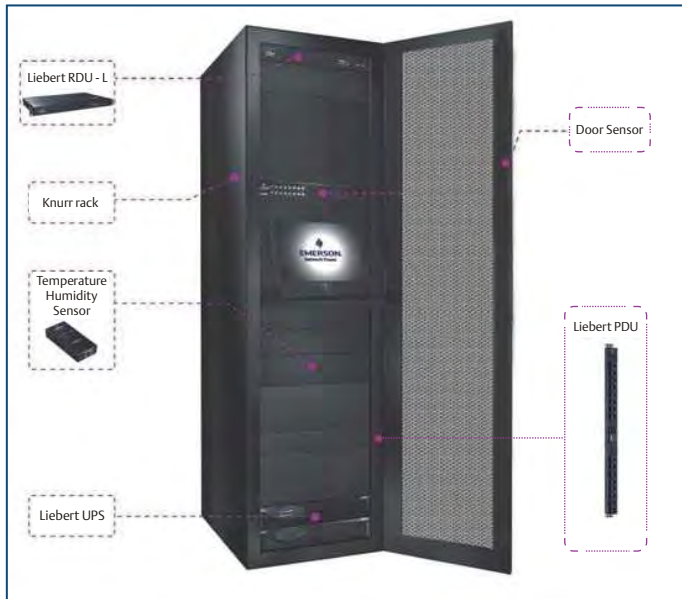


5 PLAN:
Proactive short term and long term planning / trending



OptimizeIT Scenario 1: Network Closet

Get To Know The SMB Infrastructure Modules






Enables Network Manager Communications



- Visibility of critical infrastructure life signs in a local office, at remote locations or across a distributed network
- Single IP address to manage all key infrastructure components within a facility
- Key advantage is the GUI which offers unified 'dashboard' view, threshold setting, event viewing and historical analysis and data export in XML format
- IT users will quickly grasp the simplicity of use, integrated functions and intuitive navigation between real-time, historical and video captured data

Inclusions

- **High Availability Monitoring:** Liebert RDU provides monitoring capability for proactive management at the rack level
- **Sensors:** Temperature and humidity sensor as well as front and rear door sensors for increased visibility
- **Rack:** Innovative rack built on a unique extruded aluminum platform, with a high perforation rate for maximum airflow
- **Power Distribution:** Basic Liebert PDU that allows integrated management of branch PDU power, outlet power and outlet switching
- **Standard Warranty:** System based warranty as standard either 24 months from install or 26 months from invoice
- All systems must be registered at www.OptimizeIT.Info

1

Benefit	Enables Network Manager Communications
Site / User Profile	<p>Critical: Network closet where criticality and impact of downtime has become apparent</p> <p>Power: Already has a UPS</p> <p>Infra: Requires a secure enclosure</p> <p>Applications: Potentially deploying an office LAN</p> <p>Plans to implement a VoIP System</p> <p>Visibility: Requires monitoring and management capability</p>
Density	1 Rack, low density
Inclusions Summary	  

	<p>SMB Medium Business</p> <p>Ex: Branch Office</p>
	<p>SMB Enterprise</p> <p>Ex: Network Closet in a Supermarket</p>

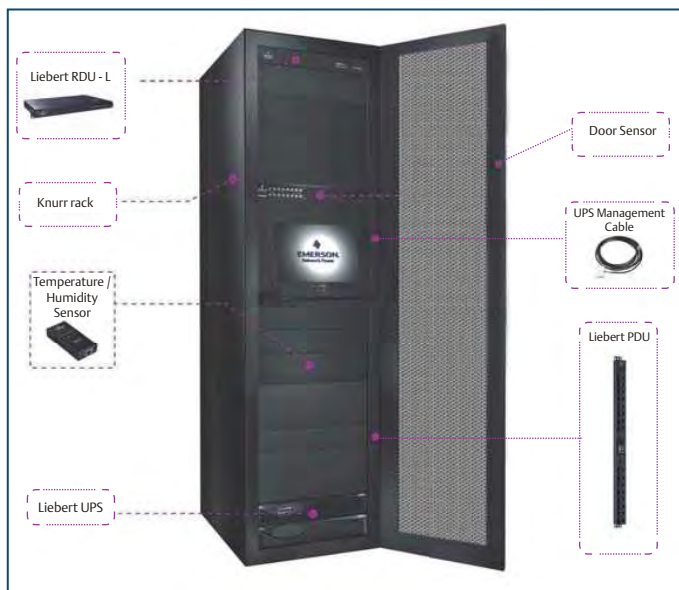
Options

- **Enclosure:** Standard options such as shelves, cable management, blanking panels
- **Monitoring:** Full Suite of options available from USB camera through to Motion Sensors
- **Power Management:** UPS Management
- **Service:** Onsite options for critical sites

*Not all brands supported.

OptimizeIT Scenario 2: Network Closet with UPS

Get To Know The SMB Infrastructure Modules










Enables Network Manager Communications

- With True online double conversion technology UPS for best in class power protection and availability
- Visibility of critical infrastructure life signs in a local office, with a power protection solution suitable for remote locations or across a distributed network
- Additional product and service options to maximize availability

Inclusions

- **High Availability Monitoring:** Liebert RDU provides monitoring capability for proactive management at the rack level
- **Sensors:** Temperature and humidity sensor as well as front and rear door sensors for increased visibility
- **Power Protection:** Liebert GXT True Online UPS for best in class protection
- **Power Management:** UPS Management Cable enables full integration of the UPS
- **Power Distribution:** Basic Liebert PDU that allows integrated management of branch PDU power, outlet power and outlet switching
- **Rack:** Innovative rack built on a unique extruded aluminum platform, with a high perforation rate for maximum airflow
- **Standard Warranty:** System based warranty as standard either 24 months from Install or 26 months from Invoice
- All systems must be registered at www.OptimizeIT.Info

Benefit	Enables Network Manager Communications with Power Protection
Site / User Profile	<p>Critical: Network closet where criticality and impact of downtime has become apparent</p> <p>Power: UPS required</p> <p>Infra: Requires a secure enclosure</p> <p>Applications: Potentially deploying an office LAN Plans to implement a VoIP System</p> <p>Visibility: Requires monitoring and management capability</p>
Density	1 Rack, low density
Inclusions Summary	   
	<p>SMB Small Office</p> <p>Ex: Minimal critical compute / communications</p>
	<p>SMB Medium Business</p> <p>Ex: Branch Office</p>
	<p>SMB Enterprise</p> <p>Ex: Network Closet in a Supermarket</p>

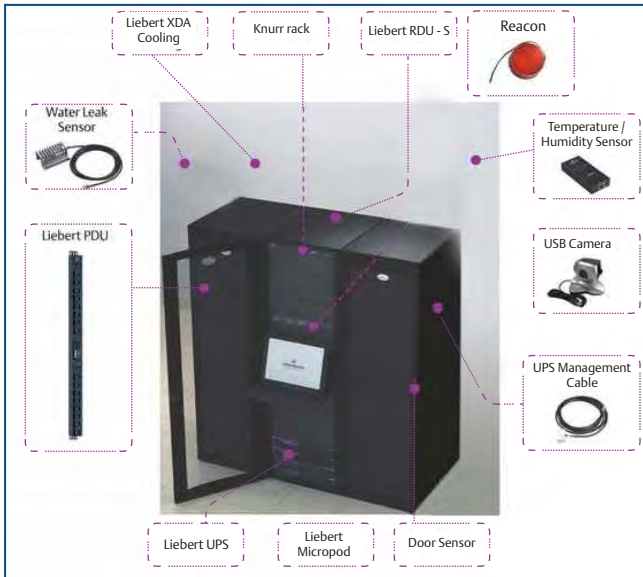
2

Options

- **Enclosure:** Standard options such as shelves, cable management, blanking panels
- **Monitoring:** Full Suite of options available from USB camera through to Motion Sensors
- **Service:** Onsite options for critical sites

OptimizeIT Scenario 3: Data Center In A Rack

Get To Know The SMB Infrastructure Modules











Enables A Data Center In A Rack

- Provides the components of a high availability enterprise data center into a single IT rack
- Visibility of critical infrastructure life signs in a local office, with a power protection solution suitable for remote locations or across a distributed network
- Solution is for 1 medium density rack and is scalable for to up to 3 racks (low density)

