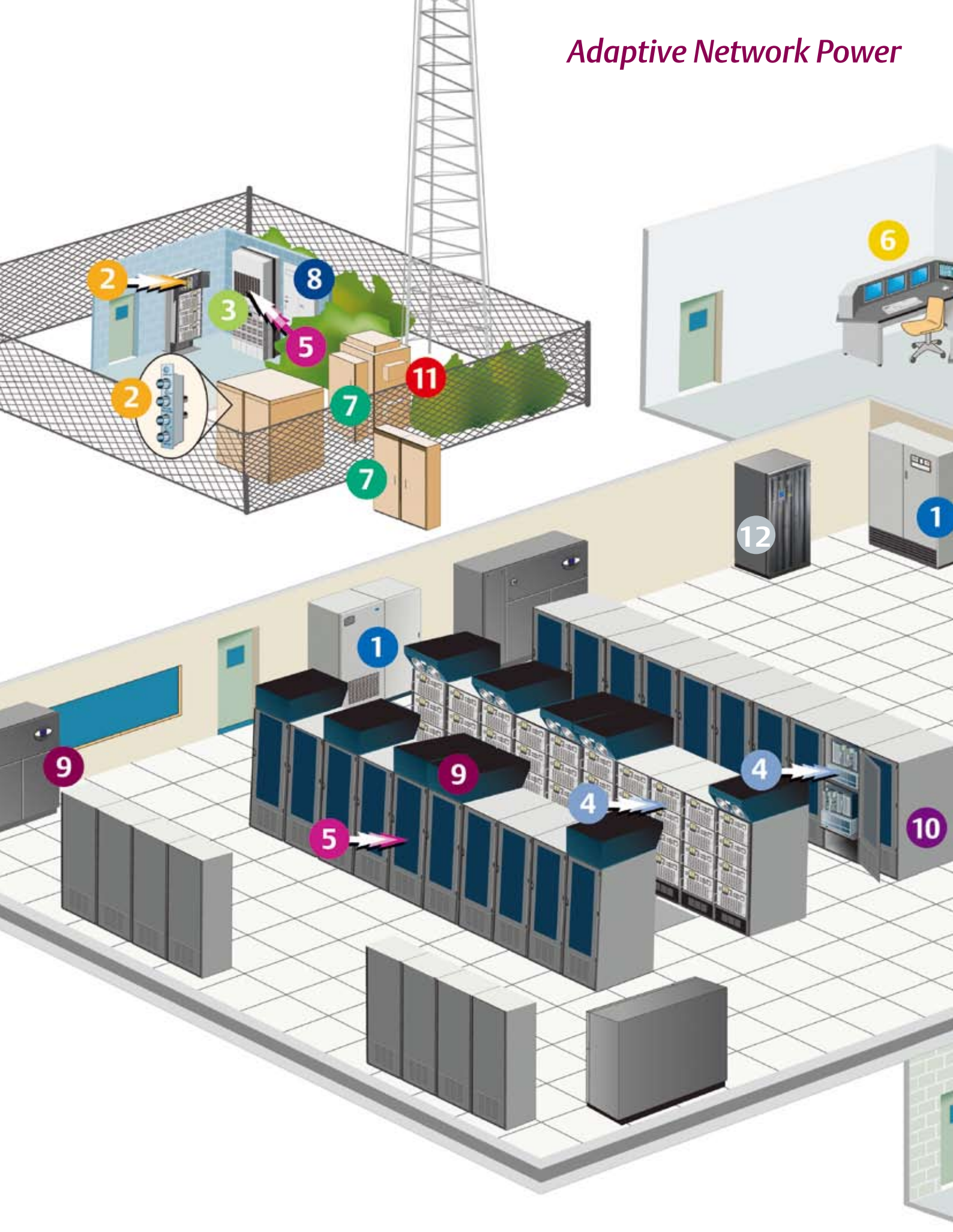
Global Leader
for *Business-Critical Continuity*™

2010- 2011 Catalog




EMERSON
Network Power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Integrated Solution

1 Ac Power
2 Connectivity
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6 Monitoring
7 Outdoor Base Station Platform
8 Power Switching & Controls
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10 Server Rack
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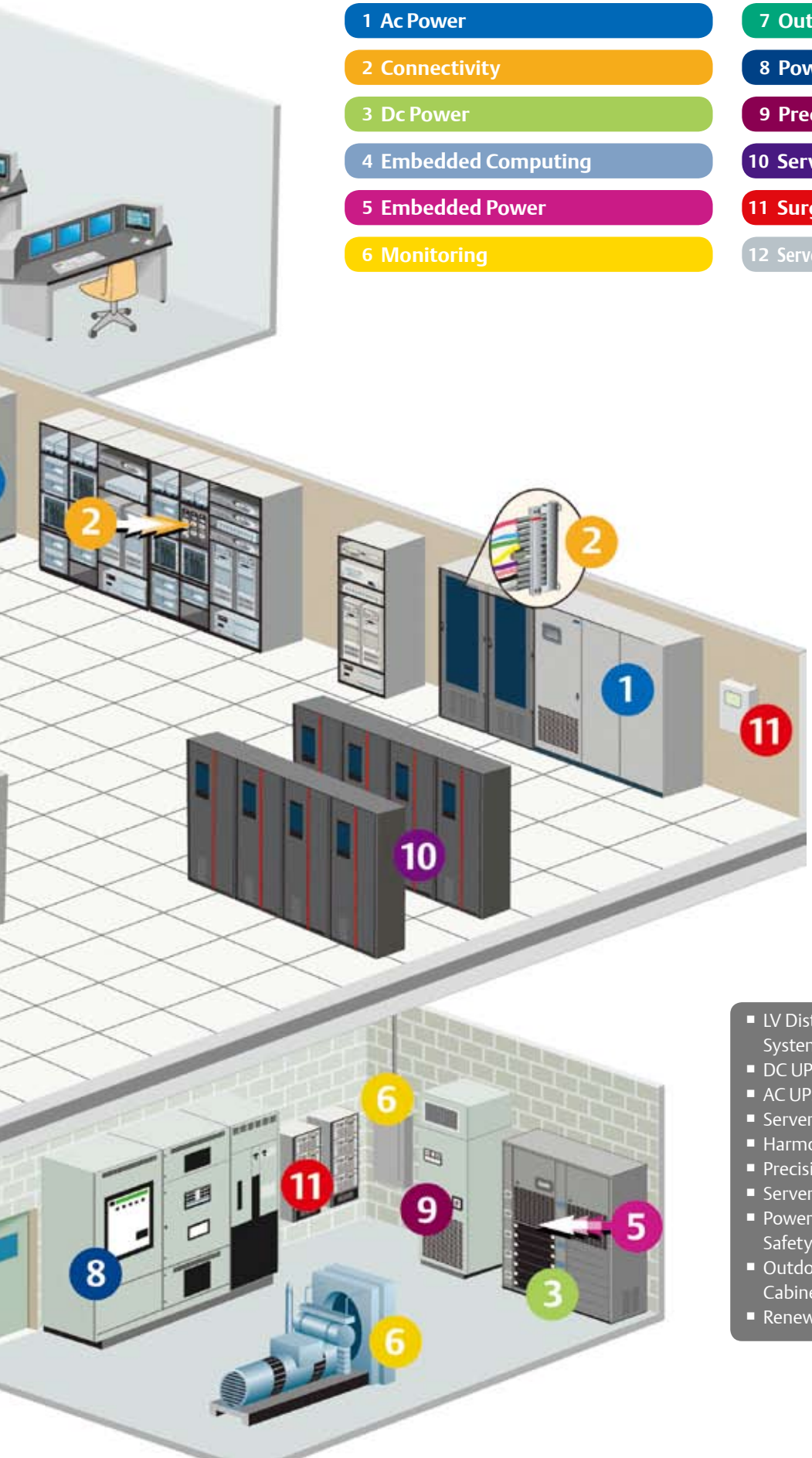


- LV Distribution Automatic Switching System
- DC UPS System
- AC UPS System
- Server Power Management
- Harmonic Treatment
- Precision Cooling
- Server Rack
- Power Device, Equipment Room and Safety Monitoring
- Outdoor Integrated Communication Cabinet
- Renewable Energy

Contents

A Full Spectrum of Products of Emerson Network Power

EMERSON NETWORK POWER.

THE GLOBAL LEADER IN ENABLING
BUSINESS-CRITCAL CONTINUITY.™

DC Power

The most complete range of power solutions in the industry and the latest technologies of energy saving, spacing saving and environment protection not only ensure high performance and reliability, but also effectively reduce the TCO of the customers for the strategic and sustainable development.

Emerson Network Power DC Power systems enable "Business Critical Continuity™".

NetSure801 Large Capacity Power System

NetSure 801

NetSure801 Communication Power System is the latest large capacity power system designed for addressing the global customer demands. The system adopts separate design, with 2,000A output current for one cabinet, and 6,000A capacity maximally through multiple parallel cabinets. The system has such advantages as high efficiency, high reliability, easy maintenance and dynamic standby functions, fully meeting the power requirements of communication rooms.

System composition

- AC distribution cabinet PD380/400AFH-6, PD380/630AFH-6 or PD380/630AFA-6
- DC distribution cabinet PD48/1600DF-6, PD48/2500DF-6 or PD48/2000HF-2/120 (high resistance distribution cabinet)
- Rectifier cabinet (Rack1000-6 or Rack2000-6)
- HF switch rectifier R48-5800
- Monitoring module M810G

System Features

- Patented Rectifier Redundancy technology effectively reduces the TOC (total operation cost) of base stations
- Super adaptability to grids, able to work normally at 260 ~ 530Vac and withstand 600Vac HV input
- Digital active current sharing stably at accuracy of up to 0.7%
- Battery reverse connection effectively protects the modules from breakdown
- Withstand generator transient overvoltage with no strict requirements on generator output
- Current soft startup efficiently prolongs the battery life and reduces the impact to the loads and the batteries
- Safe and reliable, complete surge protection at AC side, DC side and the signal terminal
- RoHS and IEC compatible

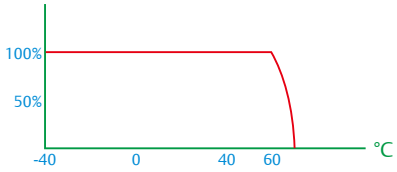
Applications

- 2G/3G Core network rooms
- Small and medium data centers
- Fixed core network equipment rooms

NetSure801 Large Capacity Power System

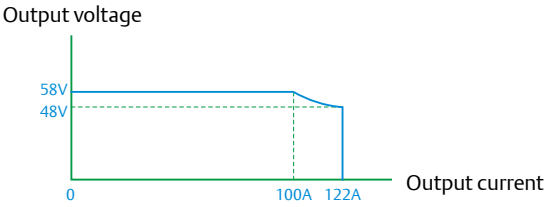
Rectifier R48-5800

- Up to 93% or higher
- Power factor of 0.99
- Input voltage frequency: 45 ~ 65Hz
- Operating temperature: -40°C ~ +65°C
- Rated output power: 5800W
- Safety: CE, UL, TUV
- EMC: EN55022 Class B
- Hot swappable
- MTBF>570,000 hrs

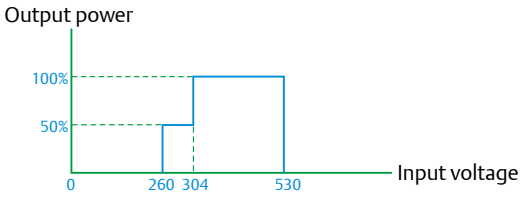


Output power Vs ambient temperature @ Uin>304 Vac

Rectifier R48-5800



Output voltage Vs output current @ 45°C



Output power Vs input voltage @ 45°C

Monitoring module M810G

- Real time web-based remote monitoring
- 8 groups of dry contact outputs freely configurable
- 4 user digital input interfaces freely configurable
- Up to 400 historical alarms, 10 battery test logs, 300 system logs and 2000 control logs stored
- Smart battery management prolongs the battery life and ensures network safety
- Remote control, remote test, remote communication and configuration
- Local or remote software upgrade
- Hot swappable

Monitoring module M810G

NetSure801 Large Capacity Power System

AC distribution cabinet

- Monitoring and communication interfaces available to work independently, easy for distributed power supply and adaptive installation and expansion
- Display of local AC voltage, current, frequency, SPD status parameters
- Local audible and visual alarm of input over/under voltage, frequency abnormity and SPD fault
- Two-way mains inputs and manual/automatic switch available
- Emergency DC lighting available for easy maintenance
- Top and bottom cabling, front access

AC distribution cabinet

DC distribution cabinet

- Parallel available in cabinet
- Controller unit works independently, easy for distributed power supply and adaptive for installation and expansion
- Various local DC information displays
- Optional top and bottom cabling, 2/3 of the cabinet space available for user wiring
- One-to-one display of all output statuses, easy for communication equipment maintenance

Recommended system configuration

No.	System capacity (A)	AC distribution cabinet		DC distribution cabinet		Rectifier cabinet		Rectifier	Controller
		PD380/400AFH-6	PD380/630AFH-6	PD48/1600DF-6	PD48/2500DF-6	Rack1000-6	Rack2000-6	R48-5800	M810G
1	200 ~ 1000	1		1		1		2 ~ 10	1
2	1000 ~ 1500	1		1			1	10 ~ 15	1
3	1500 ~ 2000		1		1		1	15 ~ 20	1
4	2000 ~ 2500		1		1	1	1	20 ~ 25	1
5	2500 ~ 3000		1	1	1	1	1	25 ~ 30	1
6	3000 ~ 3500	1	1	1	1		2	30 ~ 35	1
7	3500 ~ 4000	1	1	1	1		2	35 ~ 40	1
8	4000 ~ 4500		2		2	1	2	40 ~ 45	1
9	4500 ~ 5000		2		2	1	2	45 ~ 50	1
10	5000 ~ 6000		2	1	2		3	50 ~ 60	1
11			2		3		3		1

DC distribution cabinet

PS48600-3/2900 Medium-Large Capacity Power System

PS48600-3/2900

PS48600-3/2900 Power System is a highly reliable and DSP full digital controlled communication power system with high power density and high performance. Designed for addressing the global customer demands. PS48600-3/2900 comes in 2m cabinet, including 12 rectifiers, with total capacity of 600A. This product has such merits as high efficiency, high reliability, ultra-low EMI and swift maintenance, fully meeting the -48V DC power requirements of medium-large mobile communication base stations, medium exchanges, transmission relay stations, micro-wave communication stations, and satellite communication stations.

System Features

- Patented Rectifier Redundancy technology effectively reduces the overall TOC (total operation cost) of base stations.
- Compliant with UL, CE and NEBS, applicable to residential areas
- Extra-wide input voltage range (85Vac ~ 300Vac) and strong adaptability to grid
- Ambient operating temperature of the rectifier is up to 65°C, and 75°C for special requirements. ID recognition function facilitates convenience for customer assets management
- Digital active current sharing technology, with stable current sharing performance at accuracy of up to 1%
- Smart battery management improves battery life
- Full surge protection design at AC side, DC side and signal terminal
- Highly smart, with monitoring, remote control, remote communication and remote configuration functions
- Hot-swappable, for easy and swift online maintenance

Applications

- Power supply for BSC/RNC
- BTS/NodeB
- Nodes
- Fixed line tandem offices

PS48600-3/2900 Medium-Large Capacity Power System

Rectifier R48-2900

Monitoring module M500F

Controller module M500F

The Controller module adopts 80386EX CPU as primary controller, and RTOS as system platform, in addition to collecting, processing and sending data of distribution unit and rectifier, it also provides complete accurate smart battery management.

Rectifier R48-2900

The Rectifier adopts modern power electronics technology and advanced full digital DSP control technology. Advanced embedded micro-processor, unique heat dissipation design, compatible with natural cooling and forced convection air cooling, soft switch fully adopted.

AC distribution

One way or two way 100A mains input able to withstand up to 40KA surge impact.

DC distribution

With battery low-voltage and load low-voltage disconnection protection, the fuser or circuit breaker can be flexibly configured for the DC output.

Dimensions and Weight

Model	W × D × H (mm)	Weight (kg)
PS48600-3/2900	600 × 600 × 2000	162

PS48300/1800 Medium-Small Capacity DC Power System

PS48300/1800

PS48300/1800 Medium-Small Capacity DC Power System is a highly reliable and DSP full digital controlled power system with high power density and high performance, designed for addressing the requirements of 3G networks.

System Features

- Patented Rectifier Redundancy technology effectively reduces the overall TOC (total operation cost) of base station
- Full front access for easy installation and maintenance
- Wide input voltage range of 80 to 300 Vac
- Rectifier with wide range of working temperature: -40°C ~ 70°C
- Application of DSP control technologies effectively increases rectifier power density
- Smart battery management effectively protects the battery
- Lightning and surge protection at AC side, DC side and signal interfaces
- Hot-swappable of rectifier and controller module, realizing quick and easy online maintenance
- UL, CE and NEBS compatible, applicable for residential areas

System Model

- 2m-high cabinet has the following two models: PS48300/1800-X2, PS48300/1800-X3
- 1.6m-high cabinet has the following models: PS48300/1800-X1

Applications

- Power supply for NodeB/BTS
- Small exchanges
- Centralized indoor coverage
- Transmission relay stations

PS48300/1800 Medium-Small Capacity DC Power System

Rectifier R48-1800

Controller module M500D

PS48300/1800 System Configuration

Item	Model	Qty	Note
System	PS48300/1800	1	
Rectifier	R48-1800	2 ~ 10	To be selected according to customer's requirement
Controller module	M500D	1	

Rectifier - R48-1800

- CE and UL certified
- Wide input voltage range: 80 ~ 300Vac
- Input voltage frequency range: 45 ~ 65Hz
- Wide operating temperature range: -40°C ~ +70°C (derated output at +45°C above)
- Relative humidity: ⩽90%RH
- Altitude: ⩽2000m
- Efficiency: 91%
- Power factor: 0.99
- Weight: 2.0 kg

Controller module – M500D

- Maximum 48 modules can be managed through CAN
- Smart battery management
- PLC available
- Alarm and maximum 200 alarm messages can be recorded
- 8 groups of alarm dry contact output
- RS232/Modem communication available
- Multi-language operational interface

PS48120/1800 Medium-Small Capacity DC Power System

PS48120/1800

PS48120/1800 integrated DC Power is a highly reliable and DSP full digital controlled power system with high power density and high performance. Designed for addressing the requirements of 3G networks.

System Features

- Embedded batteries, space saving
- Full front access for easy installation and maintenance
- Wide input voltage range of 80 to 300 Vac
- Rectifier with wide working temperature range: -40°C ~ 70°C
- DSP control technologies effectively increases rectifier power density
- Smart battery management effectively protects the battery
- Perfect lightning and surge protection at AC side, DC side and signal interfaces
- Hot-swappable of rectifier and controller modules, realizing quick and easy online maintenance
- Optional DC/DC converter modules, providing 6V, 12V and 24V DC output

System Model

- PS48120/1800-X1: Two-way AC manual switch, no user AC output
- PS48120/1800-X2: Two-way AC automatic switch, with user AC output

Applications

- 3G, GSM, CDMA mobile base stations
- Small and medium exchanges, rural telephone and access networks
- Transmission relay stations
- Communication equipment rooms and wireless base stations of railway intermediate stations

PS48120/1800 Medium-Small Capacity DC Power System

PS48120/1800 System Configuration

Item	Model	Qty	Note
System	PS48120	1	
Rectifier	R48-1800	2 ~ 4	To be selected according to customer's requirement
Controller module	M500D	1	

Rectifier R48-1800

Rectifier - R48-1800

- CE and UL certified
- Wide Input voltage range: 80 ~ 300Vac
- Input voltage frequency range: 45 ~ 65Hz
- Wide operating temperature range: -40°C ~ +70°C (derated output at +45°C above)
- Relative humidity: ⩽ 90%RH
- Altitude: ⩽ 2000m
- Efficiency 91%
- Power factor: 0.99
- MTBF: ⩾ 12 Years
- Weight: 2.0 kg

Monitoring module M500D

Monitoring module - M500D

- Maximum 48 modules manageable through CAN
- Smart battery management
- PLC available
- Alarm and maximum 200 alarm messages can be recorded
- 8 groups of alarm dry contact output
- RS232/Modem communication available
- Multi-language operational interface

PS24600-2A/2200 Medium-Large Capacity DC Power System

PS24600-2A/2200 smart HF switch power system of large-capacity is a new generation of communication power system designed for +24V communication equipment with high performance, high efficiency and high reliability. The system can be provided with 8 sets of R24-2200 rectifiers with rated capacity of 75A, realizing total output capacity of 600A, fully meeting +24V DC Power requirements of medium-large mobile communication base station, medium exchange, transmission relay station, microwave communication station and satellite communication station.

PS24600-2A/2200

System Features

- Wide input voltage range of 80 to 300 Vac
- Hot swappable module, full front access
- Compact design for limited equipment room or room renovated from shared station
- Smart battery management improving battery life
- Networking can be realized through smart interface
- Ultra-low EMI, suitable for residential environment

Applications

- 3G\GSM\CDMA mobile base stations
- Medium exchange, access networks
- Transmission relay stations
- Microwave and satellite communication stations

PS24600-2A/2200 Medium-Large Capacity DC Power System

Rectifier R24-2200

Rectifier R48-2200

- Industry-leading +24V rectifier with high power density, high performance and high reliability
- Rated output current of 75A and rated power of 2200W

AC distribution

- Two-way three-phase AC input and manual switch
- Class C surge protection to withstand surge impact of up to 40kA

DC distribution

- Output branches can be provided with fuse and MCB with custom quantity and capacity

Wall-mounted Power System

Wall-mounted power system has advantages of compact size, light weight, excellent electric performance, high reliability and easy maintenance, suitable for space limited in small equipment rooms.

Dimensions and Weight

System Model	Rated Capacity	Rectifier	H×W×D(mm)	Note
PS48120-3/1800	120A	R48-1800	600×400×200	
PS4830/900	30A	GERM4815TEP	600×460×300	Battery can be embedded
PS4810/300	10A	HRS300-9000B	600×460×300	Battery can be embedded

PS48120-3/1800

System Features

- Industry-leading power density, compact and light weight
- Wall-mounted, easy for installation, site selection and maintenance
- Extra-wide input voltage range and strong adaptability to grid
- Wide operating temperature range for severe working environment
- RoHS compatible, ultra-low EMI, EMC compliant with EN55022 CLASS B, suitable for residential environment
- Smart battery management, improving battery life effectively
- Excellent alarm and protection functions
- Smart interface for monitoring

PS4810/300
PS4830/900

Applications

- Mini mobile base stations
- FTTx
- Indoor coverage
- Broadband access

Embedded Power System

Embedded power system can be installed into a standard 19" rack, providing perfect smart battery management while maintaining high reliability, high power density and high electric performance.