Inclusions

- **High Availability Monitoring:** Liebert RDU - S provides fully featured monitoring ability for proactive management at multiple zones within the rack level with "intuitive" navigation and escalation features for maximum communication
- **Sensors:** Temperature, water leak, humidity sensor, door sensor, USB camera and beacon
- **Power Protection:** Liebert GXT True Online UPS for best in class protection with UPS Railmount kit and Liebert Micropod. Redundant configuration for high availability sites
- **Power Management:** UPS Management Cable enables full integration of the UPS
- **Power Distribution:** Sophisticated metered and monitored Liebert PDU that enables integrated management of branch PDU power, outlet power and outlet switching
- **Cooling:** Liebert XDA for medium and high density applications
- **Rack:** Innovative rack built on a unique extruded aluminum platform, with a high perforation rate for maximum airflow
- **Support:** Ensuring that the system performs at optimal levels, Installation and StartUp is included with Preventive Maintenance visits. Also includes Standard Warranty for all products

3

Benefit	Enables Enterprise Level IT Infrastructure In A Rack
Site / User Profile	<p>Critical: Data center in a rack where criticality and impact of downtime are core IT SLA's</p> <p>Compute Density: Requires a medium density single IT rack solution and up to three low density racks</p> <p>Applications: Is deploying blade servers & expects to or is experiencing hot racks</p> <p>Visibility: Requires monitoring and management capability if investment</p>
Density	1 Rack Medium Density 1-3 Racks Low Density
Inclusions Summary	    
	SMB Small Office Ex: High cost of downtime
	SMB Medium Business Ex: Head Office
	SMB Enterprise Ex: Critical node / data center overflow

Options

- **High Availability Monitoring:** Full suite of sensors and additional monitoring points including Motion detection and GPRS communications
- **Rack Accessories:** Blanking Panel, Shelf, Cable Management, TFT Display and KVM System
- **Power Protection:** Additional battery pack for Liebert UPS
- **Surge Suppression:** Provides clean power to your facility
- **Additional Support:** On site and extended warranty offerings as well as Premium 4 hour response time Preventative Maintenance and Emergency Call Out



OptimizeIT Scenario 4: Small Computer Room

Get To Know The SMB Infrastructure Modules






Enables A Data Center In A Rack

- Provides the components of a high availability enterprise data center into a single IT rack
- Visibility of critical infrastructure life signs in a local of ce, with a power protection solution suitable for remote locations or across a distributed network
- Solution is for 1 low or high density rack and is scalable for to up to 3 racks (low density)

Inclusions

- **High Availability Monitoring:** Liebert RDU - S provides fully featured monitoring ability for proactive management at multiple zones within the rack level with “intuitive” navigation and escalation features for maximum communication
- **Sensors:** Temperature, water leak, humidity sensor, door sensor, USB camera and beacon
- **Power Protection:** Liebert GXT True Online UPS for best in class protection with UPS Railmount kit and Liebert Micropod. Redundant configuration for high availability sites
- **Power Management:** UPS Management Cable enables full integration of the UPS

Benefit	Enables Enterprise Level Network In The SMB
Site / User Profile	<p>Critical: Small computer room where criticality and impact of downtime are core IT SLA's</p> <p>Compute Density: Scalable based on density of deployment. Requires 3 high density racks and up to 10 medium / low density racks</p> <p>Power: Dual redundancy for high availability</p> <p>Application: Deploying blades</p> <p>Visibility: Requires monitoring and management capability if investment</p>
Density	3 Racks High Density 4 -10 Racks Medium / Low Density
Inclusions Summary	    

	SMB Small Office Ex: Best in class IT infrastructure
	SMB Medium Business Ex: Best in class IT infrastructure
	SMB Enterprise Ex: Best in class IT infrastructure



Inclusions

- **Power Distribution:** Sophisticated metered and monitored Liebert PDU that enables integrated management of branch PDU power, outlet power and outlet switching
- **Cooling:** Liebert PEX precision cooling for 24 x 7 close tolerance environmental control including air filtration and humidity control
- **Rack:** Innovative rack built on a unique extruded aluminum platform, with a high perforation rate for maximum airflow
- **Support:** Ensuring that the system performs at optimal levels, Installation and Start-Up is included with Preventive Maintenance visits. Also includes Standard Warranty for all products

Options

- **High Availability Monitoring:** Liebert RDU Expansion Module
- **Rack Accessories:** Additional Blanking Panel, Shelf, Cable Management, TFT Display and KVM System as required
- **Power Protection:** Additional battery pack for Liebert UPS
- **Surge Suppression:** Provides clean power to your facility
- **Additional Support :** On site and extended warranty offerings as well as Premium 4 hour response time Preventative Maintenance and Emergency Call Out

OptimizeIT Scenarios

Quick Guide

Cooling



		Scenario # 1	Scenario # 2	
		1.0	2.0	3.0
Liebert DM	Liebert DM Airflow enhancer	Network Closet (existing UPS)	Network Closet with UPS	Data Center in A Rack: Medium Density
Liebert XDA	Liebert XDA Airflow enhancer			1
Liebert PEX	Liebert PEX Precision Cooling Unit			

Enclosures



Shelf	Tooless shelf, fixed sliding		Optional	Optional
Blanking Panel	Air management rack blanking panel	Optional	Optional	Optional
Cable Management	Rack cable management fixture	Optional	Optional	Optional
Baying Kit	Facilitates connection between rack to rack			
TFT Display	TFT Display 17" 1U			Optional
KVM Switch	KVM Switch CAT5 8 Port			Optional
KVM Adapter				Optional

Monitoring



Liebert RDU - L	High availability environmental monitoring: Entry Level	1	1	
Liebert RDU - S	High availability environmental monitoring: Standard			1
UPS Management Cable	High availability environmental monitoring: UPS Manager	Optional	1	1
Liebert RDU - EX	High availability environmental monitoring: Extension Module			
Sensor T & H	Temperature and humidity sensor	1	1	1
Sensor Temp	Temperature sensor	Optional	Optional	Optional
Sensor Door	Door sensor	2	2	2
Sensor Leak	Water leak sensor	Optional	Optional	1
Sensor Smoke	Smoke sensor	Optional	Optional	Optional
Sensor Motion	Motion sensor	Optional	Optional	Optional
USB Camera	USB Camera	Optional	Optional	1
Beacon	Beacon	Optional	Optional	1
GPRS modem				Optional
Additional Water leak sensor				
Additional Smoke sensor				
Additional Motion sensor				
Liebert Nform				

Power



Liebert GXT On-line UPS 10kVA	Liebert GXT On-line UPS 10000VA (10000R230)			
Liebert GXT 4.5 kVA / Adapt 6kVA On-line UPS	Liebert GXT On-line UPS 4500VA / 6000VA (6000RT - 230)			
Liebert GXT On-line UPS 3kVA	Liebert GXT On-line UPS 3000VA (3000RT - 230)			1
Liebert GXT On-line UPS 1kVA	Liebert GXT On-line UPS 1000VA (1000RT - 230)		1	
Battery Pack for 10kVA	Extended Battery pack to suit - GXT2 - 10000VA UPS			
Liebert GXT 4.5 kVA / Adapt 6kVA On-line UPS	Extended Battery pack to suit - GXT2 4500VA / 6000VA UPS			
Battery Pack for 3kVA	Extended Battery pack to suit - GXT2 3000VA UPS			Optional
Battery Pack for 1kVA	Extended Battery pack to suit - GXT2 1000VA UPS		Optional	
Liebert UPS Rail Mount Kit	Rail (GXT2 On-line UPS)			1
Liebert GXT Micropod	Micropod maintenance bypass for GXT 10 Amp		Optional	
Liebert GXT Micropod	Micropod maintenance bypass for GXT 16 Amp			1
Maintenance Bypass	Power & Bypass Distribution Unit (PD-CEHDWRBYP)			
Maintenance Bypass	Suitable for GXT2-10000R230			
Liebert PDU	Liebert Power Distribution Unit: Basic	1	1	
Liebert PDU	Liebert Power Distribution Unit: Serial metered / switched			
Liebert LTS	Liebert Load Transfer Switch 16 Amp			Optional
Liebert Surge Suppression	Surge Protection Device, DIN Rail Type	Optional	Optional	Optional