GIE4805S

Model	Rated input	Rated output	Full capacity	Dimensions
GIE4805S	220Vac/110Vac	48Vdc	10A(540W)	Standard 19" Wx1U H
EPS 30-4815AF	220Vac/110Vac	48Vdc	30A(1720W)	Standard 19" Wx1U H
GIE4815/3A/2.55kW-1A	220Vac/110Vac	48Vdc	45A(2550W)	Standard 19" Wx3U H
GIE4820/3A/3.45kW	220Vac/110Vac	48Vdc	60A(3450W)	Standard 19" Wx3U H

EPS30-4815AF

Applications

- Medium-small capacity access networks
- Switches
- Mobile communication deivices
- Data communication devices
- Transmission devices
- Satellite microwave stations

GIE4815/3A/2.55kW-1A

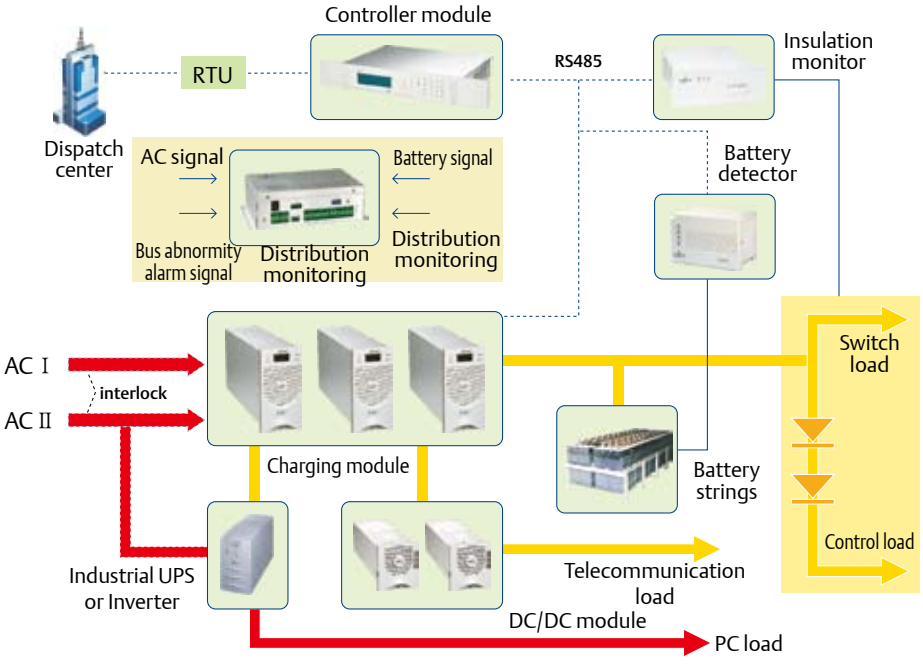
System Features

- Standard 19" structure design
- Full front access
- Modular system design, hot-swappable
- Compact and light weight, can be directly embedded into the rack
- Wide operating temperature range and strong environment adaptability
- RoHS compatible, EMC compliant with EN55022 CLASS B, suitable for residential environment
- Smart battery management, improving battery life effectively
- Certified by both home and abroad safety standards such as CE, TUV and UL
- Extra-wide input voltage range and strong grid adaptibility
- Adopting APFC technology, achieving high input power factor
- Smart interface available, realizing easy networking monitoring
- Surge protection, and provides multiple DC power distribution outputs

GIE4820/3A/3.45kW

Utility Charger

System Application



Integrated DC and AC uninterruptible power supply system composed of key components

Dimensions and weight

Capacity	H×W×D (mm)	Weight (kg)
Controller PSM-E20	88×610×320	2
Controller PSM-E11	88×610×320	1.5
Controller PSM-E01, PSM-E02	145×173×73	0.6
Charging module ER22010/T, ER11020/T	178×88×315	5
Charging module HD22020-3, ER11040/T	288×139×467	15
Charging module HD22010-3, HD11020-3	257×110×413	8.5
Charging module HD22005-3A, HD11010-3A	257×110×413	6
Charging module ER22005/S, ER11010/S	145×72×280	3
Insulation monitor JYM-II	115×285×284	4
Battery detector EBU01, EBU02	75×135×90	0.5
Voltage regulator EC22002/M	145×72×210	2
Shelf KZD110/220-A	281.5×618×452.5	15
Module plug-in shelf EDCF-1	145×406×324	10
Wall-mounted system EDCS-220/10H, EDCS-110/20H	700×450×261.5	20
DC/DC Convertor EC4820/M	100×88×272	2
Rectifier ER4830/S	100×88×272	2
Display module EXU01	145×173×73	0.6

Standard integrated cabinet

Small integrated cabinet

Split system I

Split system II

Key Components of Utility Charger

Charging module
ER22010/T

Charging module
HD22020-3

Controller module PSM -E20

Insulation monitor JYM- Ⅱ

Emerson Network Power provides key components such as 220V and 110V DC charging module, controller module, insulation monitor and battery detector to integrate into a Utility Charging System. DC system composed of these key components provides 220V or 110V DC UPS for HV breakers and control or protection devices in various power plants and substations.

Product series

- Charging module Series
  Smart natural cooling series: HD22010-3(HD11020-3), HD22020-3(ER11040/T)
  Air cooling series: ER22010/T(ER11020/T), HD22005-3A(HD11010-3A), ER22005/S (ER11010/S)
- Controller module series
  PSM-E20 PSM-E11 PSM-E01 PSM-E02
- Insulation monitor series
  JYM-II JYM-S2 JYM-IIA
- Battery detector series
  EBU01 EBU02
- Voltage regulator series
  EC22002/M
- Shelf series
  KZD110/220-A EDCF-1
- Wall-mounted system series
  EDCS-220/10H EDCS-110/20H
- 48VDC/DC and rectifier series
  EC4820/M ER4830/S
- Display module series
  EXU01

Advantages of key components

- Charging module
  - Soft switch technology with efficiency as many as 94%,and excellent EMC performance
  - DSP digital control technology, CAN bus communication interface, high power density design
  - Unique half-rated power output design upon phase loss
  - Built-in CPU and status memory available with strong anti-interference.
  - High voltage and current stabilization, small ripple coefficient, high reliability, MTBF ⩾ 250, 000h
  - CE safety and EMC Certified, EU RoHS compatible

Key Components of Utility Charger

- Controller module
  - Three-level distributed monitoring with advantages of convenient communication, fault memory and status memory.
  - Fully automatic battery management with “four remote” functions meeting requirements of untended duty control
  - With RS232,RS485,RS422 interfaces, optional multiple standard background protocols(IEC101, IEC103, Modbus, DNP3.0 and CDT91)

- Insulation monitor
  - Capable of monitoring two-section independent buses, with automatic branches branch capacity compensation, able to detect simultaneous positive-negative bus insulation-to-ground drop; easy expansion for principle and subordinate structure, able to detect 768 branches to the maximum; excellent anti-interference performance and high detection accuracy

- Battery detector
  - High accuracy of battery cell voltage detection, quick data-acquisition, internal resistance testing function expandable while in combination with discharging module
  - Small modular structure, DIN rail installation
  - Built-in MODBUS and PBM communication protocols adaptive to different application requirements
  - Compliant with CE standard

- Voltage regulator
  - Built-in step-down silicon chain and relay, with CPU to adjust and stabilize control bus DC output voltage

- DC/DC convertor
  - Extra-wide voltage input range, compatible with 220Vdc 110Vdc rated input DC system
  - DSP digital control technology, CAN bus communication interface and high power density
  - Specially designed based on integrated DC□AC uninterruptible power system standard, with high overload capability
  - CE and RoHS compatible

- Shelf

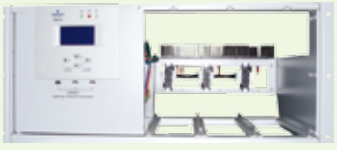
  While key components such as controller PSM-E01,or PSM-E02, charging module and voltage regulator adopted, facilitate for manufacturers to assemble small DC systems

- Wall-mounted system

  Built-in controller module, charging module and voltage regulator available, and external insulation monitoring relay and battery detector optional, suitable for wall-mounted application in mini end-user substation

Battery detector EBU01

DC/DC convertor EC4820/M



Shelf KZD110/220-A

Shelf EDCF-1

Wall-mounted system
EDCS-220/10H

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DC Power

Outdoor Base Station Platform

AC Power

Server Power Management System

Power Switching & Controls System

Surge Protection

Precision Cooling

Monitoring

Outdoor Base Station Platform

Data Center Infrastructure Management

Server Cabinet System

Harmonic Treatment System

Solar Power Generation System

Wind Power Generation System

Electric Vehicle Charging Station System

Medium-voltage Inverter

Ensure transmission of voice, video from data center to user; To meet the demands of uninterruptible high speed transmission, we provide full series outside plants, from MESA and DEC integrated solutions, bridge connector, ES, EC, EPC outside plant solutions of Emerson Netwrok Power, ProFORM rack, to Net-Span™ integrated FTTx solution.

Emerson Network Power outside plants enable "Business Critical Continuity™".

Outdoor Shelter with Integrated Network Power Supply

ES outdoor shelter and internal layout provide complete protection, perfect network power integrated solutions (AC/DC power, precision cooling system, battery, remote monitoring) and full auxiliary equipment, waiting for your communication devices to reside in.

Features

- Assembling structure for convenient shipment
- Top quality combined color armor plates provide long service life
- Waterproof, dampproof, IP54
- Excellent insulation
- Anti-corrosion cabinet with long service life
- Customized integrated network power solution
- Remote power, environment and video monitoring available

Dimensions

Model	W × D × H (mm)	Remark
ES604029	6000 × 4000 × 2900	Length and width is outline dimension, height is inner dimension.
ES604029	5000 × 4000 × 2900	
ES503029	5000 × 3000 × 2900	

Applications

- Wireless communication base stations (2G/3G base station)
- Small communication equipment rooms
- Access/transmission relay stations
- Emergency communication/transmission

Outdoor Shelter with Integrated Network Power Supply

Internal structure diagram of ES outdoor integrated equipment room

EC260H OSP (Outdoor Base Station Platform)

EC260H OSP provides total power solution for “one-stop” macro station. In addition to the space reserved for telecom equipment inside the cabinet, the OSP also provides the complete power solutions including the -48Vdc, +24Vdc, and 220Vac power supplies. The OSP has multi heat dissipation methods: Natural ventilation, heat exchanging and air conditioning. The modular combinations of AC and DC distributions, integrated lightning and surge protection and batteries can fully meet the requirements of telecom equipment for power system, as well as the requirements of integrated macro station and VIP station.

Features

- Total solution with high integration
- For adverse outdoor environment applications such as FTTx and rural communication
- Quick site construction, space saving and environment-friendly

EC 260H/01-48150

EC 260H/01-48150

Applications

- Integrated macro stations and VIP stations
- Stations that require shared power sources
- Sites with limited space and not suitable for building-construction

EPC Series OSP (Outdoor Base Station Platform)

EPC48120/1800-HB2

EPC outdoor base station platform integrates communication power system of excellent reliable performance and top quality outdoor protection cabinet, providing stable and reliable power supply for various outdoor communication devices.

EPC48120/1800-FA1

Features

- Integrated OSP solution, reducing difficulty of site selection and operational cost
- Reliable and highly efficient heat exchange technology, operational normally under ambient temperature of -40°C ~ +45°C
- IP55 protection class
- Adaptive installation for quick station construction and network layout
- EMC compliant with EN55022 CLASS B
- Smart battery management
- RS232 port for remote monitoring
- Alarming and protection functions
- Modular dynamic standby and smart fan speed regulating technology for energy saving

Applications

- Integrated outdoor base stations
- Outdoor distributed base stations
- Outdoor network access points
- Indoor coverage base stations

Dimensions

Model	Rated capacity	W × D × H (mm)	Remark
EPC48120/1800-HA2	120A	600×600×1700	South type heat exchange, 48V system
EPC48120/1800-HB2	120A	600×600×1700	North type heat exchange, 48V system
EPC48120/1800-FA1	120A	600×630×1500	South type air cooling, 48V system
EPC48200/2900-HA1	200A	600×600×1700	South type heat exchange, 48V system
EPC48200/2900-HB1	200A	600×600×1700	North type heat exchange, 48V system
EPC48200/2900-FA1	200A	600×630×1500	South type air cooling, 48V system
EPC24300/2200-HA1	300A	600×600×1700	South type heat exchange, 24V system
EPC24300/2200-HB1	300A	600×600×1700	North type heat exchange, 24V system

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DC Power

Outdoor Base Station Platform

AC Power

Server Power Management System

Power Switching & Controls System

Surge Protection

Precision Cooling

Monitoring

AC power

Data Center Infrastructure Management

Server Cabinet System

Harmonic Treatment System

Solar Power Generation System

Wind Power Generation System

Electric Vehicle Charging Station System

Medium-voltage Inverter

We provide full series Liebert UPS AC power systems and power distribution products, from single product to integrated system, ensuring the whole network to be in safe and stable operation.

Emerson Network Power AC power systems enable "Business Critical Continuity™".

UPS

Advantages

- DSP full digital control technology improves the control flexibility and stability, ensuring the product consistency and reliability
- Pure online functions providing complete power protection for customer devices
- Smart battery management extends UPS battery life approximately by 50%
- Excellent network monitoring solution, the best for UPS operational maintenance

Emerson Network Power provides overall AC UPS solutions, including large, medium and small series UPS products, with capacity of single unit covering 1K VA-800K VA, for various industry devices of data communication networks, communication base stations, financial data networks, IDC centers, billing centers, ISP, ICP, enterprise computer networks and government computer networks.

Emerson meets various load requirements with UPS solutions

	Availability	Power-off time	Customer value	Typical solution
Tier 1	(3)99.9%	8.77 hours	Protect hardware investment	TVSS Surge
Tier 2	(4)99.99%	53 min	Downtime costs can impact business; need to preserve data	Single UPS Single Bus
Tier 3	(5-6)99.999%	5.3 min -31.6 secretary	System critical to business success; increase uptime	Redundant UPS Single Bus
Tier 4	(7-8)99.99999%	3 sec to .3 secretary	The system is the business; uptime is their competitive advantage	Single or Redundant UPS Dual Bus

Tier 4 standard application

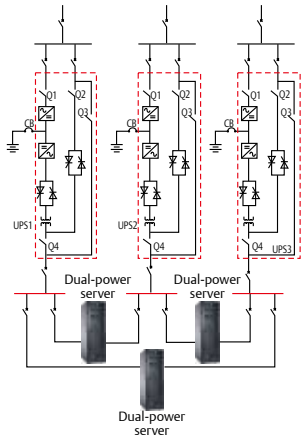
Three-bus system

When a dual-bus system is to be expanded, an independent UPS can be added to form a three-bus system to power IT device or DCS control device.

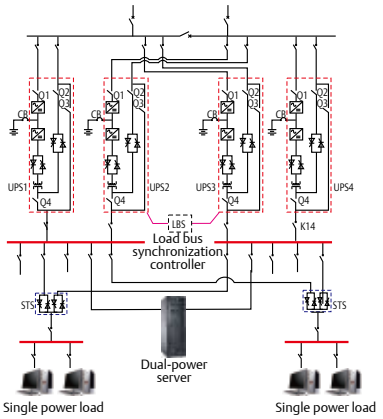
Through three-bus solution, the UPS capacity utilization rate and load rate are improved, saving UPS investment and operational cost and improving UPS operation efficiency.

Parallel dual-bus system

In a dual-bus system, redundant UPS design can be adopted at each bus to improve the reliability and availability of the system. The ratio of UPS capacity to relative load of each bus can be N or N+1.



Three-bus system



Parallel dual-bus system

Hipulse-NXL Series UPS

Main technical features

- Online double conversion completely isolates the load from various pollution or the grid faults due to power supply of mains or generator
- Output power factor is improved to 0.9, adaptive to server computer and network center which adopt power factor correction technology in a large scale, improving load capacity by 10% or above than traditional UPS
- Advanced 6th generation DSP and full digital control technology
- Standard built-in Class D SPD
- Multiple input harmonic suppression technologies improve electricity utilization rate
- Neutral phase shift output isolating transformer reduces influences caused to the inverter by the neutral line-to-earth voltage and the load harmonic current
- Ultra output overload and short circuit resistant capability ensure system stability and safety under extreme conditions
- Advanced distributed active parallel technology ensures 8 sets in parallel without centralized bypass cabinet
- Standard built-in LBS
- Extra-wide input voltage and frequency range, adaptive to adverse grids
- Smart battery management
- 10.4" touch screen color LCD display in multi languages, including Chinese and English, convenient for users
- Layered independent ducts and redundant fans, circuit board protected by corrosion-proof coat and built-in dustproof filter net provide high efficient heat dissipation and effective protection under adverse conditions
- Top or bottom cabling provided as standard

Dimensions and Weight

Capacity	W × D × H (mm)	Weight (kg)
500KVA	2835×1950×1000	3690
600KVA	3955×1950×1090	6390
800KVA	3955×1950×1090	6390

Hipulse-NXL Series UPS

Applications

- EDC equipment room of large enterprise data center
- Large IDC host rooms
- Billing centers and disaster recovery centers of bank head offices
- Data centers and disaster recovery centers of securities or insurance head offices
- Large semiconductor production lines and LC photoelectric production lines

Hipulse U Series UPS

Hipulse U Series (80 ~ 400KVA)

Hipulse U Series UPS

Main technical features

- Online double conversion completely isolates the load from various pollution or the grid faults due to power supply of mains or generator
- Output power factor is improved to 0.9, adaptive to server computer and network center which adopt power factor correction technology in a large scale, improving load capacity by 10% or above than traditional UPS
- Advanced 6th generation DSP and full digital control technology
- Multiple input harmonic suppression technologies improve electricity utilization rate
- Neutral phase shift output isolating transformer reduces influences caused to the inverter by the neutral line-to-earth voltage and the load harmonic current
- Ultra output overload and short circuit resistant capability ensure system stability and safety under extreme conditions
- Advanced distributed active parallel technology ensures 6 sets in parallel without centralized bypass cabinet
- Extra-wide input voltage and frequency range, adaptive to adverse grids
- Input and output filter provided as standard improves system EMC
- Smart battery management
- 6" large LCD display in Chinese and English, convenient for users
- Layered independent ducts and redundant fans, circuit board protected by corrosion-proof coat and built-in dustproof filter net provide high efficient heat dissipation and effective protection under adverse conditions

Applications

- Large IDC equipment rooms
- Bank/securities billing centers
- Semiconductor production lines and large automatic production and control systems

Dimensions and Weight

Hipulse U series UPS is three-phase input, three-phase output online AC UPS power system, single unit rated output powers are respectively 80KVA,100KVA,120KVA, 200KVA, 300KVA and 400KVA. 6 units can operate in parallel.

Capacity	Model	W × D × H (mm)	Weight (kg)
6 Pulses	80KVA	900×1900×855	980
	100KVA	900×1900×855	980
	120KVA	900×1900×855	980
	160KVA	1250×1900×855	1200
	200KVA	1240×1900×855	1060
	300KVA	1640×1900×855	1600
	400KVA	2280×1900×855	2100
12 Pulses	160KVA	1640×1900×855	1725
	200KVA	1740×1900×855	1680
	300KVA	2280×1900×855	2200
	400KVA	2280×1900×855	2750

iTrust Industry Series UPS

iTrust Industry Series (30 ~ 80KVA)

Main technical features

- Unique smart current-sharing technology ensures two UPSs of the same capacity to be safely and directly paralleled; MTBF of this “1+1” parallel power system is several times higher than that of the single UPS
- IGBT is a combined device comprising BJT and power MOS. It integrates the advantages of both the capability of withstanding high voltage and great current of BJT and small drive power (voltage drive) and quick switching speed of MOS. Switching time of IGBT is less than 1us, saturation voltage drop is about 2V, operating frequency is up to 26kHz
- Easy operation and maintenance: Local startup and shutdown is done on the LCD display panel with remote operation available. The built-in maintenance bypass switch ensures the maintenance and operation safely and reliably, free of electric shock.
- With state-of-the-art SPWM, clean sine wave with very small output waveform deformation is achieved
- Large power IGBT provides high inverter efficiency
- “1+1” dual unit parallel operation available, greatly improving reliability and expanding the total power supply capacity
- Strong overload performance, excellent anti-short circuit output current-limiting performance, able to safely operate at full load under conditions of 40°C
- Static bypass has strong anti-overload performance
- Multiple monitoring and alarming functions available on LCD panel display
- Input isolating transformer completely isolates the whole UPS system from the grid

Dimensions and Weight

Rated output		Input			
KVA	KW	Voltage	Dewquency	W × D × H (mm)	Weight (kg)
30	24	380	50	900×1900×875	750
40	32	380	50	900×1900×875	850
60	48	380	50	1250×1900×875	1150
80	64	380	50	1250×1900×875	1350

Applications

- Power plant DCS control systems
- Boiler safety monitoring systems
- Steam turbine monitoring and bypass systems
- Automatic protection devices
- Oil, chemistry, natural gas, plastic cement, production lines
- Steel, metallurgy, auto and glass manufacture and production lines
- Lab test equipment

NXr Series UPS

NXr Series(30 ~ 200KVA)

Main technical features

- **Super energy-saving and environment-friendly**
  50% ~ 75% load efficiency > 96%, 25% load efficiency > 95%,input power factor≈0.9, input THDi <3%
- **Strong load capacity**
  Output power factor is 0.9, leading power factor load without derating
- **Easy installation**
  Top and bottom cabling available without input cabling cabinet, 160kVA weight <300kg, footprint less than 0.5m^2
- **Easy maintenance**
  Full front access
- **Easy modification**
  Adaptive configuration of battery cell number, no interruption to UPS operation during modification of old system or replacement of single faulty battery cell
- Online double conversion completely isolates the load from various pollution or the grid faults due to power supply of mains or generator
- Advanced DSP and full digital control technology provides high system reliability, online maintenance and expansion
- Advanced distributed active parallel technology realizes 4-set parallel and online expansion without centralized bypass cabinet
- Digital current-sharing technology ensures minimum cross current and maximum parallel reliability
- Extra-wide input voltage and frequency range, adaptive to adverse grids
- Ultra output overload and short circuit capacity ensures system stability and safety under extreme conditions
- Smart battery management and automatic battery maintenance extend battery life
- 6” large LCD display in both Chinese and English
- Layered independent ducts and redundant fans, circuit board protected by corrosion-proof coat and built-in dustproof filter net provide high efficient heat dissipation and effective protection under adverse conditions

Applications

- Medium enterprise data equipment room
- Communication network management center
- Small-medium IDC center

Dimensions and Weight

Model	W × D × H (mm)	Weight (kg)
30KVA	600×825×1400	200
40KVA	600×825×1400	234
60KVA	600×825×1400	234
90KVA	600×825×1400	268
100KVA	600×825×1400	268
120KVA	600×825×1400	302
160KVA	600×825×1400	336
200KVA	600×825×1400	380

APM150

APM150 Series(30 ~ 150KVA)

Main technical features

- Supper energy-saving and environment-friendly: 50% ~ 75% load efficiency > 96%, 25% load efficiency > 95%, output power factor≈1, input THDi <3%
- Strong load capacity: output power factor is 1, leading and lagging power factor loads without derating
- Easy installation: top and bottom cabling available without input cabling cabinet, UPS and smart power distribution integrated in the cabinet
- Easy maintenance: full front access
- Easy modification: parallel systems can share battery systems. Adaptive configuration of battery cell number, no interruption to UPS operation during modification of old system or replacement of single faulty battery cell
- Aesthetic IT-style rack for both UPS and battery systems
- Including the world's most sophisticated 30kVA rack-type UPS, with weight < 35kg, 3U height, 5 sets of built-in pluggable 150kW bypass modules paralleled within one rack
- Built-in input & output distribution switch and manual maintenance bypass
- Built-in intelligent server power management system SPM, able to detect the on-off status, voltage, current, power factor, harmonic wave , and power consumption of each branch, and configured with 2 levels of load current early warning
- Optional pluggable distribution modules ensure the flexible capacity expansion and output distribution circuit regulation.
- Optional ABB hot plug/unplug circuit breaker, capacity expansion of branch switch or load phase adjustment can be performed without cutting off power to the main circuit
- Dynamic configuration for both UPS and load power supply. UPS capacity and load distribution circuit number vary with user IT system increment

Dimensions and Weight

Model	W × D × H (mm)
30KVA	600×1100×2000
60KVA	600×1100×2000
90KVA	600×1100×2000
120KVA	600×1100×2000
150KVA	600×1100×2000

Applications

- Medium enterprise data equipment rooms
- Finance and securities data centers
- Medium-small IDCs of government

UL33 Series UPS

UL33 Series(20 ~ 60KVA)

Energy-saving and environment-friendly UPS!
Input current reduced by 30%, input generator capacity reduced by 40%.

Main technical features

- Online double conversion completely isolates the load from various pollution or the grid faults due to power supply of mains or generator
- Advanced DSP and full digital control technology provides high system reliability, online maintenance and expansion
- Advanced IGBT rectifying technology, with power factor up to 1, THDi <3%, improves electricity utilization rate
- Advanced distributed active parallel technology realizes 8-set parallel and online expansion without centralized bypass cabinet
- Digital current-sharing technology ensures minimum cross current and maximum parallel reliability
- Extra-wide input voltage and frequency range, adaptive to adverse grids
- Output adopts ⊿/Z0 isolating transformer and output voltage has no DC component, reducing influences caused to the output by the unbalanced load and effectively limiting output voltage harmonic caused by computer non-linear load
- Smart battery management, automatic battery maintenance, extending battery life
- 6” large LCD display in Chinese and English
- Layered independent ducts and redundant fans, circuit board protected by corrosion-proof coat and built-in dustproof filter net provide high efficient heat dissipation and effective protection under adverse conditions

Dimensions and Weight

Model	W × D × H (mm)	Weight (kg)
UL33-0200L	600×1400×860	440
UL33-0300L	600×1400×860	528
UL33-0400L	800×1800×860	654
UL33-0600L	800×1800×860	811

Applications

- Medium-small data rooms
- Bank/securities billing centers
- Communication network management centers
- Automatic production lines and its control systems
- Industrial production devices
- Experimental/test apparatus and equipment

US11T Series Single-phase Small Power UPS(1～3KVA)

High cost performance green power supply

US11T series UPS is a high cost-performance single-phase input-single-phase output product, with 1/2/3KVA standard type and long backup time type, 3-capacity and 6-specification models, black appearance and tower-type.

Features

- **High reliability**

Innovative and simplified structure, particularly suitable for IT load(office terminal, server, memory, VOIP, broadband access....), thus the safe and reliable operation of the load can be guaranteed.

- **Excellent utility power quality**

High performance surge suppression, eliminating the pollution to the grid and outputting the pure sine.

- **User-friendly man-machine interface**

Self-diagnostics function and its LED indicator used with audible alarm, so user can easily obtain the status information with the battery and load capacity displayed in real time.

- **Easy to use**

Output over-current and overload protection can easily protects the UPS at critical time

- **More comprehensive protection function**

USIIT can not only protect computer, but also can provide Internet access surge protection function for the computer peripheral.

- **Prolonging battery string life**

Super wide input voltage/ frequency range can effectively reduce the battery discharging times; and its super charging capacity can effectively shorten the battery recharging time, thus prolonging the battery life. Offering the outstanding electrical performance, friendly and intuitive operational interface, realizing one-stop protection for your equipment.

Meeting your comprehensive requirements for high reliability and availability

Compact and fashionable appearance design, easily adapting to your equipment environment

Long time delay type available, meeting the requirements and management of large capacity battery in areas with poor utility power quality

Applications

- Office terminal
- Server
- Memory
- VOIP
- Broadband access
- Precision instrument
- Automatic control device

Dimensions and Weight

Model	H x W x D(mm)	Weight (kg)
US11T-0010	145×218×398	13
US11T-0010L	145×218×398	7.8
US11T-0020	193×350×460	26
US11T-0020L	193×350×460	14
US11T-0030	193×350×460	30
US11T-0030L	193×350×460	14.5

Liebert ITA Series UPS
Liebert ITA Series (1 ~ 3KVA)

Excellent energy-saving performance
- High input power factor up to 0.99
- RoHS compatible
- Speed-regulated smart blower, saving energy and reducing noise

Liebert ITA Series UPS is the latest smart online sine wave uninterruptible power, providing reliable top quality AC power. It features modular design, power range of 1-20kVA, rack/tower-mounted available, compatible with single-phase input single-phase output, three-phase input single-phase output and three-phase input three-phase output power supply systems.

Product features
- Output power factor up to 0.9
- Rack/tower-mounted available
- Backup time extendable through battery cascade connection
- Standard hot-swappable built-in batteries
- Extra-wide input voltage and frequency range, adaptive to adverse grids
- Short recharging time
- Compatible with Emerson OptimizeIT™ monitoring system

Dimensions and Weight

Capacity	Model	W × D × H (mm)	Weight (kg)
1KVA	UHA1R-0010	430×470×85	20
1KVA	UHA1R-0010L	430×470×85	9
1.5KVA	UHA1R-0015	430×470×85	22
2KVA	UHA1R-0020	430×470×85	24
2KVA	UHA1R-0020L	430×470×85	10
3KVA	UHA1R-0030	430×575×85	28
3KVA	UHA1R-0030L	430×575×85	12

Applications
- Offices
- Key terminals
- 3G indoor coverage systems
- ATM network access

Liebert ITA Series UPS
Adapt Series (5 ~ 20KVA)

Liebert ITA Series UPS is the latest smart online sine wave uninterruptible power, providing reliable top quality AC power. It features modular design, power range of 1-20kVA, tower-mount or rack-mount available, compatible with single-phase input single-phase output, three-phase input single-phase output and three-phase input three-phase output power supply systems.

Excellent energy-saving performance

- High input PF of up to 0.99, delivering high power utilization rate
- Total efficiency of up to 92% or above, Outstanding energy-saving efficiency
- In compliance with RoHSdirective

Product features

- Ultra-high power density, at 2-3U of the system
- Extra-wide input voltage/frequency range, adaptive to adverse grids
- Output power factor up to 0.9, load capacity improved by 20-30%
- Efficiency of up to 92-94%
- Compatible with three phases and single phase, suitable for multiple applications
- Rack/tower-mounted available
- Parallel expansion available (4 sets maximum)
- Multiple rack options for easy integration of power distribution/monitoring inside the rack
- Compatible with Emerson OptimizeIT™ monitoring system

Dimensions and Weight

Capacity	Model	W × D × H (mm)	Weight (kg)
5KVA	UHA1R-0050	435×625×85	17
5KVA	UHA1R-0050L	435×625×85	17.8
10KVA	UHA1R-0100	435×640×85	20.8
10KVA	UHA1R-0100L	435×640×85	21.5
16KVA	UHA3R-0160L	435×750×130	35
20KVA	UHA3R-0200L	435×750×130	35
3KVA	UHA1R-0030L	430×575×85	12

Applications

- Medium-small data/communication equipment rooms
- Network rooms
- Business halls
- Labs
- Instrument rooms
- Control rooms
- Offices
- Billing centers
- Precision control rooms
- Process control centers

iTrust UH31Series UPS

iTrust UH31 series UPS is a three-phase input single-phase output smart HF online UPS, with three specifications of 10KVA, 15KVA and 20KVA

Product features

- DSP full digital control
- Pure online functions providing complete power protection for customer devices
- 10 ~ 20KVA three-phase input single-phase output product has unique phase-failure operational capability
- Best adaptability to grids in industry
- Multi-level surge protections, ensuring safe operation of network system
- In compliance with international safety and EMC standards
- Smart network management
- Smart battery management, extending battery life greatly

Dimensions and Weight

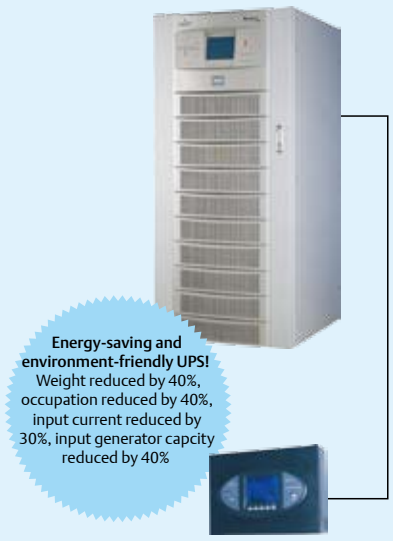
Model	W × D × H (mm)	Weight (kg)
UH31-0100L	280×875×770	97
UH31-0150L		116
UH31-0200L		116

Applications

- Servers
- Network supporting equipment
- Storage
- VOIP
- Precision instruments
- Medical apparatus
- Automatic devices

NX Series UPS

NX Series (10 ~ 200KVA)



Main technical features

- Advanced DSP and full digital control technology provides high system reliability, online maintenance and expansion
- Advanced IGBT rectifying technology improves electricity utilization rate, power factor approximates to 1 , THDi <3%,
- Advanced distributed active parallel technology realizes 6-set parallel and online expansion without centralized bypass cabinet
- Digital current-sharing technology ensures minimum cross current and maximum parallel reliability
- High power density design with small footprint and light weight
- Extra-wide input voltage and frequency range, adaptive to adverse grids
- Ultra output overload and short circuit capacity ensures system stability and safety under extreme conditions
- Smart battery management and automatic battery maintenance extend battery life
- 6" large LCD display in both Chinese and English
- Layered independent ducts and redundant fans, circuit board protected by corrosion-proof coat and built-in dustproof filter net provide high efficient heat dissipation and effective protection under adverse conditions

Dimensions and Weight

Model	W × D × H (mm)	Weight (kg)
NXf 10KVA 3×1	600×1400×700	180
NXf 15KVA 3×1	600×1400×700	200
NXf 20KVA 3×1	600×1400×700	200
NXe 10KVA 3×3	600×1400×700	180
NXe 15KVA 3×3	600×1400×700	204
NXe 20KVA 3×3	600×1400×700	204

Applications

- Medium data equipment rooms
- Bank/securities billing centers
- Communication network management centers
- Automatic production lines and the control systems

Outdoor Series (1/2/3 KVA)

Applications

- 3G repeaters
- RRU remote modules
- Communication, broadcasting, aviation and transportation
- Power supply in adverse environment

Outdoor smart HF online UPS is designed to meet outdoor communication/network equipment application demands, with three models namely UH11-0010LC, UH11-0020LC and UH11-0030LC.

Product features

- Sing input and single output, 220V
- Pure online and double conversion – providing best power quality
- Extra-wide temperature range (-40 ~ +55oC) – adaptive to adverse outdoor conditions
- DSP full digital control technology – delivering high availability
- Automatic startup after utility power recovery – suitable for unmanned environment
- Strong input surge protection – suitable for outdoor application
- Special battery management technology – ensuring battery life under adverse outdoor conditions
- Extra-wide input voltage anti-interference range - adaptive to adverse grids
- Natural cooling technology– eliminating fault point due to fragile parts such as fan.
- IP55 protection - adaptive to full outdoor application
- Supporting multiple installations such as wall/pole-mount – easy installation
- Expandable chargeability – ensuring timely battery recharging

Dimensions and Weight

Model	W × D × H (mm)	Weight (kg)
UH11-0010LC	780×950×375	60(battery excluded)
UH11-0020LC	485×615×263	38(battery excluded)
UH11-0030LC	485×615×263	42(battery excluded)

STS Automatic Static Transfer Switch

STS is used for switching between two AC inputs, which can eliminate the Single-Point Bottleneck fault occurring between the UPS output terminals and the user terminals. Capacity range: 16A ~ 1000A, this product shall be used together with LBS (load bus synchronizer)

Product features

- Realize switching between two AC inputs with interruption shorter than ¼ power frequency cycle (switch first, and then connect)
- Both manual and auto switching available
- The priority level of AC inputs is settable
- Extra-strong immunity to overload and short-circuit due to multiple internal redundant designs, ensuring high reliability of operation and transfer (auxiliary power/switch/fan/temperature sensor)
- Extra-large LCD display for easy operation and monitoring
- In compliance with international safety standards
- Aesthetic Black appearance
- Standard Level D SPD is provided at input side preventing incidental surge intrusion
- Multiple monitoring interfaces facilitate the connection with equipment room monitoring system

Applications

- Telecommunication equipment rooms
- IDC centers
- Computer systems
- High precision equipment

Mechanical data

Capacity	16A	63A	100A	250A	400A	600A	800A	1000A
Width(mm)	430	600	600	800	800	965	2134	2134
Depth(mm)	250	800	800	800	800	813	813	813
Heigth(mm)	44	2000	2000	2000	2000	1956	1956	1956
Weight(kg)	4.5	100	120	300	300	544	1134	1134

Trinergy UPS

Main technical features

The Trinergy design advantages and its up to 99% system efficiency greatly reduce the total investment costs from installation to operation:

- Optimal space/power ratio
- Reduced footprint
- Decreasing the scale and power of cooling system
- Fast and safe maintenance

Outstanding saving in power input equipment

The modular structure of the Trinergy UPS has great advantages in installation:

- Reducing the dimensions of the power infrastructure
- Reducing the circuit protection devices
- Reducing the cables

Saving the operating cost

Cyclic redundancy

The cyclic redundancy function of the Trinergy can automatically switch the redundant power modules into the standby state, and adjust the UPS capacity to meet the current load requirements, thus greatly improving the UPS efficiency under partial load and decreasing its operating cost.

Dimensions and Weight

Model	H x W x D (mm)	Weight (kg)
400KVA	1800×860×1780	1450
600KVA	2775×860×1780	2370
800KVA	3450×860×1780	3040
1000KVA	4450×860×1780	3890
1200KVA	5125×860×1780	4560

99% efficiency: The dynamic mode conversion brings about the top-class performance and maximum load protection

No.1 in the Industry

The revolutionary structure design of the Trinergy lies integrates the standard function configurations of three industries into one high power UPS for the first time:

- Maximum power control(VFI)
- Maximum energy saving(VFD)
- High efficiency and power adjustment(VI)

The unique technical combination of the Trinergy can firstly detect network environment and working conditions and then intelligently choose the most suitable operating mode.

The Trinergy can choose the most effective operating mode based on different network conditions to keep the load power supply constantly under the most ideal state.

It enables the system to achieve outstanding energy-saving level, top-class performance and maximum power protection.

The high flexibility, efficiency and adaptability of the Trinergy comply with EU Best Practice Guide Code, which further demonstrates its excellent performance.

Features and performance

The revolutionary structure design of the Trinergy lies integrates the standard function configurations of three industries into one high power UPS for the first time:

- Designing the IGBT dual conversion technology without transformer
- Excellent input performance
  - THDi<3%
  - PF>0.99
- Output power factor is 1
- 100% apparent power output – without decreasing the capacity for any load(inductive and capacitive load)
- Optimal space/ power ratio
- Automatically boosting output power up to +10%
- High conversion efficiency(up to 99%, approved)

EMERSON NETWORK POWER.

THE GLOBAL LEADER IN ENABLING
BUSINESS-CRITICAL CONTINUITY.™

DC Power

Outdoor Base Station Platform

AC Power

Server Power Management System

Power Switching & Controls System

urge Protection

Precision Cooling

Monitoring

Server Power Management System

Data Center Infrastructure Management

Server Cabinet System

Harmonic Treatment System

Solar Power Generation System

Wind Power Generation System

Electric Vehicle Charging Station System

Medium-voltage Inverter

Protecting equipment operation from interference caused by grid abnormities We provide ASCO transfer switch and Emerson LV distribution solution to ensure uninterruptible power supply and improve power control for precision communication and data processing electronic devices.

Emerson Network Power server power management systems enable "Business Critical Continuity™".

SPM Server Power Management System

Emerson Server Power Management System SPM(server power management) is a new generation power management system with the most advanced distribution management and power monitoring, providing safe, reliable and full power management for equipment rooms.

Features

- Power distribution and safety management: large screen LCD displays parameters of all electric devices, all branch current and switch statuses, and two-end threshold value alarm is set for the branch current to monitor the load status in real time, preventing risk proactively, and all parameters are uploaded to the monitoring center
- Operational cost management: Metering of the power and report of clear operational costs of the system and all branches available, monthly metering settable
- Optional parts for special applications: Class H isolating transformer helps reduce the neutral line-to-earth voltage, cross current and interferences. Hot-swappable and adjustable phase breaker facilitates maintenance such as inspection and expansion

Dimensions

Output capacity(KVA)	Input circuit breaker(A)	Number of branches	Dimensions (mm)
		Maximum configuration	W × D × H (mm)
20	40	42	800 × 600 × 2000
40	80	42	800 × 600 × 2000
60	125	60	800 × 800 × 2000
80	160	84	800 × 800 × 2000
100	200	120	800 × 800 × 2000
120	250	120	800 × 800 × 2000

SPM product can be customized as user's actual requirements.

EMERSON NETWORK POWER.

THE GLOBAL LEADER IN ENABLING
BUSINESS-CRITICAL CONTINUITY.™

DC Power

Outdoor Base Station Platform

AC Power

Server Power Management System

Power Switching & Controls System

urge Protection

Precision Cooling

Monitoring

Power Switching & Controls System

Data Center Infrastructure Management

Server Cabinet System

Harmonic Treatment System

Solar Power Generation System

Wind Power Generation System

Electric Vehicle Charging Station System

Medium-voltage Inverter

Protecting equipment operation from interference and influences caused by grid abnormities. ASCO transfer switch and Emerson LV distribution solution ensure uninterruptible power supply for precision communication and data processing electronic devices and improve power control.

Emerson Network Power power switching & controls systems enable "Business Critical Continuity™".

AC Distribution System

Emersion Network Power Co., Ltd. is a major provider of network power products for telecommunication, IT and finance business sectors. The UPS power distribution solutions (20 ~ 200kVA) are launched by Emerson Network Power based on its twenty years of experiences in development, manufacturing and sales.

Applications

- Computer rooms
- Telecommunication data rooms
- Process control centers
- Smart buildings
- Factories
- Medical institutions

Features

- **A safe and reliable UPS power distribution solution with adaptive configurations**
  - Safe and reliable: Strictly in compliance with standards both home and abroad
    -IEC947-6-1《Low-voltage switchgear and control gear》
    -IEC439《Low-voltage switchgear and control gear assemblies》
    -GB/T 14048.11 LV switch device and control device
    -GB7251complete set LV switch devices
  - Adaptive configuration: Flexible configuration of cabinet size and power distribution circuit available based on customer requirements
    -WXDXH (600 ~ 1000)×(600 ~ 800)×(1800 ~ 2200)
    -Circuit breaker 5A ~ 400A

- **Robust cabinet, high performance circuit breaker and automatic transfer switch**
  - Robust framework and enclosure made from strong steel plate materials adequately meet the bearing requirements
    Both framework and enclosure are made from top quality steel plates and processed with CNC production line: Framework thickness: 2.5mm
    Enclosure thickness: 1.5mm
  - Adaptive door design: Turn knob latch effectively prevents accidental wrong operation
  - Fine CNC sprayed surface coating, combined with inside zinc coating, achieves aesthetic appearance and corrosion resistance
  - ABB high performance circuit breakers

AC Distribution System

Instrument, LED and LCD display

- **Monitored and manageable power distribution center**
  - The display instruments, LED and LCD help customers have clear understanding of the working status of the LV distribution system, and auxiliary contacts and RS232/ RS485 monitoring interfaces are also provided for the automatic transfer switch and the circuit breaker switch, combined with Emerson PSMS, allow the users to easily perform management remotely.

Dimensions and weight

Capacity (KVA)	Model	Dimension (mm)		
		Wi	Depth	Height
20	Input cabinet	600/800	600/800	1800/2000/2200
	Output cabinet			
30	Input cabinet	600/800	600/800	1800/2000/2200
	Output cabinet			
40	Input cabinet	600/800	600/800	1800/2000/2200
	Output cabinet			
60	Input cabinet	600/800	600/800	1800/2000/2200
	Output cabinet			
80	Input cabinet	800	600/800	2000/2200
	Output cabinet			
120	Input cabinet	800	600/800	2000/2200
	Output cabinet			
160	Input cabinet	800	600/800	2000/2200
	Output cabinet			
200	Input cabinet	800	600/800	2000/2200
	Output cabinet			

Automatic Transfer Switch

Delivering complete solutions of transfer, control, protection and distribution of emergency power for customers.