Servoces



Installation & Start-Up	Pricing will build up according to scale and complexity of scenario and option			1
Standard Warranty	System based / Parts Only / 26 months from purchase / Online registration at www.optimizeit.info/	1	1	1
On Site Warranty	Labour Warranty / 26 months from purchase / 8 x 5 service / scale up with the scenario & option	Optional	Optional	Optional
Extended Warranty	Plus 12 months at initial purchase (ie effective 38 months parts only) scale up with the scenario & option	Optional	Optional	Optional
Preventative Maintenance (2 visits)	System maintenance / 2 visits per annum / 24 x 7 emergency response / scale up with the scenario & option			1
Preventative Maintenance (4 visits)	System maintenance / 4 visits per annum / 24 x 7 emergency response / scale up with the scenario & option			
PM 4 Hour Response Premium	4 hour response premium relates to 24 x 7 emergency response is in addition to standard PM			Optional
Site Surey	Pricing will build up according to scale and complexity of scenario and option			

Scenario # 3		Scenario # 4						
3.1	3.2	4.0	4.1	4.2	4.3	4.4	4.5	4.6
Data Center in A Rack: Expanded Low Density	Data Center in A Rack: Medium Density / High Availability	Small Computer Room Medium Density	Small Computer Room: Low Density Expanded	Small Computer Room: Medium Density / High Availability	Small Computer Room High Density	Small Computer Room: Medium Density Expanded	Small Computer Room: High Density / High Availability	Small Computer Room: Medium Density / High Availability Expanded
Optional	1	1	1	1	1	1	1	1

Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional
Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional
Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional
2		2	9	2	2	9	2	9
Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional
Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional
Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional

1	1	1	1	1	1	1	1	1
1	1	1	1	2	1	1	2	2
		Optional	Optional (x2)	Optional	Optional	Optional (x2)	Optional	Optional (x2)
1	1	1	3	1	1	3	1	3
Optional	Optional	2	7	2	2	7	2	7
6	2	6	20	6	6	20	6	20
1	1	1	1	1	1	1	1	1
Optional	Optional	1	1	1	1	1	1	1
Optional	Optional	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1
Optional	Optional	1	1	1	1	1	1	1
		Optional	Optional	Optional	Optional	Optional	Optional	Optional
		Optional	Optional	Optional	Optional	Optional	Optional	Optional
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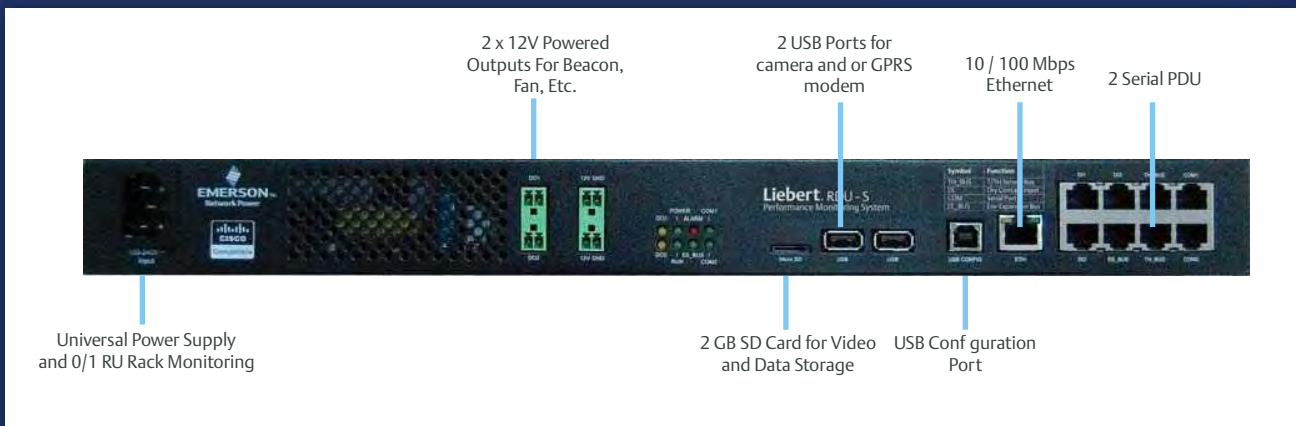
					1	1	2	2
1	2	1	1	2				
					Optional	Optional	Optional	Optional
		Optional	Optional	Optional				
Optional	Optional							
1	2	1	1	2				
1	2							
		1	1	2				
					1	1	2	2
1	2	3	10	6	3	10	6	10
Optional	1	Optional (x3)	Optional (x10)	1	Optional (x3)	Optional (x10)	1	Optional (x10)
Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional

1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1
Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional
Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional
1	1							
		1	1	1	1	1	1	1
Optional	1	Optional	Optional	1	Optional	Optional	1	1
		Optional	Optional	1	Optional	Optional	1	1

OptimizeIT Components

High Availability Monitoring : Liebert RDU

Liebert RDU High Availability Monitoring



- Bring Enterprise Level Visibility into your SMB Network
 - Sophisticated and powerful
 - Intuitive and simple to use
- The Liebert RDU from Emerson is a leading edge solution which provides monitoring ability for proactive management at the rack level
- It allows the user to:
 - Set predefined thresholds
 - Detect and be notified of critical conditions for parameters such as temperature and humidity within Computer Rooms and Individual racks
 - Export historical data and analyze for trends to help avoid the same issues in the future
- The Liebert RDU Family
 - Liebert RDU – L : Basic monitoring functionality
 - Liebert RDU – S : Full featured monitoring
 - UPS Management Cable: UPS Connectivity
 - Liebert RDU – EX: Expansion module

HOW DOES IT WORK

- Customer sets threshold for environmental factors (ex: UPS Load, Rack/Room Temperature)
- An email, SMS or an SNMP trap is sent to the customer when issues are detected
- The data monitored is recorded in XML data format allowing export to third party applications such as databases, spreadsheets, etc.
- It also records all critical systems condition in data and event log which can then be used for capacity planning and trending

This is at the heart of the OptimizeIT offering.

Liebert RDU Accessories



Temperature/Humidity Sensors
Monitor temperature and humidity in the room or cabinet



Vibration Sensors
Monitor minor or major vibrations of the object in the room



Door Sensors
Monitor if the door is open or closed



USB Cameras
Monitor equipment in the room with USB port



Motion Sensors
Monitor the movement in the room



Alarm Beacon
Flashing LED beacon provides visual exception event notification



Water Detection Sensors
Monitor water leaks in the room or cabinet



3-Way Connector/splitter
Provides 'daisy chain' sensor additions using standard RJ45 cables



Smoke Sensors
Monitor fire / smoke in the room or cabinet



Mounting Magnet
Allows magnetic mounting of sensors or alarm beacons

Monitoring: Accessories for Maximum Visibility

- Camera: Monitor equipment in the room with USB port
- GPRS Modem : allows the system to notify through email / SMS
- Sensors
 - Vibration
 - Smoke
 - Temperature
 - Temperature and Humidity
 - Water
 - Door
 - Motion
- Alarm Beacon: Flashing LED beacon provides visual event notification
- 3-Way Connector/splitter : Provides 'daisy chain' sensor additions using standard RJ45 cables
- Mounting Magnet: Allows magnetic mounting of sensors or alarm beacons



Technical Specifications

Product Names	Liebert RDU-S
Region	All Asia
Input Power Connector	IEC C14
Ethernet Connector	(1) RJ-45
Micro SD	1
USB	2
Digital input	(3) RJ-45
Analog/digital port	0
TH_BUS port	2
Serial port	(2) RS485/RS232
Digital Output	2
DC output	(2) 12VDC
EE_BUS	1
# of 1Wire sensor allowed	10
# of I2C sensor allowed	9
# of camera allowed	2
# of digital input allowed	12
Max # of RDU-AX allowed	2
Max # of 1Wire sensor allowed	30
Max # of I2C sensor allowed	27
Max # of digital input allowed	28
Input Power	100VAC/240VAC
Power Consumption	30W
Dimension (WxHxL, mm)	440x44x55
Net Weight (kg)	<1.5Kg
Color	Black, RAL7021

Supported protocol	
HTTP/HTTPS	Yes
DHCP	Yes
SNMP	Yes
TFTP	Yes
FTP	Yes
Serial	Yes
Cisco IP Phone	Yes
Downloadable firmware	Yes
Power cable	1
Circuit pothook	2
Mounting bracket	2
screws	Yes
Linker	No

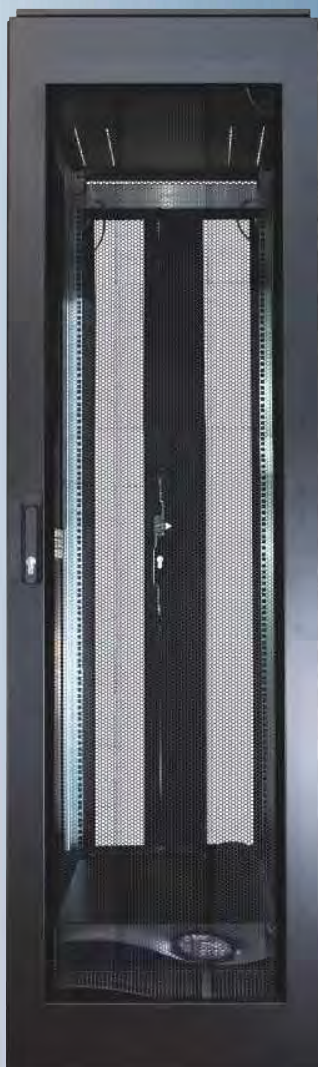
OptimizeIT Components

Enclosure: Knurr IT Rack

Knurr Rack

Your mission-critical networks are carrying an ever increasing amount of voice, data and video. Looming on the horizon is a critical mass of VoIP, high speed access, wireless applications, increasing demand for blade server adoption, and pressure for rapid blade deployment. Data centers and network closets will be required to deliver reliable 24 / 7 operation of critical network communications and operations throughout the entire enterprise. These challenges require an innovation in your data center to fully address these growing needs.

The Knurr F-Series is an innovative enclosure system that integrates your computing hardware, power management technologies and peripherals in your data center. It gives superior design and flexibility, allowing optimal data center performance and easy installation.



- **Excellent Rack Cooling Efficiency**
 - With 75% door perforation rate that enhances heat management
 - Front and rear doors are perforated for cooling efficiency
 - With additional blanking panel to separate cold and hot aisles in the rack
- **Enhanced Rack Installation Space Efficiency**
 - Combined integrated steel frame design
 - With rack static load capacity of 1,300KG
- **Enhanced Rack System Applicability In Data Center**
 - Accessories available for cabling and air flow management
 - Customized features for specific requirements in data center
- **Increased Convenience In Installation And Maintenance**
 - Modular rack design for easy assembly and disassembly
 - Tool-less design of accessories for flexible and quick installation
- **Enables Rack Adaptability And Expansibility**
 - Integral part of the total data center solution of Emerson Network Power
 - Highly adaptable and flexible to integrate power, cooling and monitoring equipment

Knurr IT Rack Accessories



Upto 83% Perforation Rate on Doors
Optimal door perforation allows greater airflow through the cabinet, reducing heat buildup



Rack PDU with Meter Display
Digital current metering tells how much power is drawn



Easy Remove Side Panel
Requires only one person with easy and quick installation



17" TFT Display, 1U
Optimal view of the equipment operation and performance with TFT display



Cable Tray
Mounting depth easily adjustable with one hand and allows dual vertical PDU per side (4 PDU per rack)



KVM Switch
Offers Cat5 connection to server in 8 or 16 ports configuration options with cat5/IP, 8/16 ports



Tool-Less Blanking Panel
High efficiency for installation & maintenance



Earthing
All panels and doors are preconfigured as electrically bonding to the cabinet



Roof with Cable Entry Opening
Cable openings for overhead applications



Lightweight aluminum
Frame is 50lbs lighter than competitors' products.



Tool-Less Cable Management
Flexible cabling in the rack with easy installation



Double Split Door
With High Perforation & Less Service Area Required

OptimizeIT Components

Enclosure : Knurr IT Rack

Technical Specifications

Part Number	010250038	010250048	010250138	010250148	010250238	010250248	010250338	010250348
Product Family	Knurr Miracel				Knurr Miracel			
Product Description	42U x 600/800W x 1200D (no side panel)				42U x 600/800W x 1200D (with side panel)			
Region	All Asia				All Asia			
Height (mm)	2150 mm (include castor)				2050 mm (include castor)			
Rack height (U)	42U				42U			
Width (mm)	600mm	800mm		600mm	800mm			
Depth (mm)	1200 mm				1200 mm			
Weight (kg)	110 KG	124 KG		122 KG	138 KG			
Shipping height (mm)	2150mm				2150mm			
Shipping width (mm)	720mm	920mm		720mm	920mm			
Shipping depth (mm)	1300mm				1300mm			
Shipping weight (kg)	135KG	149KG		147KG	180KG			
Shipping case	carton case+wooden pallet				carton case+wooden pallet			
Weight capacity	500 kg				1,500 kg			
Color	Black, RAL7021				Black, RAL7021			
Conformance	EIA-310-D				EIA-310-D			
# of unit of pallet	1				1			
Default distance between front door to front mounting rail (mm)	85mm				85mm			
Default distance between front and rear mounting rails (mm)	736mm				736mm			
Frame material	Aluminium Extruded Frame with Die-Cast Corner Members				Aluminium Extruded Frame with Die-Cast Corner Members			
Mounting rail	steel 2.0mm				steel 2.0mm			
Front door	steel 1.0mm				steel 1.0mm			
Rear door	steel 1.0mm				steel 1.0mm			
Roof	steel 1.2mm				steel 1.2mm			
Side panels	steel 1.0mm				steel 1.0mm			
% of perforation on front door	83%				83%			
Shelf	Fixed/Pull-out;Light duty 50KG/Heavy duty 100KG				Fixed/Pull-out;Light duty 50KG/Heavy duty 100KG			
Air flow management	Blanking Panel/Tool-less Blanking panel 1U,2U,2U+3U+6U				Blanking Panel/Tool-less Blanking panel 1U,2U,2U+3U+6U			
Cable management	Horizontal/Vertical/Tool-less cable management				Horizontal/Vertical/Tool-less cable management			
Top cover with opening	Yes				Yes			
Front door with lock	Yes				Yes			
Double rear doors with lock	Yes				Yes			
Mount Rails	2 pairs				2 pairs			
Multifunctional members	3 pairs				3 pairs			
Leveling feet	4				4			
Cages nut and M6 screws	Yes. 50 pieces				Yes. 50 pieces			
Mounting Tool for M6 captive nut	1				1			
User manual	Yes				Yes			
Limited Warranty	2 Years				2 Years			