Advantages

- Multiple solutions available to meet various demands on emergency power transfer
- Transfer switches of various power levels available for different applications
- Safe and reliable product, a robust protector of key loads, UL, CE, IEC, Kema and Keur certified
- Smart
- High reliability and quality. Various series of products have been applied on LV power distribution systems of different types and specifications in over 150 countries, approved with long time online network operation

Features

- **Complete products:** Meeting the demands on various emergency power transfer. The products include open-circuit transfer switch, closed-circuit transfer switch, delay transfer switch, bypass isolated drawn-out transfer switch, static electronic high speed uninterruptible transfer switch, closed linear loading/unloading transfer system, MV transfer switch, multi-power transfer system, diesel generator parallel system and transient surge voltage peak suppressor.
- **Wide output range:** Meeting emergency power transfer requirements of various power rooms. A200, A300, 7000 and closed linear load connecting / disconnecting transfer systems provide 30A ~ 4000A, single-phase or three-phase AC/DC power transfer between mains or between mains and backup power in the power room.
- **Smart:** The automatic Transfer Switch provides both manual and automatic transfers, and micro-processors and remote communication interfaces of various levels are also provided for the system
- **Process and technology:** Complete power room LV power transfer, distribution and control solutions with its industry-leading process and technology.
- **High reliability and quality:** LV power transfer and distribution products, with its state-of-the-art technology and process, achieve industry-leading performances

Applications

- Communication power rooms
- IT power rooms
- Industry, business and scientific research power distribution rooms
- Business building power distribution rooms

Automatic Transfer Switch

Dimensions of A200/A300 automatic transfer switches

UL Type 1 with out box				
Switch Rating amps	Poles	Width Inches(mm)	Height Inches(mm)	Depth Inches(mm)
30,70,100,150	2 or 3 or Acc.28	17-1/2(445)	31(787)	11-5/8(295)
260,400	2 or 3 or Acc.28	18(457)	48(1219)	13(330)
600,800,1000	2,3,4 or Acc.28	34(864)	72(1829)	20(508)
1200	2,3,4 or Acc.28	38(965)	87(2210)	24(610)
1600,2000	2,3,4 or Acc.28	38(965)	87(2210)	24(610)
3000	2 or 3 Acc.28	38(965)	91(2311)	60(1524)
UL Type 1 without out box				
30,70,100,150	2 or 3 or Acc.28	10 1/4(260)	10-1/4(260)	5-1/2(140)
260,400	2 or 3	12(305)	18-1/2(470)	6-7/8(175)
260,400	3 with Acc.28	14-1/2(368)	18-1/2(470)	6-7/8(175)
600,800,1000,1200	2,3,4 or Acc.28	27(686)	31(787)	12-7/8(327)
1600,2000	2,3,4 or Acc.28	33-1/4(845)	28(711)	29(737)
3000	2 or 3 Acc.28	33-1/4(845)	28(711)	30-3/4(776)

Dimensions of various 7000 series switches

Open transfer switches 7A TS, 7N TS

With out box				
Switch Rating amps	Poles	Width Inches(mm)	Height Inches(mm)	Depth Inches(mm)
30,70,100,150	2 or 3 with neutral B/C	18(457)	48(1219)	13(330)
260,400	2,3 or 3 with neutral C	22(559)	48(1219)	13(330)
600,800,1000	2,3or 3 with neutral B/C	34(864)	72(1829)	20(508)
1200	2,3or 3 with neutral B/C	38(965)	87(2210)	23(584)
1600,20001	2,3or 3 with neutral B/C	38(965)	91(2311)	48(1219)
30001	2,3or 3 with neutral C	38(965)	91(2311)	60(1524)
40001	2,3or 3 with neutral C	46(1168)	91(2311)	72(1829)
Without out box				
30,70,100,150	2,3or 3 with neutral B/C	10-1/4(260)	10-1/4(260)	5-1/2(140)
260,400	2 or 3	12(305)	18-1/2(470)	6-7/8(175)
260,400	2,3or 3 with neutral C	14-1/2(368)	18-1/2(470)	6-7/8(175)
600,800,1000,1200	2,3or 3 with neutral B/C	27(686)	31(787)	12-7/8 (327)
1600,2000	2,3or 3 with neutral B/C	33-1/4(845)	28(711)	26-1/4(667)
3000	2,3or 3 with neutral C	33-1/4(845)	28(711)	30-1/2(776)
4000	2,3or 3 with neutral C	41(1041)	52(1321)	25-1/2(648)

Bypass isolated drawn-out transfer switches 7A TB, 7N TB

With out box				
Switch Rating amps	Poles	Width Inches(mm)	Height Inches(mm)	Depth Inches(mm)
150,260,400[1]	2 or 3 with neutral C	28-1/2(724)	62(1575)	19(483)
600,800[2]	2,3 or 3 with neutral B/C	36(914)	90(2286)	22(559)
1000,1200[3]	2,3 or 3 with neutral B/C	38(965)	91(2311)	60(1524)
1600,2000[3]	2,3 or 3 with neutral B/C	38(965)	91(2311)	60(1524)
3000[4]	2,3 or 3 with neutral C	38(965)	91(2311)	72(1829)
4000[4]	2,3 or 3 with neutral C	96-1/2(2451)	91(2311)	72(1829)
Without out box				
150,260,400[1]	2 or 3	14-3/4(375)	61-1/2(1553)	22-1/4(565)
150,260,400[1]	3 with neutral C	19-3/4(500)	61-1/2(1553)	22-1/4(565)
600,800[2]	2 or 3	23-3/4(603)	67-1/4(1708)	24-3/4(629)
600,800[2]	2,3 or 3 with neutral B/C	27-1/4(692)	67-1/4(1708)	24-3/4(629)
1000,1200[3]	2,3 or 3 with neutral B/C	38(965)	72(1829)	38(965)
1600,2000[3]	2,3 or 3 with neutral B/C	38(965)	72(1829)	38(965)

EMERSON NETWORK POWER.

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DC Power

Outdoor Base Station Platform

AC Power

Server Power Management System

Power Switching & Controls System

Surge Protection

Precision Cooling

Monitoring

Surge Protection

Data Center Infrastructure Management

Server Cabinet System

Harmonic Treatment System

Solar Power Generation System

Wind Power Generation System

Electric Vehicle Charging Station System

Medium-voltage Inverter

Protecting power supply and voice and data transmission through network from influences of grid fluctuation and dangerous EMI. Based on different applications, we provide Liebert SPD (surge protection device), Anyguard™ series SPD, Islatraol filter and EDCO protector to protect power effectively, reduce fault time, save labor and extend equipment lifespan.

Emerson Network Power SPD systems enable "Business Critical Continuity"

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Interceptor II parallel transient SPD (surge protection device)

Suppressing capacity: 160 ~ 1000KA

Main technical parameters

Model	Voltage	Suppressing capacity	Number surge resistance%	Dimensions H×L×D(mm)	Weight (kg)
SI016230YARCE	Three-phase	160KA	30,000	406×406×229	20
SI025230YARCE	Three-phase	250KA	30,000	406×406×229	20
SI032230YARCE	Three-phase	320KA	60,000	508×406×229	25
SI040230YARCE	Three-phase	400KA	60,000	508×406×229	25
SI050230YARCE	Three-phase	500KA	60,000	508×406×229	25
SI060230YARCE	Three-phase	600KA	90,000	508×508×229	39
SI075230YARCE	Three-phase	750KA	90,000	508×508×229	39
SI100230YARCE	Three-phase	1000KA	120,000	508×610×229	43

*Tested strictly in accordance with IEEE C62.41C3

Each group of MOV module inside the TVSS is provided with visual alarm indication, with red light indicating fault and green light indicating normal

Overview of Interceptor II series transient surge-resistant suppressors	
Connection method	Parallel connection
Standards	UL 1449&1283,CE,CUL,CSA
Protection method	All standard modes (L-N, L-G, N-G)
EMI/RFI filtering	53dB fading (max), from 100KHz to 100MHz
Response time	<0.5ns
Cabinet	NEMA 4 standard
Line frequency	47 ~ 63Hz
Line voltage	±15% of the rated value
Temperature	-40 ~ +60°C
Relative humidity	0 ~ 95%, non-condensation
Altitude height	0 ~ 4000 m
Audible noise	<45dBA

TVSS

Accuvar parallel transient SPD (surge protection device)
Capacity range: 65KA, 80KA, 130KA, 160KA

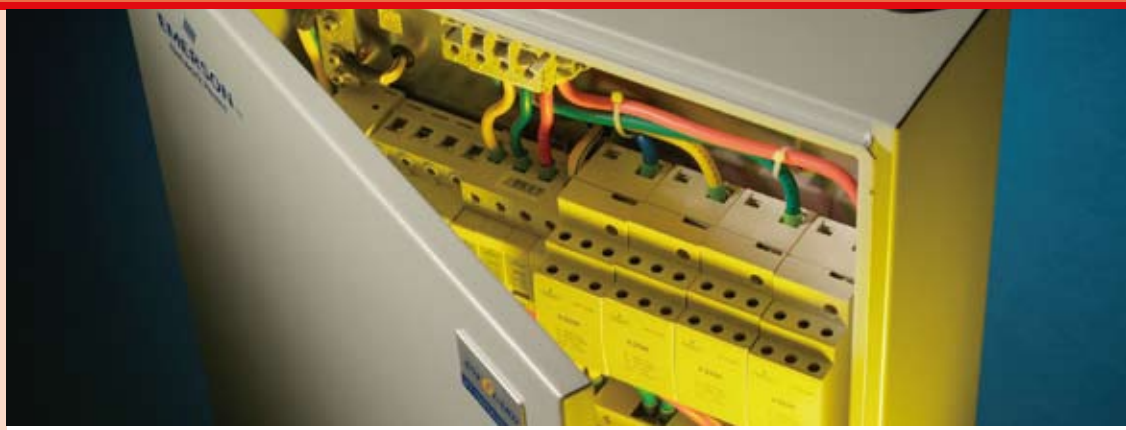
Main technical parameters

Model	Voltage	Suppressing capacity	Dimensions H×L×D(mm)	Weight (kg)
ACV230Y101RE	Three-phase	65KA	108×178×102	3
AII230Y101RE	Three-phase	80KA	108×178×102	3
ACV230Y111RE	Three-phase	130KA	108×178×102	3
AII230Y111RE	Three-phase	160KA	108×178×102	3

*Tested strictly in accordance with IEEE C62.41C3

Overview of Accuvar series transient surge-resistant suppressors	
Connection method	Parallel connection
Standards	UL 1449&1283,CE,CSA
Protection method	All standard modes (L-N, L-G, N-G)
EMI/RFI filtering	60dB
Response time	<0.5ns
Cabinet	NEMA 4 standard
Line frequency	47 ~ 63Hz
Line voltage	±15% of the rated value
Temperature	-40 ~ +60°C
Relative humidity	0 ~ 95%, non-condensation
Altitude height	0 ~ 4000 m
Audible noise	<45dBA

ANYGUARD Series SPD



ANYGUARD series SPD is comprehensive Surge Protection Device that provides integrated surge protection solutions for customers. This series includes complete set of SPD such as power SPD, signal SPD, antenna SPD, covering SPD products of Level I (B), Level II (C), Level III (D), Signal, antenna and precision level. Equipped with voltage-limiting surge protection technology, the SPD delivers quick response, low residual voltage, constant surge impact resistance, strong environment adaptability, easy installation and maintenance.

Functions and features

- Power SPD adopts precision redundancy and active current sharing for long life, low residual voltage and reliable protection
- Power SPD has multiple current carrying capacity, providing moderate tripping voltage and robust protection for circuit
- Integrated structure with full welding process
- Power SPD has reliable alarm, providing graded severity display, telemetry and counting functions
- Built-in over-temperature and over-current protection without freewheeling current flow, highly reliable and safe
- Power SPD is applicable to various power supply conditions and adaptive to mixed wiring of phase line (live line) and neutral line
- Power SPD is compatible with V type wire connection, reducing lead voltage drop
- Signal SPD adopts multi-level protection, with large current carrying capacity, low residual voltage, quick response, small plug-in loss, stable performance and reliable operation
- Antenna SPD achieves large current carrying capacity, low residual voltage, wide band, small plug-in loss, low VSWR (voltage standing wave ratio), quick response and complete product models

Product models and applications

	Product model	Applications
Power SPD	VD05Z45W	+24V DC power SPD (5kA)
	VD05Z85W	-48V DC power SPD (5kA)
	VD30Z45W	+24V DC power SPD (30kA)
	VD30Z85W	-48V DC power SPD (30kA)
	VH40TA385M	Three-phase AC SPD
	VH40SY385M	Single-phase AC SPD (symmetric)
	VH40SZ385W	Single-phase AC SPD (1+1)
Lightning protection box	VT***SY385B	Single-phase parallel AC lightning protection box
	VT***TA385B	Three-phase parallel AC lightning protection box
	VT***SY385B-30	Single-phase serial AC lightning protection box (30A)
	VT***SY385B-60	Single-phase serial AC lightning protection box (60A)
	VT***TA385B-30	Three-phase serial AC lightning protection box (30A)
	VT***TA385B-60	Three-phase serial AC lightning protection box (60A)
Signal SPD	VS1005-BNC/P	Coaxial signal SPD
	VS1005-SMB/P	Coaxial signal SPD
	VS1005-P02	Two-protecting-wire signal SPD
	VS1005-P03	Three-protecting-wire signal SPD
	VS1005-P04	Four-protecting-wire signal SPD
	VA20-N/C5F	500M antenna SPD
	VA20-N/P10F(VA2015-DIN/P10C)	1G antenna SPD
	VA2015-DIN/P20C(VA2064-N/P25S)	2G antenna SPD

ANYGUARD Series SPD

VS series signal SPD

VS series signal SPD is used to protect various communication ports sensible to EMI from damage of lightning electromagnetic induction overvoltage and static induction overvoltage.

Main technical parameters

Model		VS1005-BNC/P	VS1005-SMB/P
Nominal operating voltage U_N		5V	
Nominal discharge current (8/20s)		5kA	
Max discharge current I_{max} (8/20s)		10kA	
Residual voltage U_{res}@I_n	Core – shielding layer, Core - core	⩽ 20V	
	Core – PE, Shielding layer - PE	⩽ 100V	
Applicable data transfer rate		0 ~ 10Mbps	
Plug-in loss		⩽ 0.5dB	
Response time		⩽ 1ns	
Dimensions (mm)		46mm×25mm×25mm	
Connector type		BNC	SMB
Operating environment		Operating temp-25°C ~ +65°C Relative humidity=95%(25°C) Altitude=3000m	
Installation method		Serial connection	

VA series antenna SPD

VA series antenna SPD is used to protect antenna equipment and transceiver system from damage of lightning overvoltage and induction overvoltage.

Main technical parameters

Model	VA20-N/C5F	VA20-N/P10F	VA2015-DIN/P10C	VA2015-DIN/P20C	VA2064-N/P25S
Working frequency range	400 ~ 500MHz	800 ~ 1000MHz	800 ~ 1000MHz	1700 ~ 2000MHz	0 ~ 2500MHz
Maximum Continuous Operating Voltage U_c	/	/	15V	15V	64V
Nominal discharge current (8/20s)	10kA				
Max discharge current I_{max} (8/20s)	20kA				
Residual voltage Ures@In	⩽ 30V	⩽ 30V	⩽ 40V	⩽ 40V	⩽ 200V
Standing wave ratio	⩽ 1.15				
Plug-in loss	⩽ 0.15dB				
Connector type	N	N	DIN(7/16)	DIN(7/16)	N
Operating environment	Operating temp-25°C ~ +65°C Relative humidity=95%(25°C) Altitude=3000m				
Installation method	Serial connection				

ANYGUARD Series SPD

VD series DC power SPD

VD series DC power SPD provides protection between lines, and between lines and protection earthing (PE) to prevent damage of surge induction overvoltage and reflective ground potential.

Main technical parameters

Model		VD05Z45W	VD05Z85W	VD30Z45W	VD30Z85W
Nominal operating voltage U		+24V	-48V	+24V	-48V
Maximum continuous operating voltage U_c		+45V	-85V	+45V	-85V
Nominal discharge current (8/20s)		3kA		15kA	
Max discharge current I_{max} (8/20s)		5kA		30kA	
Residual voltage Ures	@3kA	⩽250V	⩽250V	⩽250V	⩽300V
	@15kA	/	/	⩽300V	⩽400V
Response time		⩽25ns(V- ~ V+); ⩽100ns(V-/V+ ~ PE)			
Dimensions (mm)		89mm×58mm×42mm		90mm×68mm×36mm	
Operating environment		Operating temp-40°C ~ +70°C Relative humidity=95%(25°C) Altitude =3000m			
Installation method		Standard guide rail snap-in installation			

VH series AC power SPD

VH series single-phase (or three-phase) AC power SPD is used for surge overvoltage protection of level II (C) of the single-phase (or three-phase) AC power.

Main technical parameters

Model		VH40TA385M	VH40SY385M	VH40SZ385W
Applications		Three-phase	Single phase (symmetric)	Single phase (1+1)
Nominal operating voltage U		230V/400V、50/60Hz		
Maximum continuous operating voltage U_c		385V		
Nominal discharge current (8/20s)		20kA		
Max discharge current I_{max} (8/20s)		40kA		
Residual voltage U_{res}	@3kA	⩽1.2kV		
	@20kA	⩽2.0kV		
Response time		⩽25ns(L-N、L-L); ⩽100ns(L/N-PE)		
Dimensions (mm)		90mm×70mm×65.5mm	90mm×70mm×65.5mm	90mm×70mm×36mm
Operating environment		Operating temp -40°C ~ +70°C Relative humidity=95%(25°C) Altitude =3000m		
Installation method		Standard guide rail snap-in installation		

ANYGUARD Series SPD

VT series AC lightning protection box

VT series AC power SPD is a level I (B) transient overvoltage suppressor which is primarily installed at the entry point of LV power lines for household, providing lightning and surge protection for indoor LV electric devices, realizing lightning equipotential connections from LPZ zone 0 to zone 1 even to zone 2 divided according to lightning protection area concept (parallel connection/one port type: 0A -1 or 0B -1, serial connection/two port type: 0A - 2 or 0B - 2).

Main technical parameters

VT series	Norminal operating current	70kA	90kA	110kA	130kA	150kA
VT***SY/TA385B	\					
VT***SY/TA385B-30/60	30/60A					
Nominal operating voltage U		230V/400V,50/60Hz				
Maximum Continuous Operating Voltage Uc		385V	385V	385V	385V	385V
Nominal discharge current (8/20s)		30kA	40kA	50kA	60kA	70kA
Max discharge current I_{max} (8/20s)		70kA	90kA	110kA	130kA	150kA
Max impact current Iimp (10/350s)		15kA	20kA	25kA	30kA	35kA
Residual voltage U_{res}	Parallel connection @20kA(⩽)	1.5kV	1.5kV	1.5kV	1.5kV	1.5kV
	Serial connection @20kA(⩽)	1.2kV	1.2kV	1.2kV	1.2kV	1.2kV
	Serial connection @3kA(⩽)	1.0kV	1.0kV	1.0kV	1.0kV	1.0kV
Dimensions (mm)	three-phase serial connection	610mm×450mm×160mm				
	Other models	450mm×330mm×150mm				
Operating environment		Operating temp-40°C ~ +70°C Relative humidity=95%(25°C) Altitude=3000m				

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Monitoring

Precision Cooling

Data Center Infrastructure Management

Server Cabinet System

Harmonic Treatment System

Solar Power Generation System

Wind Power Generation System

Electric Vehicle Charging Station System

Medium-voltage Inverter

Maintaining accurate temperature to ensure stable and reliable device performance. We provide the most complete liebert – "from chip to room" precision cooling solution, protecting key devices from influences of tiny temperature difference.

Emerson Network Power precision cooling systems enable "Business Critical Continuity™"

Liebert PEX

——Air cooling, water cooling, glycol cooling and dual cooling source precision cooling system

Advantages

- Energy-saving, less footprint, environment-friendly, low cost in whole life cycle
- Automatic tension-regulating fan, meeting different external residual pressure requirements
- Unique high efficient FIR humidifying system delivering quick humidification and adaptive to poor water quality, low maintenance
- Powerful iCOM teamwork control and communication functions, able to control up to 32 sets of units as one team
- Multiple cooling methods available: air cooling, water cooling, glycol cooling, chilled water cooling and dual cooling source etc., adaptive to applications in various environments
- Multiple configurations available such as EC fan, dual cooling source and dual coil pipe
- Sunk EC fan design, saving energy by 20% compared with ordinary EC fan
- Optional high static pressure fan and digital scroll compressor
- Open communication protocol, meeting requirements of building and various site monitoring
- Applicable to environment-friendly refrigerant

Features

- High reliability, flexibility, low cost in entire life cycle
- Detachable structure, full front access, space saving
- Emerson Copeland high efficient scroll compressor
- Large area V-type evaporator, quick dehumidifying design, ensuring energy saving
- iCOM large screen graphic display in Chinese
- Full range variable speed air cooling condenser, low noise, adaptive to wide ambient temperature difference
- Standard RS485 and IP communication interface

Dimensions and Weight

Model (F)(A/W/G)	Nominal cooling capacity (24°C,50%RH)kW	W × D × H (mm)	Weight (kg)
P1020	20.0	853 × 874 × 1970	320
P1025	23.1		330
P1030	30.1		340
P1035	33.1		350
P2045	45.0	1704 × 874 × 1970	560
P2055	53.2		570
P2040	41.0		590
P2050	46.4		610
P2060	60.6		640
P2070	66.9		650
P3070	73.9	2553 × 874 × 1970	790
P3080	81.4		910
P3090	89.3		930
P3100	100.0		950

The above weights use the air cooling as its standard. The weight of the model with the same cooling capacity and different cooling methods has slight differences if different components are configured. When different components are configured, its cooling capacity will have slight differences. For detailed parameters, please consult Emerson Network Power Co., Ltd.

Applications

- Medium-large exchange room and data room
- Computer room and data center (IDC)
- High-tech environment and lab
- Industry control room and precision processing equipment room
- Standard test room and calibration center
- UPS and battery room
- Biochemical culturing room Hospital and test room

Liebert PEX
——Precision Cooling System of Chilled-water Type

Applications
- Medium-large exchange rooms and data rooms
- Computer rooms and data centers (IDC)
- High-tech environment and labs
- Industry control rooms and precision processing equipment rooms
  Standard test rooms and calibration centers
- UPS and battery rooms
- Biochemical culturing rooms Hospital and test rooms

Advantages
- Energy-saving, less footprint, environment-friendly, low cost in whole life cycle
- Automatic tension-regulating fan, meeting different external residual pressure requirements
- Unique high efficient FIR humidifying system delivering quick humidification and adaptive to poor water quality, low maintenance
- Powerful iCOM teamwork control and communication functions, able to control up to 32 sets of units as one team
- Open communication protocol, meeting requirements of building and various sites monitoring
- Chilled water single and dual coil design, meeting requirements of various schemes
- Optional EC fan, sunk EC fan design, saving energy by 20% compared with ordinary EC fan

Features
- High reliability, flexibility, low cost in whole life cycle
- Detachable structure, full front access, space saving
- Large area V-type evaporator, quick dehumidifying design, ensuring energy saving
- iCOM large screen graphic display in Chinese
- Standard RS485 and IP communication interface
- Regulated by two electronic water-flow regulation valves, ensuring temperature control precisions

Dimensions and Weight

Model(F)(chilled water type)	Nominal cooling capacity(kW)	Weight(kg)	Dimension(W x D x H)(mm)
P1030	37.4	260	853×874×1970
P1040	40.3	270	853×874×1970
P1050	47.1	275	853×874×1970
P2050	63.1	480	1704×874×1970
P2070	80.2	480	1704×874×1970
P2090	89	480	1704×874×1970
P2100	100.6	505	1704×874×1970
P3110	121.8	730	2553×874×1970
P3140	131.1	760	2553×874×1970
P3150	148.2	765	2553×874×1970

Based on 24℃ indoor dry ball temperature, 50% relative humidity , 7℃ incoming water temperature, and 12℃ discharging water temperatureincoming water;
When different components are configured, its cooling capacity and weight will have slight differences.For detailed parameters, please consult Emerson Network Power Co., Ltd.

Dimensions and Weight

Model(F)(chilled water type)	Nominal cooling capacity(kW)	Weight(kg)	Dimension(W x D x H)(mm)
P1020	22.6	265	853×874×1970
P1030	30	275	853×874×1970
P2050	47.7	500	1704×874×1970
P2070	62.7	540	1704×874×1970
P3080	79	760	2553×874×1970
P3110	104.7	820	2553×874×1970

Based on 24℃ indoor dry ball temperature, 50% relative humidity , 7℃ incoming water temperature, and 12℃ discharging water temperatureincoming water;
When different components are configured, its cooling capacity and weight will have slight differences.For detailed parameters, please consult Emerson Network Power Co., Ltd.