OptimizeIT Components

Liebert GXT UPS

Liebert GXT UPS

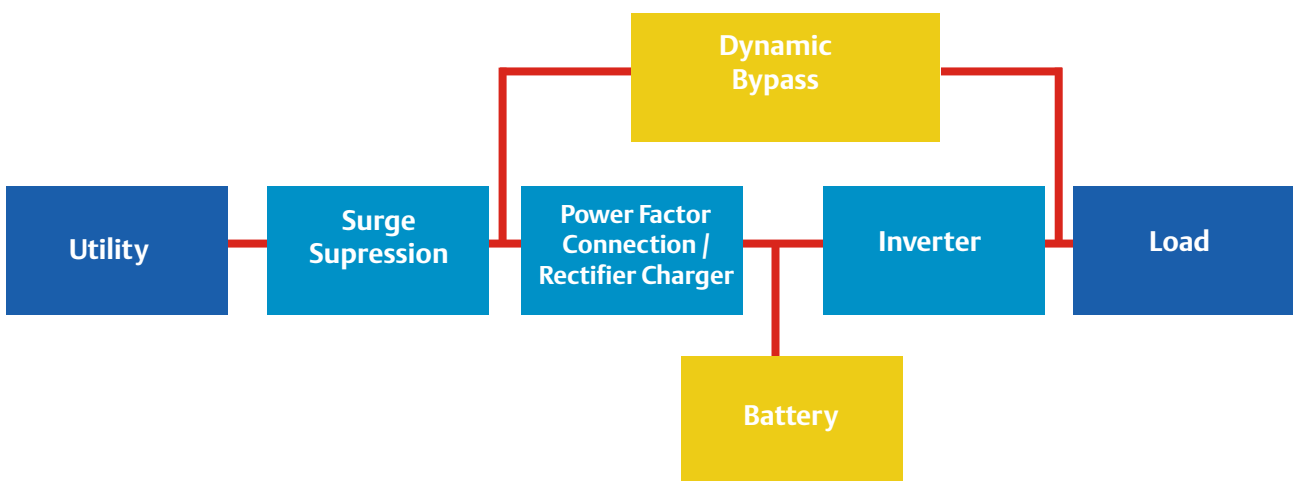


- **Best in Class Power Protection**
Liebert GXT leads the industry in combining the best total cost of ownership with small size, high capacity and function-rich features
- **Uptime Assured**
This true online UPS offers Internal batteries, unlimited extended external batteries, and internal bypass capability, resulting in continuous uptime for the connected equipment
- **Flexible**
Designed for rack-mount or tower modes, the Liebert GXT is available in 500, 700, 1000, 1500, 2000, 3000, 6000, and 10000 VA ratings, in both 120V and 230V models



On-Line UPS Protection for Essential and Critical Applications

The Liebert GXT will transfer the critical load to utility power (bypass mode) in the event of adverse conditions within the UPS. This adds an extra measure of reliability and availability to the supported equipment. No additional cabinets are necessary.



The most critical enterprise applications require the True Online Double conversion technology found in the Liebert GXT

Liebert MicroPOD™ Maintenance bypass for micro-UPS systems



Benefits

- The Liebert Micropod allows you to manually transfer your connected equipment to utility power via a maintenance bypass switch, permitting scheduled maintenance or UPS replacement without power disruption

Features

- Provides utility power to your attached equipment when switched to maintenance bypass mode
- Allows UPS maintenance or replacement of the UPS without discontinuing power to critical equipment
- Easily installed — the UPS and utility power are both connected to the MicroPOD with the supplied cords
- Rotary switch with indicators make the unit simple to operate

When your computer system can't be without power — even for maintenance — a Liebert MicroPOD ensures continuous uptime. The MicroPOD provides maintenance bypass capability as well as power output distribution, and can be used with virtually any micro-UPS system.

Technical Specifications

p/n	GXT2-700RT230	GXT2-1000RT230	GXT2-1500RT230	GXT2-2000RT230	GXT2-3000RT230	GXT2-4500RT230	GXT2-6000RT230	GXT2-10000R230	
Product Description	Liebert GXT2 On-Line 700VA-10000VA 230V Extended Run Rack/Tower Multilink® Software								
Regions	All Asia Pacific except TW, KR, JP								
Input voltage window	230VAC typical; variable based on output load								
100%-90% loading	159VAC280VAC		176VAC280VAC			176VAC276VAC			
90%-70% loading			159VAC280VAC			160VAC276VAC			
70%-30% loading			139VAC280VAC			120VAC276VAC			
30%-0% loading			119VAC280VAC			84VAC276VAC			
Input frequency	40-70Hz; Auto Sensing								
Input connection	IEC320-C14				IEC320-C20		3-wire hardwired, 32A		3-wire hardwired
Output	GXT2-700RT230	GXT2-1000RT230	GXT2-1500RT230	GXT2-2000RT230	GXT2-3000RT230	GXT2-4500RT230	GXT2-6000RT230	GXT2-10000R230	
Output power capacity	700VA/490W	1000VA/700W	1500VA/1050W	2000VA/1400W	3000VA/2100W	4500VA/3150W	6000VA/4200W	10000VA/7000W	
Nominal output voltage	200/208/220/230/240 (user configurable) VAC +/-3%								
Output frequency	50Hz or 60Hz								
Waveform	Pure sinewave								
Main mode overload	200% for 8 cycles; 130% for 10 seconds with transfer to bypass					>200% for 96 ms, 131-199% for 2 seconds, 112-12 9% for 10 seconds with transfer to bypass		105-125% for 1 min, 125-150% for 10 secs	
Output connections	(6) IEC320-C13				(6) IEC320-C13, (1) IEC320-C19		3-wire hardwired, (2) IEC320-C19		3-wire hardwired, (1) IEC320-C19
Battery	GXT2-700RT230	GXT2-1000RT230	GXT2-1500RT230	GXT2-2000RT230	GXT2-3000RT230	GXT2-4500RT230	GXT2-6000RT230	GXT2-10000R230	
Battery Type	Valve-regulated, nonspillable, lead acid								
Typical recharge time	5 hours to 95% capacity after full discharge into 100% load					3 hours to 90% capacity after full discharge into 100% load		5 hours to 90% capacity	
Typical backup time (half load)	44 mins	25 mins	20 mins	14 mins	16 mins	24 mins	17 mins	15 mins	
Typical backup time (full load)	17 mins	11 mins	7 mins	7 mins	5 mins	5 mins	7 mins	5 mins	
Communication ports	Serial RS-232, Intellislots								
Options	GXT2-700RT230	GXT2-1000RT230	GXT2-1500RT230	GXT2-2000RT230	GXT2-3000RT230	GXT2-4500RT230	GXT2-6000RT230	GXT2-10000R230	
External battery cabinet	GXT2-48VBATT				GXT2-72VBATT		GXT2-240VBATT		GXT2-240RVBATT*
WEB/SNMP Management Card	IS-WEBCARD								
USB Port	USBCARD								
Relay Card	RELAYCARD-INT								
AS400 Card	AS400CARD-GXT2								
Rail Kit	RMKIT18-32							Included	
Micropod	MP2-210K				MP2-220L		PD-CEHDWRBYP		NA
Physical	GXT2-700RT230	GXT2-1000RT230	GXT2-1500RT230	GXT2-2000RT230	GXT2-3000RT230	GXT2-4500RT230	GXT2-6000RT230	GXT2-10000R230	
Form factor	Rack / Tower Convertible							Rack only	
Dimension (mm)	430x87(2U)x547				430x87(2U)x618		430x221(SU)x547		410x130(3U)x660
Shipping dimension (mm)	692x268x585							690x560x500	
Weight (kg)	22.5	22.6	23.2	24.7	31.9	67.0		27.0	
Shipping weight (kg)	26.5	26.6	27.2	28.7	35.9	79.5			
Agency	GXT2-700RT230	GXT2-1000RT230	GXT2-1500RT230	GXT2-2000RT230	GXT2-3000RT230	GXT2-4500RT230	GXT2-6000RT230	GXT2-10000R230	
Safety	EN 62040-1, CE compliant mark, for both low voltage and EMC Directives								
RFI/EMI	EN 62040-2, Class B					EN50091-2 and AS 62040-2: 2002 Class A; CE EMC directives		EN62040-2 Class B; CE EMC directive	
Surge Immunity	EN 61000 4-2, 4-3, 4-4, 4-5								
Transportation	ISTA Procedure 1A				ISTA Procedure 1B			ISTA Procedure 1A	
Package Content	GXT2-700RT230	GXT2-1000RT230	GXT2-1500RT230	GXT2-2000RT230	GXT2-3000RT230	GXT2-4500RT230	GXT2-6000RT230	GXT2-10000R230	
UPS	1	1	1	1	1	1	1	1	
Tower Stand	1	1	1	1	1	1	1	No	
Mouting brackets	1	1	1	1	1	1	1	1	
Liebert Multilink CD w/serial cable	1	1	1	1	1	1	1	1	
Input power cord	0	0	0	0	CEE7/7-C20	0	0	0	
Output cable	2	2	2	2	2	0	0	0	
Warranty	2 years								
* GXT2-10000R230 requires GXT2-240RVBATT to function.									

OptimizeIT Components

Liebert Adapt UPS Series



Applicable loads

Server, storage device, network equipment, VOIP, communication equipment, automation equipment, precision instrument and medical diagnosis equipment

Applications

Small IDC room, network room, business operating room, lab and instrument room



Product feature

- ✓ Up to 0.9 power factor, matching the characteristics of newest server
- ✓ Compatible with single-phase and 3-phase power network (self-adaptive)
- ✓ Support parallel operation (maximum configuration is "3+1") without the need of parallel subrack
- ✓ Super high power density, only 2U height for 4.2kW



Perfect energy saving and environmental friendly features

- 0.99 high input power factor improves the utility rate of electrical energy
- Comply with EU RoHS directives
- Input standard D-level SPD
- Provide LED/LCD (optional part) display function and can be replaced on site
- Modular battery design and backup time can be prolonged through cascaded connection
- Compatible between tower-installation and rack-mounting, so installation is flexible

How Adapt UPS ensures high reliable power supply?

- Double-conversion online design, no interruption when AC mains fail
- Support N + X redundant mode and realize highly increased system reliability
- DSP full-digital control with high output voltage precision
- Use most up-to-date components to withstand big fluctuation of input mains voltage

How Adapt series UPS protects environment?

- Good energy-saving performance with more than 92% efficiency
- Input power factor is up to 0.99 with high electric energy utility rate
- Materials/manufacturing processes are free of poisonous substance: Complies with EU RoHS



Main machine + battery

How Adapt series UPS saves money for you?

- Up to 0.9 output power factor and can power 10% more load than other ordinary UPS
- Use soft-wire parallel operation mode without the need of complex parallel subrack, which saves the system cost
- High system efficiency, energy-saving and low operational cost
- High power density realizes smaller footprint of rack

How Adapt series UPS realizes convenient maintenance?

- Main machine is separated from battery
- Provide LCD, so each kind of status/fault information is visible

How Adapt series UPS improves the reliability of solution?

- Be compatible with single-phase input and 3-phase input, selectable on site
- Support parallel operation of up to 4 units, so system capacity can be flexibly expanded
- Flexible selection of N+X
- Backup time can be prolonged through cascaded connection



Rack-mounted 1+1 parallel system

How Adapt series UPS meets various monitoring requirements?

- Provide most up-to-date USB monitoring interface
- Provide SNMP card that can acquire environmental data
- Host computer software supports various kinds of OS such as Windows/Linux/HP-UX/Sun Solaris/IBM AIX
- Be compatible with Emerson monitoring platform of SiteMonitor and support Web monitoring
- Provide Mib database so the UPS can connect various kinds of NMS systems
- Support auto-shutdown function of server

How Adapt series UPS protects and prolongs the battery life?

- Extra-wide input voltage/frequency range effectively reduces the discharging times of battery and prolongs battery life
- Temperature compensation function reduces the influence of ambient temperature to battery life
- Extra strong charging capability effective reduces the battery re-charging time
- Main machine is separated from battery, which is good for battery heat dissipation

Technical specifications

Model	Standard model	Long back-up time model
Conversion type	Double conversion	
Input parameters		
Rectifier type	IGBT	
Rated voltage	220/380Vac single-phase 3-wire or three-phase 4-wire (auto recognizing)	
Input voltage range	120-276	
Input frequency range	45-55	
Input power factor	Single phase ≥ 0.99 / 3-phase ≥ 0.95	
Battery		
Charging capability	$< 3h$ for recharging to 90% of standard model	
Battery type	Lead-acid maintenance free battery 12V/7.2AH	
Battery backup time of standard model	> 5 minutes	
Model of battery module	U16-07C1	
Battery module specifications	430W X 660D X 88H (2U rack height), 50kg	
Output parameters		
Rated power	5kVA/4.5kW or 6kVA/4.2kW (selectable on site)	
Voltage precision	$220\text{Vac} \pm 3\%$	
Frequency precision	$50 \pm 0.2\%$	
Output voltage THD	$< 3\%$ for linear load, $< 5\%$ for non-linear load	
Load crest factor	3:1 (comply with IEC 62040-3)	
Step load performance	100	
System parameters and standard		
Whether parallel operation can be realized	Support maximum 3+1 parallel operation	
Whether rack mounting mode is supported	Yes	
System efficiency	$> 91\%$ (with intelligent fan speed regulation function)	
Switching time (power failure)	0	
Noise	< 51 DB	
Language	Chinese/English	
Whether LCD display is available	Yes (optional)	
Safety	GB4943-1995	
EMC	Conducted emission: EN50091-2 EN55022 Class A Immunity: EN61000-4-2, 3, 4, 6, 8, 11 Level III EN61000-4-5 Level IV	
Surge protection	Meet installation requirements of IEC60664-1 IV Be able to withstand at least 6kV/3KA 1/2/50uS+8/20uS	
Protection level	IP21	
Dimensions	430W X 660D X 88H (2U), with battery	430W X 660D X 88H 2U
Weight	23KG	25KG
Warranty	2 years	
Communication and management		
Interface type	USB/intelligent slot (dry contact/SNMP card/Modbus card)	
Environmental parameters		
Operating temperature	0 - 40°C	
Relative humidity	5 - 95%	
Altitude	1500m	

List of battery backup time

Load	100%(4200w)	75%(3150w)	50%(2100w)	25%(1050w)
Battery Module				
+1 Batt Module	4 min	7 min	12 min	32 min
+2 Batt Module	12 min	18 min	30 min	70 min
+3 Batt Module	20 min	35 min	60 min	170 min
+4 Batt Module	30 min	45 min	80 min	190 min
+5 Batt Module	40 min	80 min	110 min	240 min
+6 Batt Module	50 min	90 min	130 min	300 min
+7 Batt Module	60 min	100 min	180 min	340 min
+8 Batt Module	70 min	120 min	240 min	480 min

Battery mode operating efficiency is 0.9 and end of discharging voltage is 1.75V.

List of optional parts

Expanded battery module	2U, with 16 internal cells
Rack rail	Used in rack mounting mode
Parallel output module	2U, used for 1+1 parallel output
LCD	Can be changed to LED panel on site
SNMP card	Used for remote TCP/IP-based Web monitoring, support remote safety shutdown
Dry contact card	Used for signal expansion in dry contact communication mode
Modbus card	Used for BMS connection or other industrial application



OptimizeIT Components

Precision Cooling - Liebert PeX DS

Liebert PeX with Digital Scroll (DS) compressor technology to cater to variable cooling requirement. This Cooling solution translates into lowering of energy consumption up to 50% compared to standard Cooling solution and also enhances in minimizing the operating cost through the entire Datacenter life cycle because of below mentioned features:

Liebert PeX DS comprises of Digital Scroll, IR humidifier & intelligent iCOM controller maintains Precise Temperature & humidity control with a high supervision to multiple units allowing them to work together as a single system to optimize room performance. It actively manages by achieving capacity modulation from 10% to 100%. During loaded state Cooling units consumes full load power. On the other hand during the unloaded state, the Units runs freely consuming only about 10% of the full load.

Just to highlight advantages & benefit:

Energy Efficiency:

- Quick adaptation to changing heat load by providing Perfect match between Cooling Capacity and Heat Load
- Lower Energy Consumption at partial loads.
- Possibility to overcome future heat load growth.
- Infrared Humidifier for precise and instant humidity control.
- iCom controller for optimized room performance.
- EC Fan for optimum EER efficiency.

Space Saving:

- 18% more kW per square meter compared to industry average.
- Units can be dismantled and reassembled for difficult site jobs.
- Requires nothing more than Front access.

Communication and monitoring:

- Teamwork Mode allows units to work together in rooms with unbalanced loads.
- Unit diary shares history with authorized users and service contacts.

System Supervision and Management:

- Enhanced remote communication and control
- Centralized Management
- Enterprise Management

Cooling Configuration:

- Wide range Available from 20 KW to 70 KW.
- Downflow Configurations.