DataMate 3000 Precision Cooling System
for Small Equipment Room

DataMate 3000 series cooling products are special cooling units designed and developed by Emerson Network Power Co., Ltd. for small equipment room.The direct expansion (DX) cooling units include four cooling capacities: 5.5kW, 7.5kW, 12.5kW and 16kW. The chilled water units include four cooling capacities: 8.2kW, 11.6kW, 16.3kW and 23.2kW. Each cooling capacity range includes multiple configured products.

Advantages

- **High reliability and adaptability and long service life design:** Designed for the operation of 365 days and 24 hours a day, meeting the requirements of around-the-clock operation of the equipment room; adopted high efficient and stable Emerson Copeland scroll compressor, outdoor fan with infinite speed regulation, built-in SPD, unit surface and components made from high strength metal material, thus ensuring the unit can operate reliably under various severe conditions.
- **Extra-strong grid adaptability:** Ultra-wide input voltage, allowing voltage fluctuation range of -15% to +20%, phase-failure protection, phase-rotation detection and phase error automatic adjustment functions available
- **Ultra network management:** Equipped with standard communication interface, allowing remote on / off control of cooling unit and remote management, realizing remote alarm query and remote fault handling, suitable for unmanned BTS and equipment room etc. in remote areas
- **High efficient and energy-saving:** Big air flow and small enthalpy difference specially designed for equipment room, saving energy by 20% to 30% compared with comfortable cooling unit. More specially designed energy-saving card and economical operation mode, achieving optimum energy efficiency

Features

- Featuring constant temperature and humidity, big air flow and small enthalpy difference, meeting requirements of professional equipment room
- Adopting high efficient and stable Emerson Copeland adaptive scroll compressor, ensuring long life cycle of the products and high energy efficiency ratio
- Outdoor fan with infinite speed regulation, automatically regulating system operation state according to environmental changes
- Normal cooling operation can be performed under the outdoor temperature conditions lower to-34℃
- Full Chinese large screen display with multi-level password protection and expert fault diagnosis functions
- Automatic startup at power recovery(power-down memory)functions
- Equipping with standard RS485 monitoring interface, delivering remote monitoring
- Flexible auto switching function between master and slave units, realizing the automatic alternative operation and polling functions
- Optional lightning-protection card, realizing highly reliable lightning protection

Dimensions and Weight

Type	Model	Nominal cooling capacity(kW)	Power supply	W × D × H (mm)	Dimension(W x D x H)(mm)
DX unit	DME05W	5.5	Single-phase	510 × 386 × 1740	80
	DME07W	7.5		510 × 386 × 1740	85
	DME07M	7.5	Three -phase	510 × 386 × 1740	85
		7.5		600 × 550 × 1900	150
	DME12M	12		600 × 550 × 1900	160
	DME16M	16		853 × 874 × 1970	300
Chilled water unit	DMH09M	8.2	Three -phase	510 × 386 × 174	90
	DMH12M	11.6		608 × 575 × 1900	127
	DMH17M	16.3		1102 × 405 × 1740	169
	DMH25M	23.2		1202 × 575 × 1900	210

Applications

- Mobile base stations and control centers/3G base station
- Communications base stations
- Outdoor equipment rooms
- Microwave/Satellite earth stations
- Medium ,Small computer rooms

Liebert XD
——Directional cooling system for high thermal density rack

XDP

XDO

XDV

XDH

Applications

- Data centers (IDC)
- Computer rooms with high heat density equipment
- Sites with blade servers
- Sites with high heat density equipment

Features

- Meeting cooling requirements of up to 32KW per rack
- No floor space taken, applicable to various equipment rooms
- Saving power by over 30% comparing to traditional cooling system of the same capacity
- Refrigerant with high heat exchange efficiency applied in the cycling system avoids the water from entering into the equipment room as cold carrier
- Multiple solutions available
- Quick pipe connection device provides easy and swift installation, upgrade and equipment transportation

Dimensions and Weight

	Model	Total Capacity(kW) (24°C /50%RH)	W × D × H (mm)	Weight (kg)
Host	XDP160	140	965 × 864 × 1981	372
	XDC160	130	1879 × 879 × 1981	817
Terminal	XDO20	17.7	1829 × 610 × 572	68
	XDV10	8.3	597 × (749-1003) × 355	35
	XDH20	19	300 × 1066 × 1982	106
	XDH32	27	300 × 1066 × 1982	112

Integrated Fresh-air Cooling System Applied in Base Station

Features

- Able to cool more than 30 kW per rack
- Floor-mount, rack-mount and ceiling-mount modules, plus a choice of cooling capacities, cover any application requirements
- Pumped refrigerant solutions are ideal for use around electronic equipment. No water into the room
- Scalable – add or move fan coils as needed
- Energy efficient. Total energy savings potential up to 30% can be achieved with the Liebert XD solution
- Minimal floor space requirements allow more room for IT equipment
- In installation process, the duct uses fast connecting kits, making the installation, upgrading and equipment transfer more convenient and faster

Dimensions and Weight

Model	Standard cooling capacity kW	Power Supply	W × D × H (mm)	Weight (kg)
SC07MF	7.2	Three-Phase	650 × 610 × 1980	210

Applications

- Communication BTS, 3G BTS
- Small outdoor BTS

SDC Smart Energy Saving Dual-circulation Cooling System

Indoor unit

Energy-saving module

Applications

- Large-medium data room
- Computer room and data center (IDC)
- Industrial control room and lab
- UPS and battery room

Features

- Realizing two circulation systems namely normal cooling and cooling with energy-saving pump within the same set of cooling system
- Maintaining room tightness and cleanness through circular refrigerant heat exchange and utilizing natural cooling source Energy-saving renovation can be implemented on special cooling unit of traditional equipment room, realizing energy-saving dual circulation Integrated design eliminates the need of additional glycol pipelines outside the cooling system for glycol cooling unit
- Without feeding in fresh air, tightness and cleanness of the equipment room is maintained without providing air inlet in the external wall
- High reliability, flexibility, low cost in whole life cycles
- Smart switching between normal cooling circulation and energy-saving pump circulation, saving energy by up to 50% while in energy-saving pump operation comparing to normal special cooling unit for equipment room
- Without additional independent operation device, dual-system (normal system and energy-saving system) operation is realized within one set of unit
- Detachable structure with full front access, and traditional unit can be modified to energy-saving unit
- Adopted Emerson Copeland high efficient scroll compressor suitable for environment-friendly refrigerant
- Unique high efficient FIR humidifying system delivering quick humidification and adaptive to poor water quality, low maintenance
- Full speed-regulatable air cooling condenser at low noise and power consumption
- Ultra-large screen graphic display in Chinese
- Standard RS485 interface is available, realizing remote monitoring Single/dual system unit and relevant renovation are also available
- Applicable to various refrigerants such as R22 and R407C
- Multiple air supply modes such as hood, wind pipe and under-floor air supply
- Optional EC fan is available
- Air cooling condenser provides configurations suitable for various ambient temperature conditions (including low temperature startup

Dimensions and Weight

Model	Full load current (A)	W × D × H (mm)	Weight (kg)
SDC2055U/DAM1R	53.5	1704×874×1970	570
SDC2055FAM1R	53.5	1704×874×1970	570
SDC2070U/D AM1R	61.3	1704×874×1970	650
SDC2070FAM1R	61.3	1704×874×1970	650
SDC3090U/D AM1R	77.7	2553×874×1970	930
SDC3090FAM1R	77.7	2553×874×1970	930

Liebert.CRV precision cooling system of row adaptive cooling

Features

- High reliability, high flexibility, low cost in whole life cycle
- Adaptive cooling capacity design, automatically adjusting cooling capacity based on the heat changes in equipment room
- Emerson Copeland high efficient and digital scroll compressor, adopting environment-friendly refrigerant R410A
- Equipped with dual EC fan, redundancy design, automatically adjusting air flow volume according to the room load
- Closely placing against the rack, closer to the heat source, making airflow analysis of expulsion of hot air from rear side and cooling air incoming from front side, adapting air supply through rear and air supply in front side design, achieving higher cooling efficiency and better energy saving effect
- The three external temperature and humidity sensors(maximum configured number: 10)can be directly placed on the heating equipment, adjusting cooling capacity output in real time according to the inlet air temperature of the equipment
- Ultra-large graphic screen display in Chinese
- Left, right or directional(left and right)air supply available, which can be adjusted onsite according to actual load
- Powerful iCOM interlock control and communication functions, able to group-control up to 32 sets of units
- Multiple cooling methods available: air cooling, water cooling, glycol cooling and chilled water cooling, adaptive to actual onsite conditions in various environments
- The air cooling adapts brand-new full speed-regulated air cooling, low noise and ultrathin condenser with Micro channel, compared with the traditional condenser, featuring higher heat exchange efficiency and less weight, lower wind resistance, more energy saving, less refrigerant filling volume and more environment friendly
- Applicable to Emerson data center energy efficiency management platform SmartAisle, used with Emerson's CoolFlex cold aisle enclosed system, consuming the lowest cooling energy when achieving the optimum cooling effect

In SmartAisle, Liebert.CRV should be used with CoolFlex

Flexible design, independent of the rack width

Swing or sliding door

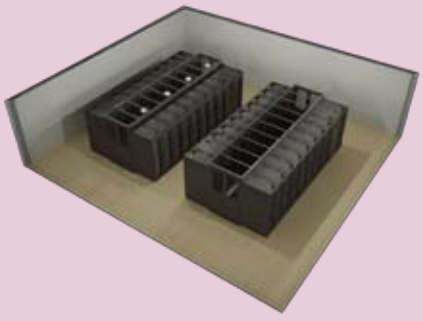
Top panel

Protection curtain wall

Integrated and adaptive control, reducing the power consumption of the fan

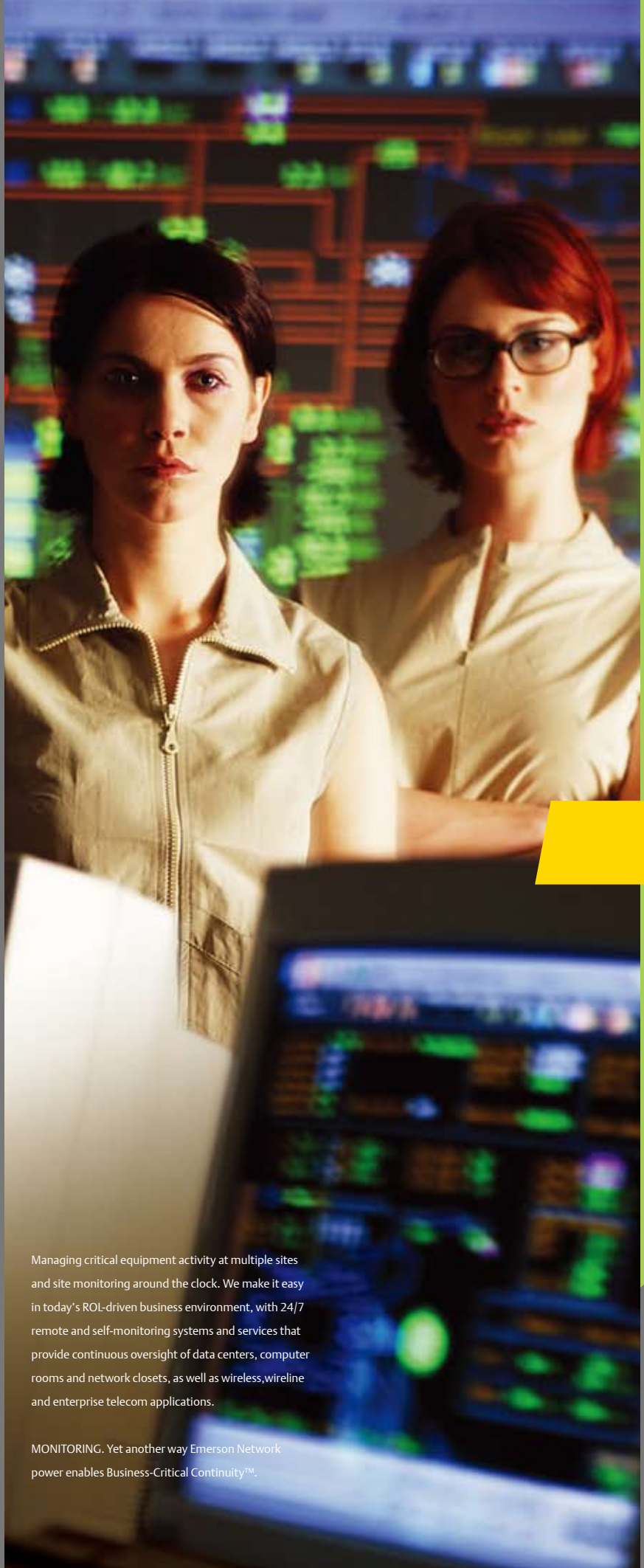
Model	Nominal cooling capacity(kW)	Dimensions(W x D x H)(mm)	Weight(kg)
CR020RA	23.1	2000×600×1175	335
CR020RW	23.1	2000×600×1175	350
CR035RA	36.8	2000×600×1175	365
CR035RW	36.8	2000×600×1175	385
CR040RC	40.4	2000×600×1175	330

The displayed performance data is the data under nominal conditions, that is, inlet air temperature is 37℃, the condensing temperature and chilled water temperature for the air and water glycol cooling equipment are 45℃ and 10/15℃ respectively



Applications

- Modularized data centers and container data center
- Equipment room with partial overheat, high thermal density room and room with high energy saving requirement
- Medium and small computer rooms and data centers(IDC)



EMERSON NETWORK POWER.

THE GLOBAL LEADER IN ENABLING
BUSINESS-CRITICAL CONTINUITY.™

Monitoring

Managing critical equipment activity at multiple sites and site monitoring around the clock. We make it easy in today's ROI-driven business environment, with 24/7 remote and self-monitoring systems and services that provide continuous oversight of data centers, computer rooms and network closets, as well as wireless,wireline and enterprise telecom applications.

MONITORING. Yet another way Emerson Network power enables Business-Critical Continuity™.

SiteWeb Monitoring System

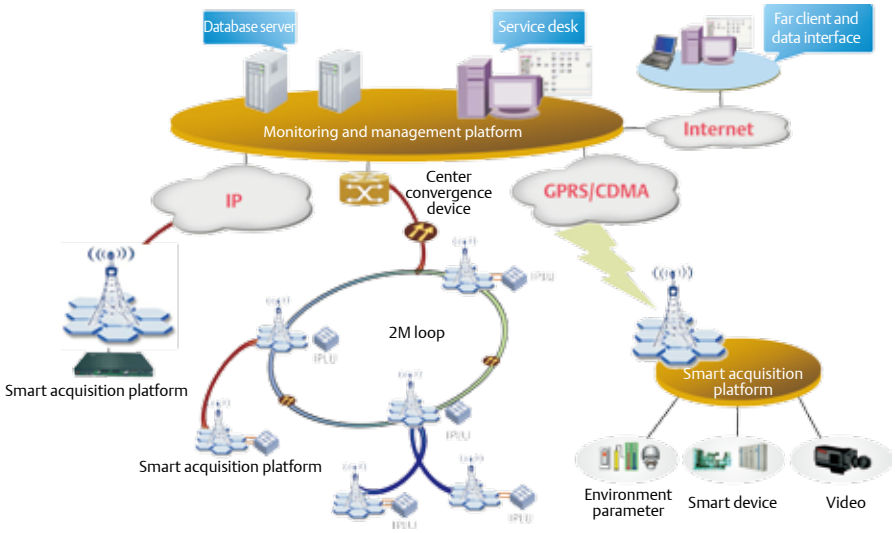
A New Generation of Comprehensive Power and Environment Management Platform

With the high speed development of modern communication technology, the communication network is expanding quickly, and the BTS/room equipment and business is increasing greatly The maintenance and management work of the operators are getting more and more informationized and more comprehensive. Based on the traditional power and environment monitoring system, more business management demands are applied in a specialized way, and a comprehensive power and environment management platform emerges.

SiteWeb centralized power equipment and environment monitoring and management system is developed by Emerson with its over ten years of system application experiences, and is oriented to acheive customer added value. Various basic and customized system modules are used to help manage customer business, optimize maintenance management system, increase business income and reduce operational costs. Modular system and open architecture design support sustainable development in technology application and management, providing an effective supporting platform for station power equipment and precison environment management.

System Features

- Adopting B/S architecture with all functions presented in IE explorer without installing client software, delivering easier system access
- System in ultra-large capacity design, supporting up to 50,000 sites
- Adopted bottom data processing mechanism greatly reduces equipments in the supervision center, saving system maintenance work and space
- Data flow adopts subscription – release and active report mechanism, achieving quick response time and excellent real time performance
- Multi-channel data transmission, users will not need to worry about realtime monitoring and alarm presentation failures anymore
- DS server supports multi-unit backup and automatic load balancing, eliminating the bottleneck of large area failures due to tranditional monitoring host problem
- Three-level storage protection and automatic storage compensation ensures the data entireness of the power equipment and the centralized environment monitoring system



SiteWeb Software and Smart Data Acquisition Platform

IDU series

IPLU series

eStone series

Emerson **SiteWeb** monitoring system software platform V1.0
Emerson energy consumption and power rate manager V2.0
Emerson generator high-end manager V2.5
Emerson PSMS monitoring business software V3.0
Emerson IPVMC-IP video monitoring system V3.5

Software architecture

- Adopted modular open software architecture allows easy functional module expansion
- Convenient customization

Web monitoring architecture

- Adopted full Web monitoring architecture eliminates the needs of installation, deployment, upgrade and maintenance of client
- Multiple themes and flash presentation, providing rich theme interfaces options for users
- Access of **SiteWeb** monitoring system through LAN and internet

Electronic map and configuration

- Electronic map and configuration visually display stations and monitoring information
- With site filtering functions of the electronic map, concerned stations and alarm messages can be displayed

Realtime monitoring

- Realtime signals and historical signals overview
- Realtime curve, bar graph, pie graph and multiwindow graphs are parallely displayed
- Group control, logic control, control circuit management and control status query functions are provided

Event management

- Settable alarm windown can customize alrm display interface fit to user custom Expert advice is displayed in the alarm event solution, providing reference for repair and maintenance

Report

- Supporting table, matrix, graphs and mixed report template
- Report supports hyperlink, can be interconnected with pages and configurations, delivering dynamic display
- Intermediate database is set up, enabling quick report query

Smart data acquisition platform

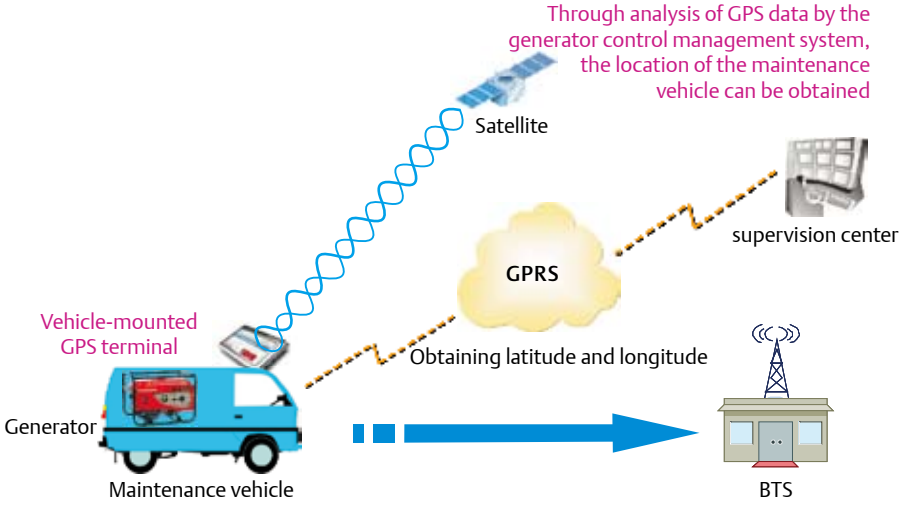
- Adopted embedded linux operation system, built-in Web Server, combined with IE explorer can form a simple monitoring system
- In the supervision center, bottom-level PLC functions with strong program features can be upgraded, loaded and operated remotely to perform cooling unit management, power saving management and interactive theft prevention etc
- USB-interfaced video monitoring is supported, which can effectively overawe and prevent theft at station
- Adopted plate-level self-diagnosis provides more accurate fault locating for the acquisition platform
- Full port high level lightning and surge protection ensures reliable operation of the acquisition platform under severe conditions

Introduction to Business Software Features

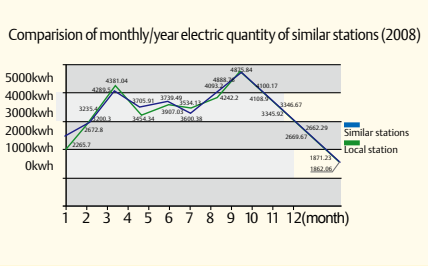
Business software are key components of Emerson power environment monitoring system, which provides various business features for users, such as smart generator control etc., helping users solving specific problems encountered in the course of maintenance and network management, achieving added value of power maintenance work.

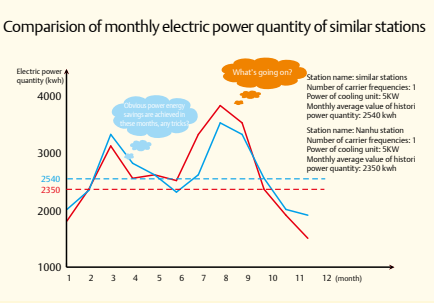
Generator control management system

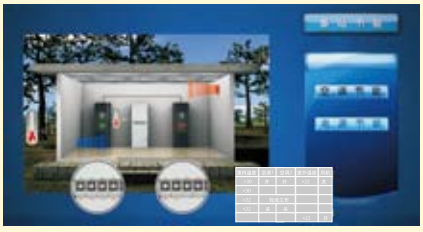
- Mathematical models are built up through system formalization and optimization of manual experiences to realize automatic system control through judgement of battery discharge duration and route duration
- Through statistics and analysis of the generator utilization rate, create rational configuration, and optimize resources
- Through monitoring of generator status and control process management, improve control efficiency and power generation safety
- Able to assess battery backup time relatively more accurately, and control battery discharge time, improving battery utilization rate
- Efficiently control generator operation, reducing power generating time as much as possible, oil consumption is also reduced
- Through calculating power generating time to evaluate oil consumption, achieving oil rate control
- Averagely RMB 1,200 can be saved per station per year

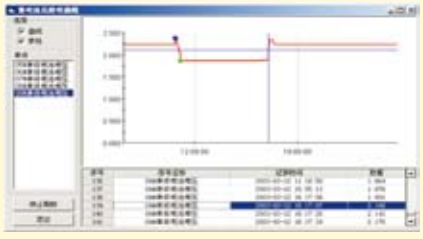


Introduction to Business Software Features



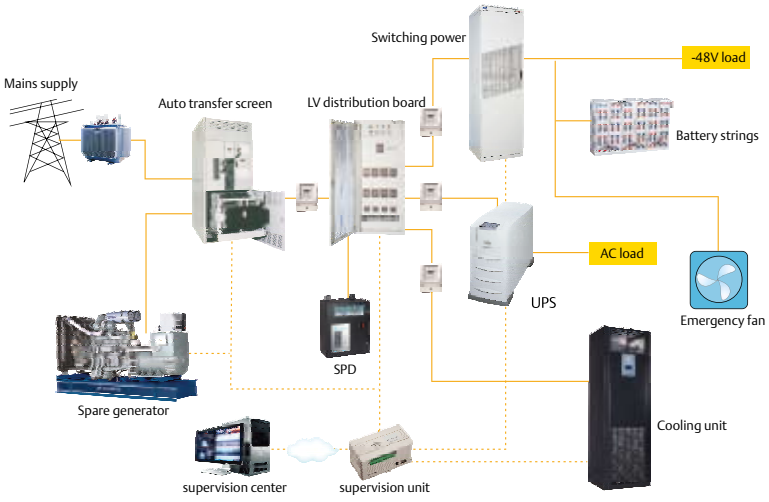






Electricity management system

- Perform statistics and analysis of station power consumption and energy consumption analysis, providing statistic data analysis of the data to customer
- Station rent management, remind stations whose rent expires
- Perform management of rent agreements with stations, and remind stations whose rent agreements expire
- Indicate abnormal power consumption of sites, indicate whether it's a sation equipment failure, and perform analysis for abnormal power consumption of sites
- Provide similar comparisons of power consumptions, better analysis functions and energy analysis for each site
- Multiple user reports, such as monthly and daily power consumption data, run chart of power consumption of each site; Full authority management, providing solid system safety protection



Cooling Unit Energy-Saving Management System

- Through energy-saving management system, cooling unit and fresh air system of the BTS can be managed, including viewing current status of energy-saving device, control on/off statuses of the energy-saving device remotely, viewing various signals of the cooling system, and controlling the controllable signals of the cooling unit remotely.
- The energy-saving management system of the cooling unit can save energy consumption of basesation by about 10% ~ 15% Emerson energy-saving solutions can save about 0.8 billion of power rate per year for China communication industry

Battery management system

- Realtime acquisition of cell voltage, charge and discharge current, cell surface temperature/ ambient temperature, total battery voltage, and record battery charge and discharge curves and abnormities data
- Provide remote battery verification discharge test, record the correlations between the voltage, current, ambient temperature and the discharge duration, and predict the battery backup time according to the present load current
- Perform regular battery discharge, realizing remote maintenance to the battery, and determine degraded battery

Remote Video Monitoring System

IP Video Monitoring System uses advanced H.264 Digital Image Compressing and Coding Technologies. It can directly use the existing IP transmission network to transmit the image, bi-direction voice signals, control command and detected values. The system uses distributed structure and is open and safe, and the maintenance and installation are simple. The system uses distributed structure and is open and safe, and the maintenance and installation are simple.

- IP Video system supports large capacity monitoring networking solutions
- Can realize the remote video recording, remote voice-recording and bi-direction dialog in the monitored area
- In SC, the switching of the video monitoring among the sites or within the sites can be remotely controlled
- In SC, you can adjust the direction, focus, distances of each video camera, and set the auto polling function of the video camera
- The electronic map can display the equipment distribution, and the status of deployment of video camera or un-deployment of video camera, and the alarming status
- The system has alarm activating functions, that is, when alarm happens, the system can start video recording, turn on the lamp, position the global video camera and start the auto polling function of common video camera
- The system is standard, open, integrated, safe, expandable and maintainable, and can be interfaced with the network in different levels easily, user can reduce or increase the number of the monitored sites and the number of video cameras according to needs
- Comply with international standards on dielectric strength, immunity to surge voltage and EMI

USB-Interface Video Monitoring Solution

——Provide low-cost and easy-to-maintain video monitoring solutions for large amount of small sites

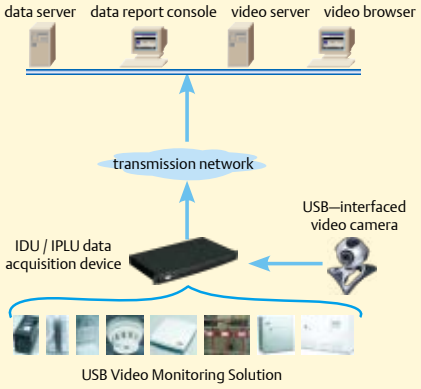
- Applied in various kinds of small sites, used together with IDU / IPLU and USB-interfaced video camera to provide real time video monitoring
- Professional USB-interfaced video camera supports pan & tilt function
- The SC uses professional EMERSON IP Video software
- Not only has powerful management functions but also has the reliability in telecom level
- Seamless integration of data and alarm activating
- Share the same transmission resources with data monitoring system
- Easy-to-replace and easy-to-maintain, featuring low maintenance cos

Important Single-point Video Monitoring Solution – IP Camera

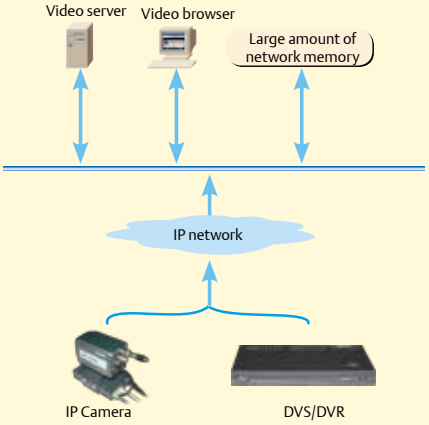
- Be applicable for single-channel video monitoring design used in video monitoring system in important site
- New technology development and application of new coding IC, high integration design and integrated engineering design
- Use specific ASIC (application specific integrated circuit) chip featuring low power consumption, which reduces the cost of single site.
- Pass UL and CE certification and provide the stability and reliability in telecom level
- Support the action detecting, subtitle superimposing, picture capturing and video recording before alarming in hardware level
- Integrated engineering design, applicable for the installation of large amount of sites and suitable for synchronized network construction

Large Site Video Monitoring Solution – IMU6100

- Use specific ASIC (application specific integrated circuit) chip featuring low power consumption, which reduces the cost of single site. Pass UL and CE certification and provide the stability and reliability in telecom level
- Innovated system architecture design, the single unit can be switched freely among 4 channels of DVR and 8 channels of DVS
- Synchronized coding and decoding of 4-8 channels of CIF video signals, applicable for the professional video monitoring in large site
- Support the action detecting, subtitle superimposing, picture capturing and video recording before alarming in hardware level



USB Video Monitoring Solution



Important Single-point Video Monitoring Solution

The era of limited control of critical areas is ending

As a product with unparalleled depth of technology, Emerson Network Power has created Trellis. This ever-changing new platform in the industry includes a series of hardware, software and service. It can effectively eliminate the boundaries isolated from the infrastructure components within the data center.With the observation of real, single layer and related context and real-time data center physical infrastructure, we are constructing important experience and data center infrastructure management capability. This capability has been provided by Emerson Network Power, including solutions from LiebertTM cooling, power supply and monitoring solutions to AvocentTM and ApertureTM server firmware, control and data center management solutions. Meanwhile, we have invested tremendous resources to market this new Trellis product platform and its solutions.These products will create an unparalleled dynamic infrastructure optimization platform, including the mutual independence between physical and logic layers. Trellis will provide several unprecedented functions such as monitoring, management and capacity planning.

Trellis is a new way of thinking, a new operating pattern and a new way to achieve successful growth and change.

Meanwhile, Trellis is exclusively provided by Emerson Network Power.

EMERSON NETWORK POWER.

THE GLOBAL LEADER IN ENABLING
BUSINESS-CRITICAL CONTINUITY.™

DC Power

Outdoor Base Station Platform

AC Power

Server Power Management System

Power Switching & Controls System

Surge Protection

Precision Cooling

Monitoring

Data Center Infrastructure Management

Server Cabinet System

Data Center Infrastructure Management

Harmonic Treatment System

Solar Power Generation System

Wind Power Generation System

Electric Vehicle Charging Station System

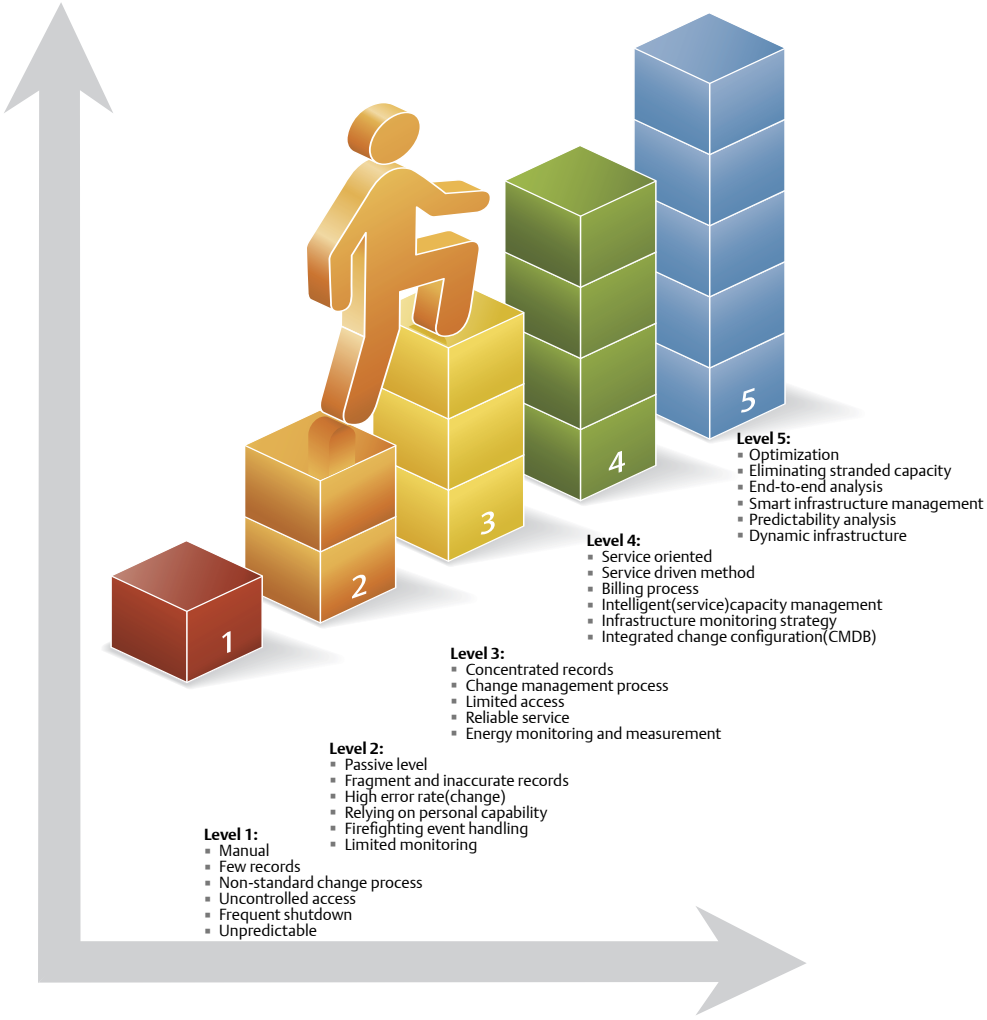
Medium-voltage Inverter

Avocent®

Challenges of Data Center Infrastructure Management(DCIM)

What's your data center level?
Undoubtedly, the data center is the most valuable IT asset (and the most expensive), you are responsible for the daily operation. The demands for the services you provided grows steadily and so does your work complexity.Some professional staff, engaging in the same area as you, have developed a series of tools and technologies to manage physical infrastructure.However, it is well-known that these tools are neither comprehensive nor integrated. It is quite time-consuming to update these tools and likely to make mistakes while updating.

Which level are your proficiency?
The IT department should judge its current proficiency level,and then specify a strategy to achieve the ideal state.



Growing complexity

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Growing challenge

With the growing complexity and demands for quick update of the data center, the traditional infrastructure management method cannot meet the demands. The efficiency is very low to rely on separate tools, and this method will increase the business service cost.However, when one has to manually summarize data from several systems, even if the most organized managers cannot carry out high efficient operation. The data center with this operating pattern is considered as manual level, at most as passive level.

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Maturity development from passive level to active level

In order to efficiently manage the physical infrastructure, companies need a total integrated solution (at least)to track the physical infrastructure configuration, manage the project and calculate the current space, electric quantity and cooling.

This is the unique method of proficiency level from the passive level to active level.Once achieved, your company will obtain great benefits and can preferably achieving the goals such as integration, virtualization and energy efficiency.

Introducing Trellis™
Providing clear prospect for dynamic IT infrastructure optimization

Trellis can bridge the gap among IT and facility, virtualization and physics and passive and active methods

Confidently optimizing infrastructure
- Maximizing infrastructure investment return
- Improving efficiency without increasing risk
- Dynamically adjusting the data center infrastructure without increasing the cost
- Real-time planning and managing capacity
- Ensuring the availability of critical business service
- Expanding the service life of the existing infrastructure

Simplified complexity management
- Minimizing the risks related to the change
- Adding visibility of intelligent decision
- Integrating the control of the infrastructure and IT infrastructure
- Actively managing ever-changing environment
- Reducing the cost of achieving service level
- Improving the productivity of the staff and process

First integrated DCIM platform created for hardware, software and service

Why do we introduce it now?

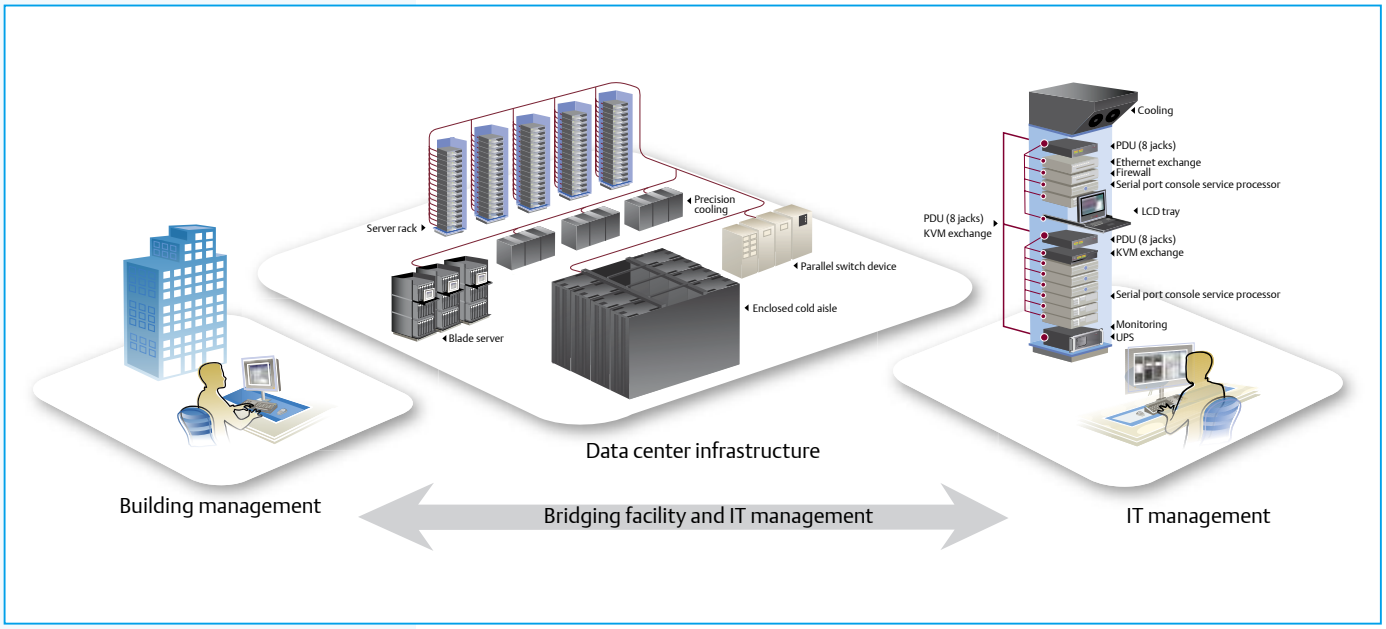
All the customers are not satisfied with the current data center management state to their hearts' content.

The 2009 Gertner research finds that 40% to 60% of the data center resources on average is not utilized, and some server rack space are wasted. The energy utilization rate is only 70% of the nameplate rated value. Under the current fiercely competitive environment, we have every reason to change these shortcomings,as there is no place to perform its operation with old, low efficient, nonflexible and tunnel vision.

Era for Trellis

Fundamental change for the company to utilize the infrastructure

At present, IT is driven by changes, such as increasing or simplifying scale, virtualization, increasing density and converting load. Meanwhile, only these quick, flexible and totally confident companies can achieve sustainable development. Now, companies are confronted with the pressure of controlling the operating cost.It is the reason why we introduce Trellis. The interactive components will provide overall observation for the infrastructure, solving the "isolated decision" problem of islanding operation. They will bridge the gap between IT and infrastructure and provide overall and real-time management to solve peak optimization problem.



Avocent Data Center Planner (DCP)

Data center planner (DCP) software

Recording system for all the physical infrastructure in the data center

Avocent data center planner (DCP) is designed for the recording system of physical equipment in the data center (position, space, rack power, connectivity and network). It can create an overall and single operating view by connecting with DSView 3 management software, monitoring and communicating with all IT equipment.

Integrated with DSView ™3 management software

The data center planner (DCP) and DSView 3 management can be seamlessly integrated, providing single control panel for the data center management.

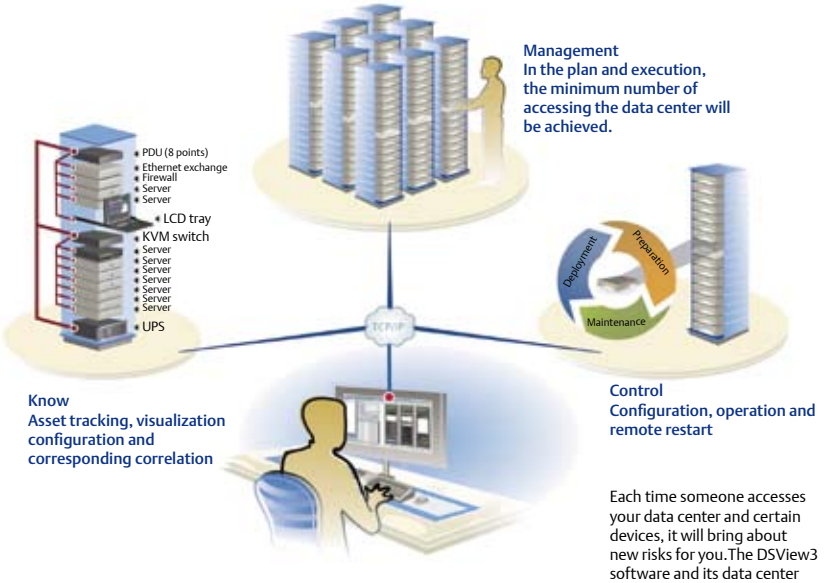
DSView 3 management software

Achieving total control of the data center through the single interface

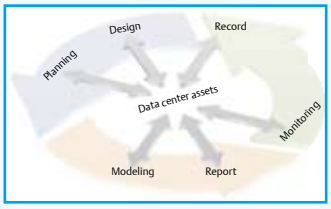
DSView 3 management software can perform concentrated management for all the connected IT and network equipment of the current complex and scattered data centers beyond the safe belts. When KVM equipment, serial control panel equipment, service processor gateway and rack PDU are used together, the combination of this hardware and software can enable IT administrators to remotely access, monitor, measure and control the target equipment on the multiple platforms of different positions at any time and place, regardless of the status of the operating system and network availability.

Avocent DSView 3 power supply management adds the power monitoring and notice functions into the access and control functions of DSView 3 management software, enabling you to monitor and measure IT energy consumption of each layer within the data center and remote station and access the cost and trend.

Visualization, management and control



Each time someone accesses your data center and certain devices, it will bring about new risks for you.The DSView3 software and its data center planner (DCP) enable you to remotely plan, manage and control your data center.



By 2014, DCIM tool and process will become the mainstream of the data center.In order to utilize the development benefits, I&O leaders should start DCIM evaluation in 2010 and 2011."

- Dave Cappuccio, Gartner management vice president and responsible person of infrastructure team study

"Managing configuration information is considered as a task where the staff efficiency can be obviously improved. About half of the investigators (49%) use three to five systems to record their infrastructure. Meanwhile, 67% of the data center administrators claim that they manually update their data center files.One conclusion can be drawn from these problems: the use of the data center cannot reach the high efficient level, while consuming large sums of money."

-ARI, 2010 report

EMERSON NETWORK POWER.

THE GLOBAL LEADER IN ENABLING
BUSINESS-CRITICAL CONTINUITY.™

DC Power

Outdoor Base Station Platform

AC Power

Server Power Management System

Power Switching & Controls System

Surge Protection

Precision Cooling

Monitoring

Server Cabinet System

Data Center Infrastructure Management

Server Cabinet System

Harmonic Treatment System

Solar Power Generation System

Wind Power Generation System

Electric Vehicle Charging Station System

Medium-voltage Inverter

Constantly optimized technologies and product performances meet the changing requirements of global IT and telecom markets. Our standard and customized total rack solutions can meet the different requirements of different customers: From the rack solutions of Knurr and Liebert, which are suitable for different kinds of equipment rooms, to the cabinets or equipment rooms of Knurr, MESA, Netspan™ and Matrix™, which are suitable for wired and wireless communication applications.
All these products meet the comprehensive requirements of customers.

Emerson Network Power Server Rack systems enable "Business Critical Continuity™".