OptimizeIT Components

Precision Cooling : Liebert PEX DS

Technical Specifications

"Model" Name	PeX 120 DS	PeX125 DS	PeX135 DS	PeX240 DS	PeX245 DS	PeX250 DS	PeX270 DS
Gross Cooling Capacity (kW)							
24 °C, 50% RH							
Total	19.20	22.80	34.80	39.40	46.40	53.20	70.90
Sensible	19.00	22.60	29.60	38.40	45.60	48.20	59.60
SHF	0.99	0.99	0.85	0.97	0.98	0.91	0.84
22 °C, 50% RH							
Total	18.50	22.00	33.20	37.50	44.30	50.30	67.70
Sensible	18.30	21.80	29.10	37.20	44.00	47.10	58.60
SHF	0.99	0.99	0.88	0.99	0.99	0.94	0.87
24 °C, 45% RH							
Total	19.60	23.20	34.40	39.80	46.90	51.50	69.00
Sensible	19.50	23.00	31.90	39.50	46.60	51.10	63.60
SHF	0.99	0.99	0.93	0.99	0.99	0.99	0.92
Dehumidification Cycle	Not less than 1.3 kg/kW	Not less than 1.3 kg/kW	Not less than 1.3 kg/kW	Not less than 1.3 kg/kW	Not less than 1.3 kg/kW	Not less than 1.3 kg/kW	Not less than 1.3 kg/kW
Controller	ICOM	ICOM	ICOM	ICOM	ICOM	ICOM	ICOM
FAN							
Make	Emerson Custom	Emerson Custom	Emerson Custom	Emerson Custom	Emerson Custom	Emerson Custom	Emerson Custom
Fan type	EC Centrif.	EC Centrif.	EC Centrif.	EC Centrif.	EC Centrif.	EC Centrif.	EC Centrif.
Blade	Backward Curved	Backward Curved	Backward Curved	Backward Curved	Backward Curved	Backward Curved	Backward Curved
Drive	Direct	Direct	Direct	Direct	Direct	Direct	Direct
Qty motor/fan	1.00	1.00	1.00	2.00	2.00	2.00	2.00
Air Flow (m ³ /s)	1.8	2.07	2.58	4.08	5.06	5.06	5.06
Motor type	EC	EC	EC	EC	EC	EC	EC
IPxx	IP54	IP54	IP54	IP54	IP54	IP54	IP54
E.S.P. (Pa)	25.00	25.00	25.00	25.00	25.00	25.00	25.00
R22 COMPRESSOR							
Type	Digital Scroll	Digital Scroll	Digital Scroll	Digital Scroll	Digital Scroll	Digital Scroll	Digital Scroll
Make	Copeland	Copeland	Copeland	Copeland	Copeland	Copeland	Copeland
Qty	1.00	1.00	1.00	2.00	2.00	2.00	2.00
Other refrigerants avail.	407C	407C	407C	407C	407C	407C	407C
EVAP. COIL							
Make	Emerson Custom	Emerson Custom	Emerson Custom	Emerson Custom	Emerson Custom	Emerson Custom	Emerson Custom
Qty	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FH (mm)	689.00	689.00	689.00	689.30	689.30	689.30	689.00
FL (mm)	700.00	700.00	700.00	1534.00	1534.00	1534.00	1534.00
Total FA (m ²)	0.95	0.95	0.95	2.07	2.07	2.07	2.07
FV (m/s)	1.9	2.38	2.38	1.71	2.12	2.12	2.12
Fin series (fpi)	14	14.00	14.00	14.00	14.00	14.00	11.00
Fin design	0.1 AL superslit	0.1 AL superslit	0.1 AL superslit	0.1 AL superslit	0.1 AL superslit	0.1 AL superslit	0.1 AL superslit
Tube rows	2.00	2.00	4.00	2.00	2.00	2.00	4.00
Tube size (mm)	9.52 OD	9.52 OD	9.52 OD	9.52 OD	9.52 OD	9.52 OD	9.52 OD
Cu tube design	IGT	IGT	IGT	IGT	IGT	IGT	IGT
Coil frame material	G.I.	G.I.	G.I.	G.I.	G.I.	G.I.	G.I.
Drip tray	AL	AL	AL	AL	AL	AL	AL
Configuration: A slab	A	A	A	A	A	A	A
REHEAT							
Material	SS304	SS304	SS304	SS304	SS304	SS304	SS304
Watt density (kW/sq.m)	60.00	60.00	60.00	60.00	60.00	60.00	60.00
Safety/protection	Thermostat	Thermostat	Thermostat	Thermostat	Thermostat	Thermostat	Thermostat
Stages	Single	Single	Single	Single	Single	Single	Single
kW/stage	6.00	6.00	6.00	9.00	9.00	9.00	9.00
HUMIDIFIER							
Type	Infrared	Infrared	Infrared	Infrared	Infrared	Infrared	Infrared
Capacity (kg/h)	4.50	4.50	4.50	5.00	5.00	7.50	7.50
Efficiency	>1.3kg/kW	>1.3kg/kW	>1.3kg/kW	>1.3kg/kW	>1.3kg/kW	>1.3kg/kW	>1.3kg/kW
Serviceable?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
FILTER							
Grade	G4	G4	G4	G4	G4	G4	G4
Frontal surface area (m ²)	790X790 mm	790X790 mm	790X790 mm	790X790 mm	790X790 mm	790X790 mm	790X790 mm
Depth (mm)	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Type	Washable	Washable	Washable	Washable	Washable	Washable	Washable
Qty	1.00	1.00	1.00	2.00	2.00	2.00	2.00
V/Ph/Hz	415/3/50	415/3/50	415/3/50	415/3/50	415/3/50	415/3/50	415/3/50
Condenser							
Make	Emerson Custom	Emerson Custom	Emerson Custom	Emerson Custom	Emerson Custom	Emerson Custom	Emerson Custom

OptimizeIT Components

Liebert XDA Precision Cooling

Liebert XDA Precision Cooling



From the Liebert XD Family

Part of the Liebert XD Supplemental Cooling Range

Easy to install

Lightweight fan unit that is mounted to the exhaust side of a rack enclosure

Prevents Hotspots

Allows The XDA increases the airflow through densely populated enclosures and past congested cabling, thus removing hot spots within the enclosure that can threaten the uptime of critical systems

Technical Specifications

Nominal Capacity	1000 CFM
Input Voltage	120 V, 1, 60 Hz 230V, 1, 50/60Hz
Full Load amps	1.5 A @120V
Height	56"
Weight	8"
Depth	2.25"
Weight, unit only	27 lbs

OptimizeIT Components

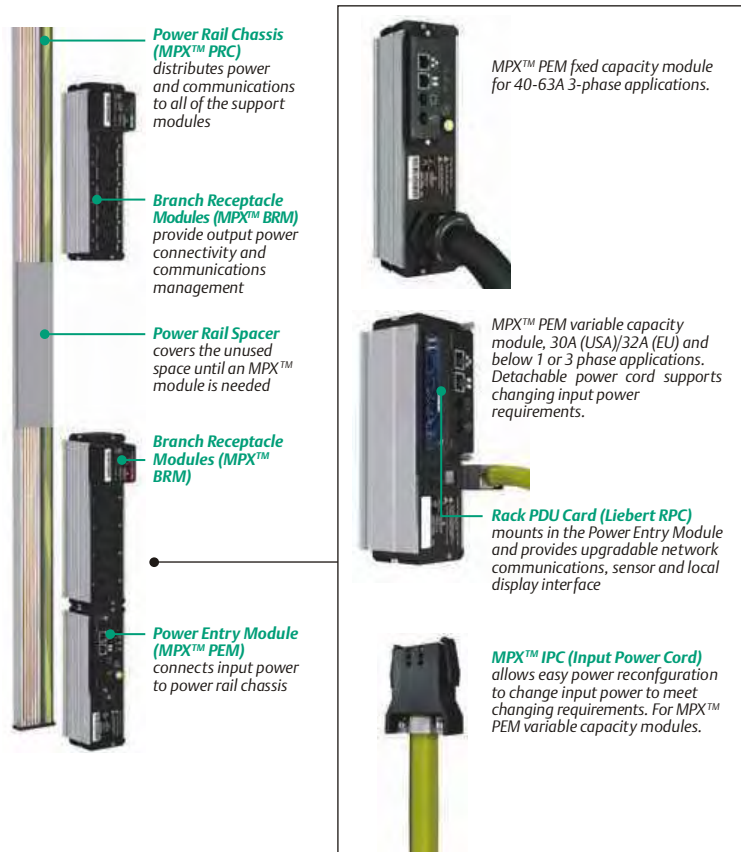
Liebert MPX™

Liebert MPX™: Hot-Swappable Power Output & Reconfigurable Power Input

Liebert MPX™ allows you to add or change distribution without powering down. The hot-swappable receptacle modules allow for easy upgrading and get IT equipment online quickly. Change input power to support dynamic environments while maintaining distribution and communications infrastructure.