Server Rack System

F Series Cabinet

Meet the comprehensive requirements of IT application

A perfect combination of Knurr rack and power products of Emerson Network Power Co., Ltd., providing high adaptive and cost-effective solutions with high availability for IT applications, and meeting the comprehensive requirements of IT application

Features of F Series Rack

Internationally advanced heatsink design

- Front-back door with high porosity
- Up to 75% porosity
- Hot / cold aisle design at data center level

Features of combination structure

- The rack frame uses combination design
- Up / down boards equipped with the side doors
- Front door access is compatible with both side doors access

Reliable power distribution solution

- Powered by reliable double conversion UPS
- Multi power distribution methods
- Unique remote monitoring and management of power distribution

F Series Server Rack

Product model	Rack capacity	Width (mm)	Depth (mm)	Height (mm)
SR-F061120	42U	600	1100	2000
SR-F061220	42U	600	1200	2000
SR-F081120	42U	800	1100	2000
SR-F081220	42U	800	1200	2000
Option	Cable management unit, distribution unit, supervision system, tray, KVM, TFT			

F Series Network Rack

Product model	Rack capacity	Width (mm)	Depth (mm)	Height (mm)
NR-F060820TS	42U	600	800	2000
NR-F060820T	42U	600	800	2000

E series cabinet

E series server cabinet(with perforated door)

Product model	Cabinet capacity	Width X Depth X Height(mm)	Side plate
SR-E061020TS	42U	600×1000×2000	With
SR-E061020T	42U	600×1000×2000	Without
SR-E061120TS	42U	600×1100×2000	With
SR-E061120T	42U	600×1100×2000	Without
SR-E081020TS	42U	800×1000×2000	With
SR-E081020T	42U	800×1000×2000	Without
SR-E081120TS	42U	800×1100×2000	With
SR-E081120T	42U	800×1100×2000	Without

E series server cabinet(with perforated door)

Product model	Cabinet capacity	Width X Depth X Height(mm)	Side plate
SR-EC061020TS	42U	600×1000×2000	With
SR-EC061020T	42U	600×1000×2000	Without
SR-EC061120TS	42U	600×1100×2000	With
SR-EC061120T	42U	600×1100×2000	Without
SR-EC081020TS	42U	800×1000×2000	With
SR-EC081020T	42U	800×1000×2000	Without
SR-EC081120TS	42U	800×1100×2000	With
SR-EC081120T	42U	800×1100×2000	Without

E Series Cabinet

Rack Accessories

Special PDU for rack

- Providing power distribution solutions inside rack
- Multiple optional specifications, meeting different application requirements
- Adaptive installation, supporting horizontal and vertical installation
- stable and reliable

ITA UPS

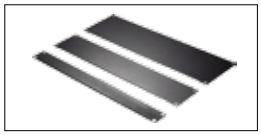
- Mainstream UPS for new generation IT room
- Output PF is improved to 0.9, stronger loading capacity
- Single-phase and three-phase input voltage compatible
- Adaptive wire parallel operation without parallel sub-rack
- High power density taking only 2U-3U rack space

Cable management

Various vertical, horizontal and top cable management options, providing easier wiring management

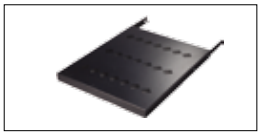
Blind flange

Different optional heights available, ensuring separation of hot and cold aisles inside the rack, delivering artistic visual effects



Tray

For installation and bearing inside the rack without guide rail, multiple specifications available



KVM Transfer switch

- Multiple servers are managed through a set of peripherals (keyboard, display and mouse)
- Simple screen display and shortcut menu available for switching between servers
- Split screen is available for managing up to 16 servers
- Built-in IP interface, supporting remote network access
- 8 and 16 ports available

LCD monitor

- Only 1U rack space taken
- 17" TFT provides high quality flicker-free display
- Full function 104 keyboard and integrated numeric keypad available
- Multi languages available

Rack Accessories

RDU-A

- A new generation mainstream monitoring for IT equipment room
- Strong signal access including signals of equipment operation, power & environment and video
- Powerful alarm functions and smart alarm activation available
- Plug-and-play access
- Web-based monitoring available anywhere anytime
- Both Chinese and English interface for easy and simple operation

Sensor

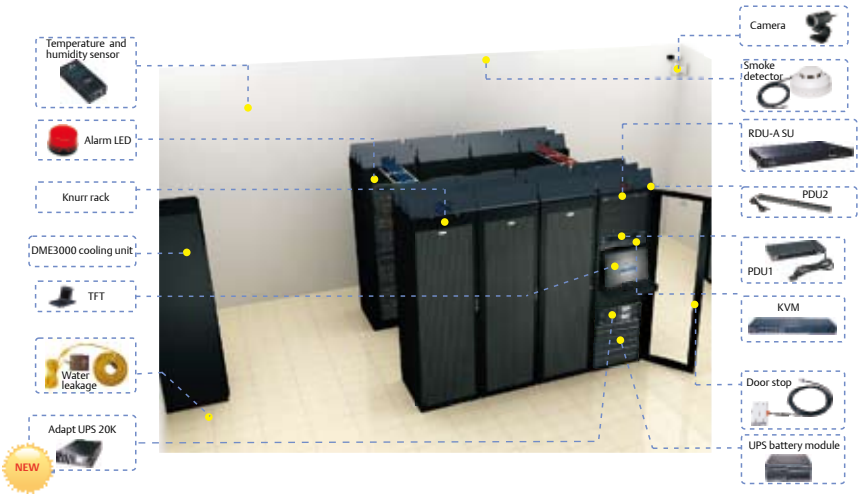
- Plug-and-play, no special tools and additional wires needed, RJ45 standard Ethernet port available
- Temperature and humidity sensors support “cascade connection”
- Easy numbering through dial-up
- RJ45 network cable provides power
- Failure LED available

Alarm system

- Comparison of the collected data with the relevant set data. When the collected real time data exceed the set data, the system will generate an alarm
- Multiple alarms, including interface, site LED, message, telephone and EMAIL alarms
- Complete event query available at alarm message query
- Alarm priorities adjustable

Expansion card

- 4 serial ports available for easy equipment expansion
- User’s device access expansion is realized through easy installation and cascade connection
- Communication mode can be adjusted through simple dial-up and jumper settings




RDU-A


Temperature sensor


Alarm LED


4COM expansion card


Water immersion sensor


Door stop sensor


IR detector

KVM/TFT

AV3200-103

USB port adaptor

PS/2 expansion card

17"LCD rack control

KVM

- Multiple sets of servers are managed through a set of peripherals (mouse, keyboard and display)
- Multiple platforms are supported with PS/2, USB and SUN special port and serial port device
- Supporting split screen, capable of monitoring 16 sets of servers simultaneously and displayed in multiple languages
- Built-in IP interface, supporting remote access with network
- Reducing the times of accessing the equipment room and reduce potential safety hazards
- Realizing the uniform and unattended management of serial port equipment (such as servers, routers) in the equipment room
- For multiple-point distributed equipment rooms, the management in other places can be realized to improve the respond speed

Product Code	Product Model	Description
06080291	AV1415-103	Local KVM, single-channel and 8 ports
06080292	AV1515-103	Local KVM, single-channel and 16 ports
06080293	AV2015-103	Local KVM, dual-channel and 16 ports
06080296	AV3008-103	Digital KVM, dual-channel (one digital channel and one local channel) and 8 ports
06080297	AV3016-103	Digital KVM, dual-channel (one digital channel and one local channel) and 16 ports
06080295	AV3200-103	Digital KVM, three-channel (two digital channels and one local channel) and 16 ports

Adaptor

- The conversion module connecting the KVM master and the mouse, keyboard and display port of the server

Product Code	Product Model	Description
06080311	AVRIQ-USB	VGA/USB server module, applicable to the USB port (each server is equipped with one module)
06080309	AVRIQ-PS2	VGA and PS/2 mouse for the server. The mouse module is applicable to the PS/2 port (each server is equipped with one module)

TFT

Covering only 1U of the equipment room

- The 17" TFT provides high quality display without flashes
- Full functional 104 keyboard and integrated numeric keypad
- Supporting multiple languages, including English, German, French, Spanish, Chinese, Japanese and Korean

Product Code	Product Model	Description
06080318	AP17KMM-103	17-inch LCD rack console, 1U, keyboard, touchpad, display

RDU-M

System overview

RDU-M is a new data center management platform that uses server as a carrier to realize real time monitoring and dynamic management of power infrastructure through embedded database and application software. User can realize the monitoring and management functions through IE browser

Applicable field:

Medium (or below) IDC room and distributed IDC room

RDU-M has following features:

Modular design and extendibility

Equipment integration—Modular, standard Ethernet port connection, plug and play
Functionality integration—Integrate image monitoring, access control, environment, power, equipment and video monitoring together
System integration—Integrate multi levels(IDC level, cabinet level and equipment level)of monitoring systems into one system

Scientific and flexible early warning—prevent accidents

- Multi early warning thresholds
- Multi early warning modes
- Multi early warning levels

Safety

- Stable Linux OS is immune to virus
- Multi level authority management(by regions, equipment type; system management, operation and browse)
- Authority management of RDU-SIC and RDU-A top levels

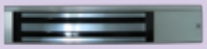
Simple installation, using and maintenance

- Based on IP network, standard network cable connection, WEB remote access and centralized management
- System cloning backup function, easy-to-maintain
- Simplified configuration, configured with RDU-A/RDU-SIC synchronously to eliminate the need for manual configuration

RDU-M

access control box

communication converter



electrical lock

RDU-M

Exit button

DVS

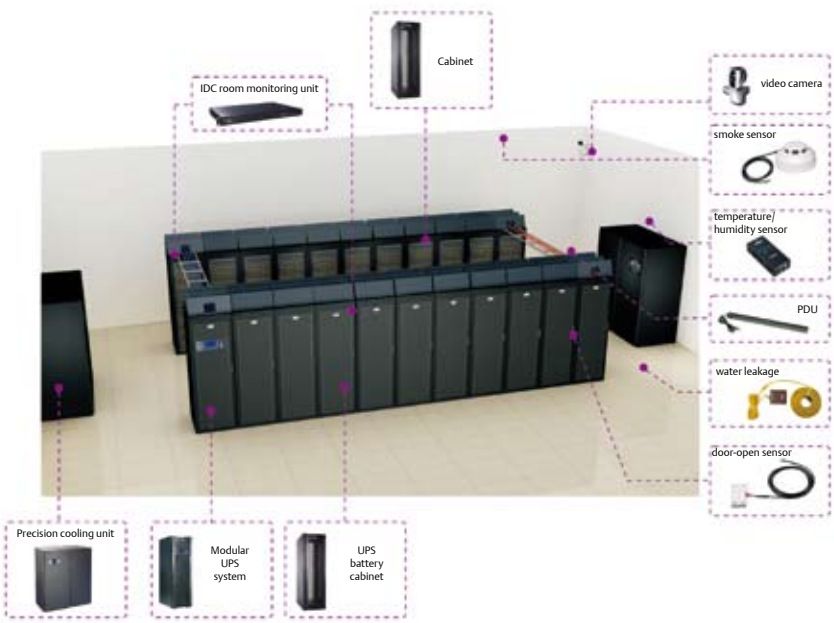
Sphere video camera

Access control system

- Access control system has the functions of controlling the IDC room entrance, managing the aisles, real time monitoring, security and theft prevention. It realizes the automatic communication, automatic office and automatic management.
- To ensure the system stability, the product uses the world class high speed CPU technologies, non-volatile memory, precision time clock, IC lightning protection, surge suppression, immunity and ESD proof designs.
- The access control equipment connects to the advanced RDU-M IDC room monitoring system via IP mode. All the management functions of the access control can be realized via IDC room monitoring system

Video monitoring system

- Using high performance and powerful high speed video protocol processor
- Using optimized H.264 video compressing algorithm to realize the transmission of high definition images via narrow band network
- Embedded Web Server makes it convenient for the user to use standard IE browser to realize real time browsing and equipment management
- Support remote system upgrade
- Support dynamic DNS analysis, LAN and Internet (ADSL, Cable Modem)
- Support multi network protocols: HTTP, TCP/IP, UDP, STMP, DDNS, DNS, SNTP, DHCP and FTP



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DC Power

Outdoor Base Station Platform

AC Power

Server Power Management System

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Precision Cooling

Monitoring

Harmonic Treatment

Data Center Infrastructure Management

Server Cabinet System

Harmonic Treatment System

Solar Power Generation System

Wind Power Generation System

Electric Vehicle Charging Station System

Medium-voltage Inverter

Providing easy power switch for IT and communication equipment. We provide various Astec and Artesyn solutions, including AC/DC and DC/DC power, adptor, charger and power accessories, etc.

Harmonic treatment systems enable "Business Critical Continuity™".

Liebert Active Filter

Liebert Emerson APF (active power filter) can be used for both UPS and non-UPS applications, not only protecting your system from harmonic wave hazards, but also improving PF and reducing reactive power.

System Features

- Active harmonic compensation
- Reactive power compensation
- Various harmonic filters can be connected at one tier before Liebert UPS
- Improving power quality greatly
- Easy scalability
- Multiple installations such as wall/floor /19" rack mount available
- Strong monitoring and communication capability

Dimensions and weight

Model	Description	W×D×H (mm)	Weight (kg)
Emerson 035 APF 43L/RL	35A three-phase-three-wire rack type (rack not included)	260×405×176	16
Emerson 035 APF 44L/RL	35A three-phase-four-wire rack type (rack not included)	260×405×176	16
Emerson 035 APF 43L/HL	35A three-phase-three-wire wall-mounted	260×405×176	16
Emerson 035 APF 44L/HL	35A three-phase-four-wire wall-mounted	260×405×176	16
Emerson 050 APF 43L/RL	50A three-phase-three-wire rack type (rack not included)	440×680×176	28
Emerson 050 APF 43L/HL	50A three-phase-three-wire wall-mounted	440×680×176	28
Emerson 050 APF 44L/RL	50A three-phase-four-wire rack type (rack not included)	440×680×176	28
Emerson 050 APF 44L/HL	50A three-phase-four-wire wall-mounted	440×680×176	28
Emerson 060 APF 44L/RL	60A three-phase-four-wire rack type (rack not included)	440×680×176	28
Emerson 060 APF 44L/HL	60A three-phase-four-wire wall-mounted	440×680×176	28
Emerson 060 APF 43L/RL	60A three-phase-three-wire rack type (rack not included)	440×680×176	28
Emerson 060 APF 43L/HL	60A three-phase-three-wire wall-mounted	440×680×176	28
Emerson 100 APF 44L/RL	100A three-phase-four-wire rack type (rack not included)	440×680×222	70
Emerson 100 APF 44L/HL	100A three-phase-four-wire wall-mounted	440×680×222	70
Emerson 100 APF 43L/RL	100A three-phase-three-wire rack type (rack not included)	440×680×222	70
Emerson 100 APF 43L/HL	100A three-phase-three-wire wall-mounted	440×680×222	70

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Solar Power Generation System

Wind Power Generation System

Electric Vehicle Charging Station System

Medium-voltage Inverter

New energy changes the world, new power supports the future

Emerson is engaged in solar power products and provides the most perfect and most high efficiency offline solar power controller and grid-tied PV inverter. Netshine™ solar power solution in telecom application saves energy for telecom infrastructure, eliminates the blind points in network. SmartShine™ grid-tied power generation solution helps the PV power generator to maximally improve the gains of power plant.

The solar power generation system contributes to the "critical business continuity" of Emerson Network Power.

NetShine™ Solar Power Controller for Telecom Application

Application scope:

- Telecom site, BTS
- Microwave relay station, transmission relay station
- Military, electric power and railway communication stations

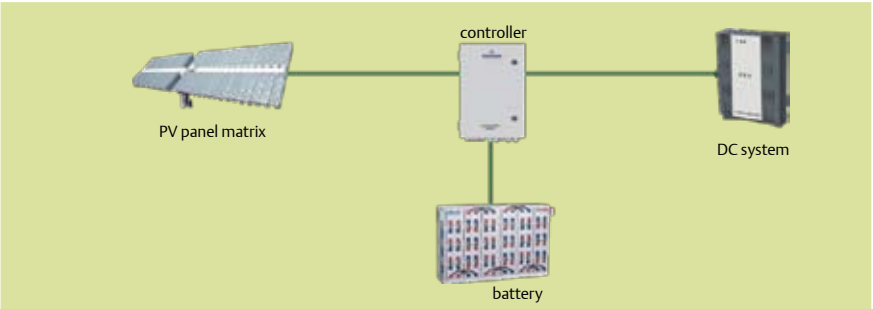
System Features:

- 3 kinds of optional solar power controllers of switching type, PWM type and MPPT type.
- Power supply is ensured by the combination of multi energy sources, user can select solar power, wind power and diesel generator flexibly according to the site environment.
- Energy management mode: Maximum energy saving, solar power and wind power have the priority to power the load, and the generator and battery are used as backup powers.
- Advanced MPPT function: MPPT precision higher than 99.5%.
- Intelligent battery management: Perfect boost and float charging management and temperature compensation functions, and the function of battery charging by diesel generator to prolong the battery life in case of emergency.
- Perfect lightning protection design: System provides complete lightning protections at AC input, solar power input, DC side and signal side.
- Protection design: IP55 high protection level cabinet, advanced temperature control design ensures the normal operation of the system in severe environment.
- PV panel back-feeding prevention function: Effectively protect the PV panel and controller, issue alarms in time and provide instructions for making corrections.
- Flexible networking: Realize local and remote monitoring with multi communication modes such as dry contacts, RS232/RS485 and Ethernet.
- Enriched data statistic: Provide statistics for generated energy of solar power, wind power, and utility power(diesel generator)for the energy saving analysis.
- Safety: Pass CE certification; comply with EN60950 and EN62109 standards.

Emerson Network Power launches NetShine™ solar power system for telecom applications depending on its long time experiences in network power field with its own innovative spirits, and leads communication industry into energy saving and green era.
Emerson has 3 series of solar power controller: Netshine series solar power controller, EHC series solar power controller, and HSS48 series solar power shelf. The above controllers cover the applications from indoor to outdoor installation, from wall-mounted, embedded and pole-mounted to floor mounted, and from the newly constructed BTS to optic-electric BTS.

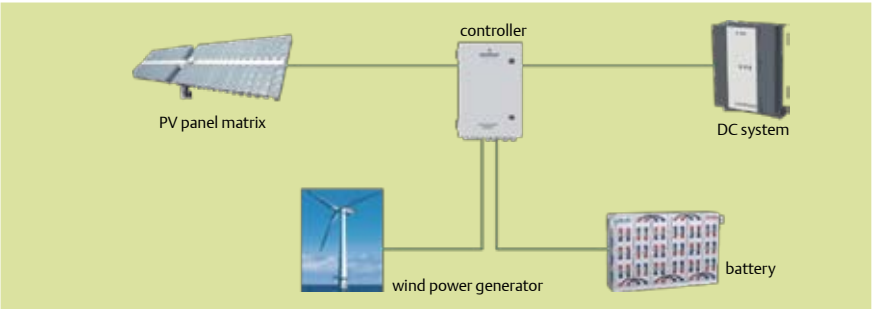
Independent solar power supply system

PV cells + solar power controller+ battery



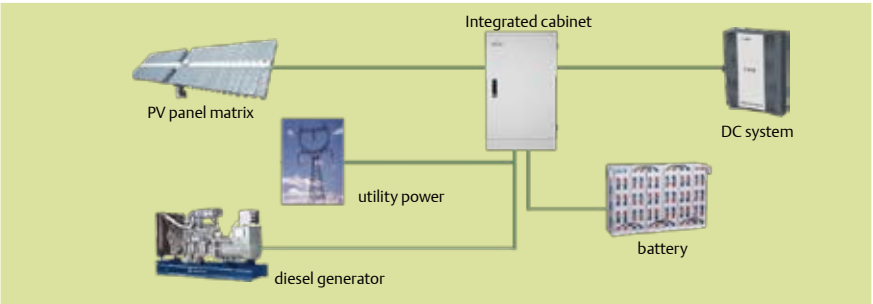
Wind+ Solar power supply system

PV cells + wind power generator+ solar power controller+ battery



Solar + Utility (Generator) power supply system

PV cells + utility power or diesel generator+ solar power controller+ battery



NetShine™ Solar Power Controller for Telecom Application

NetShine™ 100 CK2 Wall-mounted 200A solar power controller

Multi energy source input mode, can connect solar power, wind power and generator to form a multi energy source system

Item	Parameter
System capacity	48V X 200A
Input configuration	4 50A solar power inputs 2 50A wind power inputs 1 150A generator input
Output configuration	2 priority loads: 1 X 32A, 1 X 16A circuit breaker 4 non-priority loads: 2 X 32A, 2 X 63A circuit breakers
Battery	2 X 160A fuses
Protection level	IP55
Dimensions	700(Length)×550(Height)×200(Depth)
Weight	≤28Kg

EHC48200/MMW-H1 MPPT Wind + Solar+ Utility integrated OSP

Leading MPPT technology integrates solar power and rectifiers into one system that provides redundancy and reliability

Item	Parameter
System capacity	48V×200A
Rectifier system configuration	3 50A rectifiers
Input configuration	3 50A solar power MPPT modules 2 50A wind power inputs
Output configuration	2 priority loads: 1 X 32A, 1 X 10A circuit breaker 4 non-priority loads: 1 X 63A, 2 X 16A, 1 X 10A circuit breakers
Battery	2 X 160A fuses
Solar power conversion efficiency	≥96%
Protection level	IP55
Dimensions	600(Length)×1025(Height)×600(Depth)
Weight	≤105Kg(Including modules)

HSS48100/XMX-1 MPPT 100A Solar power shelf

19-inch 1U standard shelf is applicable for existing energy system upgrading with solar power system

Item	Parameter
Rated power	6000W
Input voltage range	58 ~ 150V
Output voltage range	42 ~ 58V
Conversion efficiency	≥98.2%
Shelf configuration	2 X MPPT modules + lightning protection + input/output configuration
Dimensions	360(Length)×44(Height)×584(Depth)
Weight	≤10Kg

Remark: Can configure 1-2 MPPT modules

SmartShine™ SSL series grid-tied PV inverter

Application scope:

- Large PV station
- BIPV

Emerson launches a new generation high efficiency grid-tied PV inverter system with high quality power output by using leading grid-tied inverter technologies based on its 40-year power electronics experiences and continuous innovations.

System features

- **Outstanding operating performances**

Modular design and unique rectifier redundancy technologies improve the power generating efficiency and output power quality under different sunlight intensities

- **Longer power generating time**

Extra wide input voltage range prolongs the power generating time and brings more benefits for power station.