Adaptive Rack PDU

Liebert MPX™ is an adaptive Rack PDU system that provides AC input power, output distribution and critical IT quality performance via its scalable, modular architecture.



Liebert MPX™ - Adaptive Rack PDU SUMMARY

Power & Comms Backplane - MPX™ PRC (Power Rail Chassis) One Per Liebert MPX™ System

Typical 42/47U Racks	MPX™ PRC1880 - 1880mm/74" - Supports up to 6x MPX™ BRM's
Typical 23U Racks:	MPX™ PRC1035 - 1035mm/41" - Supports up to 3x MPX™ BRM's

Input Power - MPX™ PEM (Power Entry Module)

One Per Liebert MPX™ System	
Available Voltage	USA: 120 & 208VAC / 1-Phase; 208-240VAC / 3-Phase EU: 230 / 1-Phase, 400VAC / 3-Phase
MPX™ PEM-Variable Capacity	USA: 20Amp / 1-Phase to 30Amp / 3-Phase EU: 32Amp / 1-Phase to 32Amp / 3-Phase Input power selected with MPX-IPC (Input Power Cord)
MPX™ PEM-Fixed Capacity	USA: 3-Phase; 50Amp 4-wire or 60Amp 5-wire EU: All 3-Phase; 63Amp 5-wire

Output Distribution - MPX™ BRM (Branch Receptacle Module)

One to Six Per Liebert MPX™ System - Quantity Per MPX™ PRC Length	
Types	Branch Monitoring - Monitor Module and Aggregate MPX™ Receptacle Management - Control & monitor to individual receptacles Types can be mixed on single MPX™ system
Receptacles per BRM	USA: 6x NEMA 5-20R; 6x IEC C13; 4x IEC C19 EU: 6x IEC C13; 4x IEC C20; 3x Schuko
Protection	Branch rated circuit breaker - 20Amps / Full rating
Application / Install	Hot-swappable

OptimizeIT Components

Support : Emerson Network Power Global Services

Rely On Our Network of Authorized Service Partners



OUR COMMITMENT DOESN'T END AFTER EVERY SALE, IT'S JUST THE BEGINNING

INSTALLATION AND STARTUP

Emerson Network Power **GUARANTEES** that your equipment will be up and running immediately once delivered to your doorstep. We give you confidence that your equipment is at optimum performance.

EXTENDED WARRANTY

Peace of mind provided by Emerson Network Power certified service and support experts. With our Extended Warranty Service package, count on us and consider it solved. Risk Free, low cost and better ROI.

POWER ASSURANCE PACKAGE

The Power Assurance Package bundles a number of key service elements with a Liebert GXT 4.5/6/10kVA UPS. It combines the best UPS in the business with the industry's premier service capability to offer you convenience, information and increased uptime for five full years.

DATA CENTER ENVIRONMENTAL ASSESSMENT

Data centers continue to dynamically grow both in number and size. This growth rate is spurred by the increasing number of powerful servers installed in data centers and the demands of supporting equipment such as cooling and power.

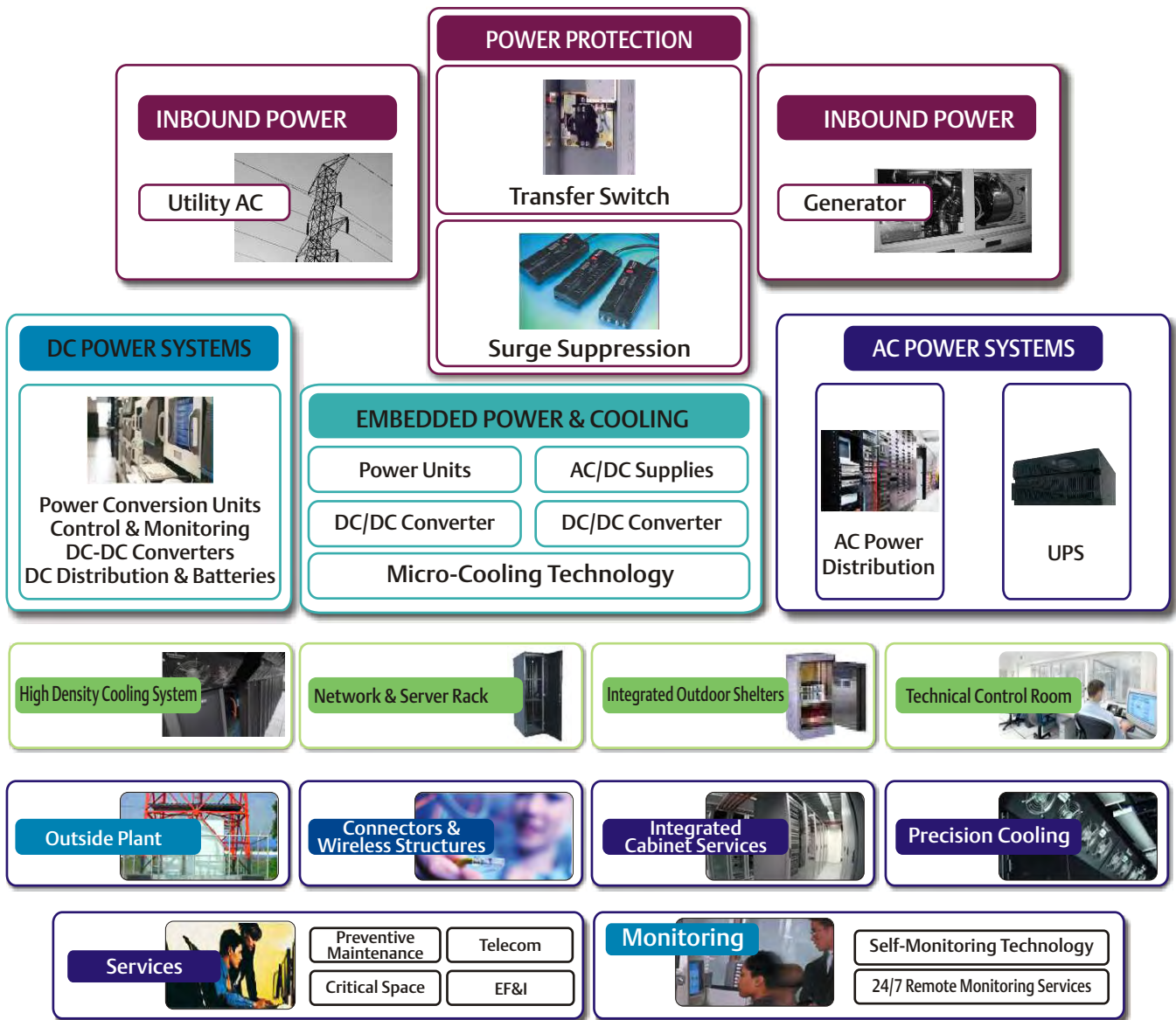
PREVENTIVE MAINTENANCE SERVICES

Emerson Network Power's preventive maintenance program helps you maximize the reliability and performance of your power systems and provides you total peace-of-mind. Emerson's trained and certified technicians will implement this service through use of proper tools and genuine parts to ensure longer system reliability.

Visit www.OptimizeIT.info for details

End-to-end, grid-to-chip protection

Emerson Network Power has the expertise and experienced systems specialists to help you design, build and support power, data and communications systems. No other organization can match the scope of our product offerings and service reach. And no other organization can provide such complete end-to-end, grid-to-chip support.



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Emerson Among Top 50
On Fortune Survey Of
"Worlds Most Admired"
Companies.



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- Precision Cooling
- Racks & Integrated Cabinets
- Services
- Surge Protection

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For disposal of Batteries Please visit the below link:
<http://www.cpcb.nic.in/divisionsofheadoffice/hwmd/lead.pdf>

Note: Specifications & Features may vary based on the condition.

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