- **Low maintenance cost**

Modular design and automatic fault isolation technology, and other unique innovation technologies such as hot plug/unplug maintenance ensure the product reliability and uninterrupted fault management capability

- **Extra long life**

The actual operating time of each module is only 60% of the whole grid-tied power generation time, ensuring more than 25-year service life of grid-tied inverter

- **Power grid planning capability**

Can accept power grid planning commands in real time to turn on/off the inverters and regulate the output PF

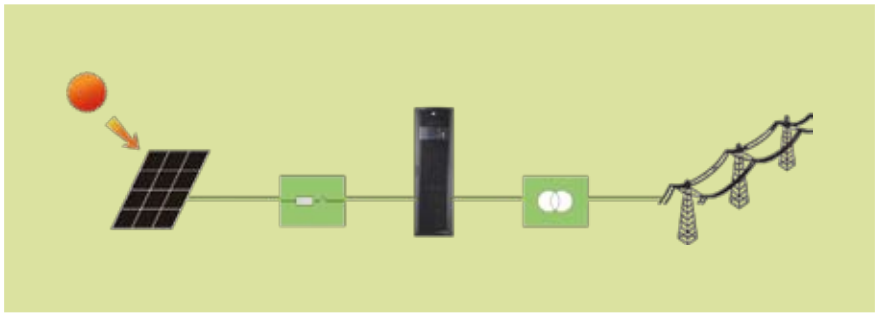
- **Minimum dimensions and weight in industry**

High power density design saves more than 50% footprint

EStandard product specification

Product model	Rated output power(kW)	Dimensions W×H×D(mm)	Weight(kg)
SSL 0100	100	600×2120×1000	300
SSL 0250	250	600×2120×1000	550
SSL 0500	500	1200×2120×1000	1000
SSL 1000	1000	2400×2120×1000	1950

PV grid-tied power generating system



SmartShine™ SSL series grid-tied PV inverter

Inverter features

- Modular design with high reliability and easiness of maintenance
- Unique rectifier redundancy technology improves the efficiency and power quality.
- Leading 3-level inverter technology improves product performance.
- Extra wide MPPT voltage range prolongs grid-tied power generating time.
- Compatible with 380V standard grid, making the system easier to be tied to the grid.
- Intelligent management with standard and various kinds of interfaces
- High power density, AC and DC integrated together with less footprint and light weight
- Easy-to-expand the capacity reduces the initial investment

Main technical parameters

PV inverter				
Model	SSL 0100	SSL 0250	SSL 0500	SSL1000
Rated DC input power	102KW	256KW	512KW	1024KW
Max DC input power	112KW	280KW	560KW	1120KW
MPPT voltage range	300 ~ 850Vdc			
Operating voltage range	300 ~ 900Vdc			
Max DC input non-destructive voltage	1000Vdc			
Max input current	240A	600A	1200A	2400A
Rated output power	100KW	250KW	500KW	1000KW
Max output power	110KW	275KW	550KW	1100KW
Grid voltage range	380/400/415Vac(±10%)			
Grid frequency range	50/60HZ(±4.5HZ)			
Output current harmonics	<3%			
Power factor	>0.99(can be regulated remotely)			
Max efficiency	98.2%	98.2%	98.3%	98.3%
EU efficiency	97.3%	97.3%	97.7%	97.7%
Self power consumption in operation	<400W	<850W	<1500W	<3000W
Self power consumption in standby status	<30W			
Protection level	IP20			
Operating temperature range	-30 ~ +55℃			
Permitted temperature range	0 ~ 95%			
Elevation for full load operation	3000m			
Cooling mode	Controlled forced air cooling			
Communication interface	RS485/Ethernet/GPRS			
Air exchange volume	1200m^3/h	3000m^3/h	6000m^3/h	12000m^3/h
Dimensions	600×2120×1000	600×2120×1000	1200×2120×1000	2400×2120×1000
Weight	300kg	550kg	1000kg	1950kg

SSL100

SSL250

SSL500

SSL1000

SmartShine™ SPV series grid-tied PV inverter

Application scope

- BIPV

SPV 4.0-5.0 Isolated type

Features

- Dual independent PV inputs
- Dual independent MPPT circuit
- Small and light, easy-to-install
- Outdoor protection level IP65
- Convection cooling(no need of fan)
- Inverter can be easily removed from the wiring box.
- Regulated AC output voltage and frequency
- Support multi communication modes: RS485, USB, Ethernet and wireless communication
- Front panel LCD display
- 10-year warranty(15 years and 20 years optional)
- Isolated type, comply with US grid-tied standard

Technical parameters			
Model	SPV 4.0 Isolated type	SPV 4.5 Isolated type	SPV 5.0 Isolated type
Max DC input power	4.2KW	4.7KW	5.3KW
Number of inputs	Dual channel independent MPPT input		
Max current for each input	12.5A	13.5A	15A
DC input voltage range	200 ~ 550Vdc		
MPPT voltage range	200 ~ 475Vdc		
Max DC input non-destructive voltage	600Vdc		
Rated output power	4KW	4.5KW	5KW
Max output current	16.7A(240Vac)	18.75A(240Vac)	20.8A(240Vac)
Rated grid voltage	200/208/230/240/277Vac		
Rated grid frequency	50/60HZ		
THDi	<2%(Rated power)		
Power factor	>0.99		
CEC efficiency	95.5%	95.4%	95.3%
EU efficiency	94.9%	94.8%	94.7%
Self power consumption at night	<1W		
Protection level	IP65		
Operating temperature range	-25 ~ +65℃		
Permitted temperature range	0 ~ 95%		
Elevation for full load operation	3000m		
Cooling mode	Convection cooling		
Communication interface	RS485/Ethernet/Wireless		
Dimensions	532x309x149.6mm		
Weight	18Kg		

SmartShine™ SPV series grid-tied PV inverter

Features

- Dual independent PV inputs
- Dual independent MPPT circuit
- Small and light, easy-to-install
- Outdoor protection level IP65
- Convection cooling(no need of fan)
- Two versions available: With wiring box(N), with connector(C)
- Regulated AC output voltage and frequency
- Support multi communication modes: RS485, USB, Ethernet and wireless communication
- Front panel LCD display
- 10-year warranty(15 years and 20 years optional)

Technical parameters			
Model	SPV 4.0 Non isolated type	SPV 4.5 Non isolated type	SPV 5.0 Non isolated type
Max DC input power	4.2KW	4.7KW	5.3KW
Number of inputs	Dual channel independent MPPT input		
Max current for each input	12.5A	13.5A	15A
DC input voltage range	200 ~ 550Vdc		
MPPT voltage range	200 ~ 475Vdc		
Max DC input non-destructive voltage	600Vdc		
Rated output power	4KW	4.5KW	5KW
Max output current	16.7A(240Vac)	18.75A(240Vac)	20.8A(240Vac)
Rated grid voltage	200/208/230/240/277Vac		
Rated grid frequency	50/60HZ		
THDi	<2%(Rated power)		
Power factor	>0.99		
CEC efficiency	97.1%	97%	96.9%
EU efficiency	96.75%	96.65%	96.55%
Self power consumption at night	<1W		
Protection level	IP65		
Operating temperature range	-25 ~ +65℃		
Permitted temperature range	0 ~ 95%		
Elevation for full load operation	3000m		
Cooling mode	Convection cooling		
Communication interface	RS485/Ethernet/Wireless		
Dimensions	532x309x149.6mm		
Weight	18Kg		

SPV 4.0-5.0 Non isolated type

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DC Power

Outdoor Base Station Platform

AC Power

Server Power Management System

Power Switching & Controls System

Surge Protection

Precision Cooling

Monitoring

Wind Power Generation System

Data Center Infrastructure Management

Server Cabinet System

Harmonic Treatment System

Solar Power Generation System

Wind Power Generation System

Electric Vehicle Charging Station System

Medium-voltage Inverter

Emerson is engaged in wind power generation products and provides full series of wind power converter

WinTrust™ wind power converter has unique modular design features with advanced controller technology and good adaptability to grid. High reliable protection design makes it adapt to the environment of sea shore and desert.

Wind power generating system contributes to "Critical business continuity" of Emerson Network Power.

WinTrust™ Wind Turbine Converter

- Highly reliable and applicable for adverse sites such as seashore and deserts
- State-of-the-art control technology, excellent grid adaptability and power generating performance
- Strong vibration-resistant
- Perfect fault record and diagnosis provide remote real time monitoring
- Modular design, single-person installation and maintenance available

Main technical parameters

Converter System			
Adaptive dual-feed wind energy generator power	1500kW(air cooling)	1250kW(liquid cooling)	1500kW(liquid cooling)
Operating altitude	0 ~ 2000m	0 ~ 2000m	0 ~ 2000m
Fullload operating ambient temperature	-20 ~ +45°C (Derating at 45°C above)	-20 ~ +45 °C (45°Crefers to liquid inlet temp)	-20 ~ + 45°C (45°C refers to liquid inlet temp)
Transport	$2M^3$	$2M^3$	$2M^3$
Efficiency	>97%	>97%	>97%
Protection level	Power part IP23 Control panel IP54	Power part IP23 Control panel IP54	Power part IP23 Control panel IP54
Resistance to grid imbalance	>8%	>8%	>8%
Resistance to grid harmonic wave	>8%	>8%	>8%
Dimension (H×W×D)	2600mm×2000mm×650mm	3000mm×1800mm×600mm	3000mm×1800mm×600mm

Grid side converter	
Voltage range	690Vac (three-phase) +10% /-20%
Frequency range	50Hz -2.5HZ/+1.5HZ (can be set to wider frequency)
rated current	305A
Overload capacity	510A

Grid side converter			
Rated current	580A	580A	580A
Overload capacity	640A	640A	640A
du/dt	<800V/μS	<1000V/μS	<1000V/μS

1.5MW converter (liquid cooling) for dual-feeding wind power generator set

1.25MW converter (liquid cooling) for dual-feeding wind power generator set

1.5MW converter (liquid cooling) for dual-feeding wind power generator set

Applications

- Adjustment of the excitation current of 1.25/1.5MW of the dual-feeding wind power generator set and stabilization of the output voltage and frequency of the wind power generator set
- Supporting wind generator set, in compliance with the grid fault ride-through requirements
- Air-cooling type is suitable for tower-mount installation, and water cooling type is suitable for installation in cabin

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Medium-voltage Inverter

Electric Vehicle Charging Station System

EV Charging Station Total Solution Supplier

- Emerson provides small-footprint, highly integrated, easy-to-install, easy-to-move, easy-to-expand capacity, easy-to-maintain and standard container type charging station with its many years of experiences in DC power, electric power system, OSP, monitoring product, precision cooling, low voltage distribution and lightning protection
- Provide innovative Wind+ Solar green charging stations for customer by using Emerson's advantages in PV inverter, energy storage station, dual direction inverter and wind power converter
- Provide multi series charging station solutions for newly constructed large, medium and small charging stations, new residential area, mature residential area, parking lot, gas station, public bus station and taxi station
- Provide following charging units: 400Vdc for electrical car, 750Vdc for electrical bus, 90Vdc for split charging box in electrical car, and 24Vdc, 36Vdc, 48Vdc and 72Vdc charging units for EV, and relevant DC charging pole and AC charging pole
- Provide perfect intelligent management systems such as operation management system, security monitoring system, and maintenance management system

Container type integrated charging station

DC charging unit

Charging module

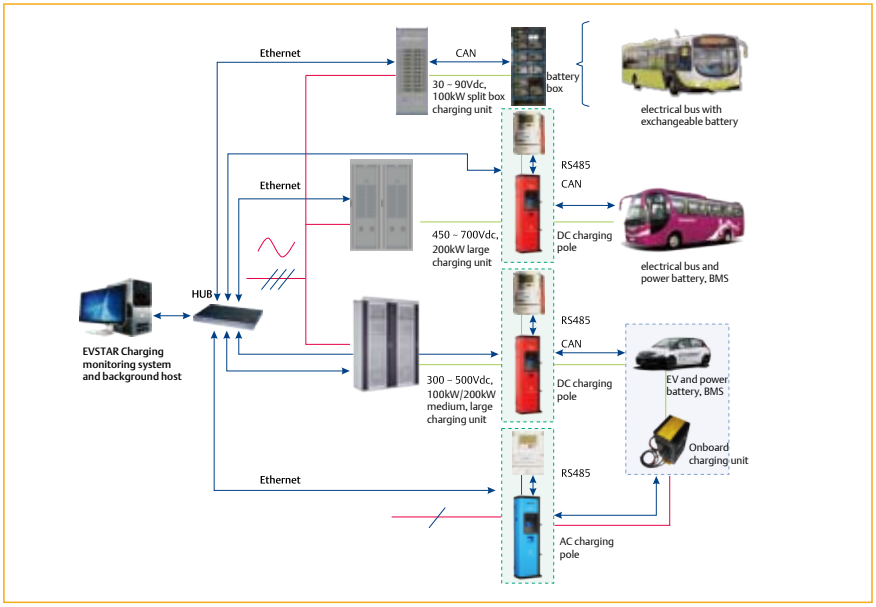
AC and DC charging pole series

Electric Vehicle Charging Station System

Applications:

- Charging stations of power company
- Charging stations of chemical-petroleum company
- Bus stations
- Taxi stations

Typical applications



Product series

Product models

Product name	Product model	Full configuration(rated)capacity	Height X Width X Depth(mm)	Weight(kg)	Note
Charging system	EVDC-400/405	400Vdc/405A(162KW)	2260×800×600	≤200	Configured with charging module ER40015/T and controller module EVM1
Charging system	EVDC-750/180	750Vdc/180A(144KW)	2260×800×600	≤200	Configured with charging module ER40016/T and controller module EVM1
Charging system	EVDC-90/1800	90Vdc/1800A(162KW)	2260×800×600	≤200	Configured with charging module ER9075/T and controller module EVM1
Charging module	ER40015/T	400Vdc/15A	244×88×380	≤10	
Charging module	ER75016/T	750Vdc/16A	88×488×380	≤20	
Charging module	ER9075/T	90Vdc/75A	88×244×380	≤8	
Monitoring module	EVM1		42×87×212	≤1	
DC charging pole	EVDP-400/405	400Vdc/405A	1660×450×300	≤70	
DC charging pole	EVDP-750/180	750Vdc/180A	1660×450×300	≤70	
AC charging pole	EVAP-220/16	220Vac/16A	1660×450×300	≤60	

Electric Vehicle Charging Station System

System features:

- High efficiency, high reliability, extra low EMI, easy-to-maintain, flexible capacity expansion, energy saving and environment friendly
- Extra strong adaptability to grid
- Digital active load sharing technology meets charging requirements of different types of battery voltages
- Comply with EN60950 safety standard, EN61000 EMC standard and GB/T17626, and EU RoHS standard
- Over/under voltage protection at power input side, over current and short circuit protection at output side, system insulation detection and insulation deteriorating protection, emergency stop, electrical lock checking of protective conductor in EV, battery reverse connection protection functions

Controller module

- Collect the information reported by the monitoring unit in the charging pole, regulate the output voltage and current of the charger according to the BMS requirements together with the monitoring unit in the charging pole, make judgment to the fault information and perform corresponding control, and complete associated control operations in charging process.
- Functions of communicating with the background host, charging module and the monitoring unit in charging pole
- Functions of measuring the analog values such as voltage and current
- Display the operating parameters, operating status, alarm status, parameter settings and control parameters in real time

Charging module

- Use high frequency switching technology with N+1 redundancy
- Use digital dual-DSP control and high power density design
- Extra wide input voltage range and wide input frequency range and wide operating temperature range
- Add fault code display at the module panel to make it convenient for fault checking
- Input over/under voltage protection, output over/under voltage protection, over current and short circuit protection and over temperature protection
- Use leading APFC technology
- Comply with CE and EMC class A requirement, and EU RoHS standard

AC and DC charging poles

- Large TFT color touch-screen with keypad provides a friendly easy-to-operate man-machine interface
- Can select charging modes of fixed time, fixed electric energy, fixed sum and automatic full charging
- Provide contact type or non-contact type IC card payment mode and ticket printing function, which is easy-to-operate
- Installed with video camera to realize video monitoring and security management
- Network monitoring and remote monitoring via Ethernet port, MODEM and serial port
- Perfect water proof, moisture proof and theft prevention functions, protection level reaches IP 54
- Safety functions of emergency stop, output leakage protection, over current and short circuit protection and mis-operation protection

Charging system
EVDC-400/405

Charging system
EVDC-750/180

Charging system
EVDC-90/1800

Controller
module EVM1

Charging module
ER9075/T

Charging module
ER75016/T

DC charging pole

AC charging pole

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Medium-voltage Inverter

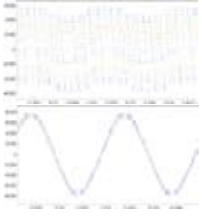
MegaVert Medium Voltage Variable

The main control system of MegaVert medium voltage inverter uses multi core control platform that improves the system overall performances:

- 1 X System DSP + 1XControl DSP + 1XFPGA to realize the separation of logic control from algorithm control
- Core CPU uses BGA package, both the size and power consumption are reduced to ensure more stable performance
- 150MHz DSP main frequency and 150MIPS calculating capability, supporting high precision and high speed calculating and realizing high speed interruption
- Outstanding data processing performances

MegaVert medium voltage inverter uses SPWM technology and multiple design of secondary side of phase-shift transformer to effectively suppress the harmonics and output perfect sine wave:

- Need no additional output filter or power compensation device
- No pulse torque caused by harmonics, so the load resonant can be avoided and the service life is prolonged
- The insulation of main motor and cable is protected against dv/dt
- Motor is not affected by common mode voltage
- No limit to the cable length as long as the voltage drop is within acceptable range
- No pollution to grid



MegaVert inherits the good tradition of high reliability of Emerson product families. The high performance bypass protection system that is specially designed for the medium-voltage inverter has extra high reliability, and has unrivalled safety and EMC design compared to other similar products.

- The main components use imported components with redundancy design.
- Input side uses dry type isolation transformer and integrated design, which is easy-to-install and improves system stability
- Main control system uses 3-level redundant power supply that ensures the system safety.
- Control signals are transmitted via optic fibers, which improves the system immunity.
- Multi protection functions and early warning mechanism for classified faults ensure the system safety, reliability and stability

MegaVert always satisfies user's needs:

- Compatible with many mainstream protocols(Modbus, Profibus, DeviceNet and InterBus)
- Configured with color touch screen(with keypad)that has optimized menus and help files, which is easy-to-operate
- Integrate software oscilloscope, user can check the waveform at any time and monitor the equipment running status at any time

- Front access
- Modular drawer-type structure
- Intelligent trouble shooting
- Safety protection mask

Model selection table

Item	Parameters															
Output voltage(V)	10000															
Capacity(KVA)	500	650	800	1000	1250	1600	1750	2000	2400	2800	3100	3300	4200	5000	7000	9000
Rated output current(A)	29	38	47	60	74	91	101	116	144	166	180	188	240	296	411	519
Applicable motor power(KW)	370	500	630	800	1000	1250	1400	1600	2000	2300	2500	2600	3300	4100	5700	7200
Length X Width X Height(mm)	6000×1200×2750					6800×1200×2750				7400×1200×2750			8000×1200×2750		-	-
Weight(Kg)						7000 ~ 9600										

Item	Parameters															
Output voltage(V)	6000															
Capacity(KVA)	400	500	630	800	1000	1250	1600	1800	2000	2800	3200	4500	5600			
Rated output current(A)	38	47	60	47	91	116	144	166	188	240	296	411	519			
Applicable motor power(KW)	315	400	500	630	750	1000	1250	1450	1600	2250	2500	3500	4500			
Length X Width X Height(mm)	4600×1200×2750			5200×1200×2750				6000×1200×2750		6600×1200×2750		-	-			
Weight(Kg)												-	-			

MegaVert Medium Voltage Variable

Cement:
- Induced draft fan of furnace
- Pressurized blower
- Dust catcher of cooler
- Raw material milling machine
- Air supply fan of furnace
- Exhaust air fan of cooler
- Fan of classifier
- Fan of main dust catche

Mining:
- Drainage pump in mine well
- Fan
- Medium pump
- Hoist machine

Oil and petroleum:
- Main pipe pump
- Water feeding pump
- Cyclic water pump
- Water feeding pump of boiler
- Electric submersible pump
- Brine pump
- Induced draft fan

Electric power:
- Induced draft fan
- Air supply fan
- Fan of dust cleaner
- Compressor
- Sewage drainage pump
- Water feeding pump of boiler

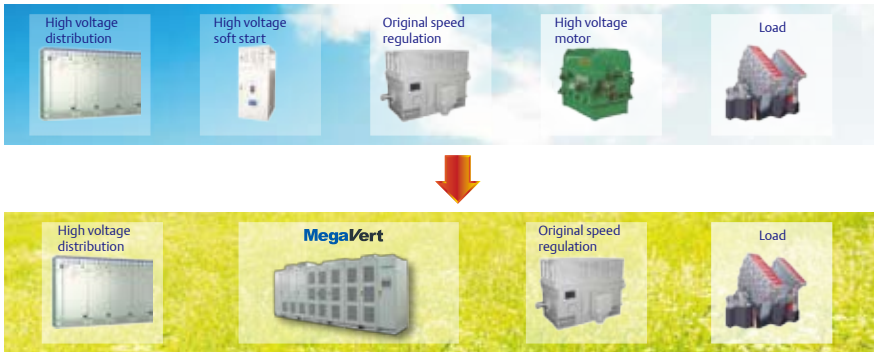
Water supply:
- Sewage pump
- Purify pump
- Clean water pump

Metallurgy:
- Induced draft fan
- Fan of dust cleaner
- Ventilation fan
- Mud pump
- Dirt cleaning pump

Ship driving:
- Driver

Vehicle driving:
- Tractor

Variable Speed Drive Upgrading



Main technical parameters

Item	V/F control	Vc control without PG	Vc control with PG
Output line voltage(V)	3-phase output under rated input, 0-10V, tolerance <3%	Speed regulation close loop control, output range 0-10kV	
Output voltage harmonic	＜7% At rated output voltage		
Max output frequency(Hz)	120		
System efficiency	＞97% Test when the internal temperature of the unit becomes stable at rated input and output conditions and 25℃ ambient		
Overload capacity	125% for 1min, 150% rated current for 1s (40 ℃, elevation below 1000m, others are rated conditions)		
Voltage	Rated 3-phase 10kV with +/- 5% variance Can output rated power when input voltage is between +10% and -10% Output power is derated when input voltage is between -10% and -45%, and the derated power is between 0% and 35% The unit is under protection and stops when the input exceeds +15% to -45%		
Voltage waveform quality	Voltage imbalance < 3%, THDu < 10%		
THDi(THDi)	<8% (rated output power)		
Input PF	>0.95 (rated condition)		
Rated frequency	50Hz, fluctuation range: +/-5%		
Max frequency	10.0Hz ~ 120.0Hz		
Basic frequency	10.0Hz ~ 50.0Hz		
Startup frequency	1.0Hz ~ 30.0Hz		
Acceleration / deceleration time (Note 2)	0.1s ~ 3600s		
Power semiconductor switching frequency	300Hz switching frequency of IGBT		
Frequency resolution	Analog setting: 0.1% X Max frequency setting Digital setting: 0.01 Hz		
Output frequency precision	Analog setting: +/- 0.2% Max frequency Digital setting: +/- 0.01% Max frequency		
Speed setting resolution		Digital setting: 0.01 Hz Analog setting: 0.1% X Max frequency setting	
Speed precision		±0.5%	±0.05%
Speed fluctuation		0.50%	0.30%
Speed regulation range	1：10	1：50	1：100
Torque control response		＜200ms	＜150ms
Startup torque	3Hz 100%Rated torque	1Hz 120%Rated torque	0.1Hz 120%Rated torque
Torque control precision		±10%	±3%
DC braking capacity	Startup frequency: 0.0 -30.0Hz, braking time: 1.0 – 600.0s, braking current: 0.0 -150.0% rated current		
Excitation braking		Braking time: 0.0-600.0s, 0-100% rated current, start frequency: 0.0 – 50.0Hz	
Automatic voltage regulation(AVR)	When the grid voltage changes, the output voltage can be kept constant automatically. During the fluctuation range of +/- 10%, rated output voltage fluctuation < +/- 3% Optional settings of “No action”, “acts all the time”, and “no action in deceleration”, and the default is “no action in deceleration”		
MTBF	24,000 hours (transfer to bypass is enabled when single power unit fails, MTTR of single power unit < 3 hours) Conditions: 25 ℃, 1000m elevation, the others are rated conditions		
Protection level	IP 30(IP 31 needs to be customized)and the fan kit is IP20		
Cooling mode	Forced air cooling		
Noise	<80dB (Test according to DL/T994-2006 standard)		

MegaVert — F — 2400 — 10/10

- 10/10: Input voltage / output voltage, 10 represents 10kV
- 2400: Rated power, unit is kW
- F: Series name, F: Fan & Pump, applicable to fan and pump load
- MegaVert: Family name

About Emerson Network Power

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, infrastructure management, connectivity, solar power, wind power, industrial energy-efficient products and electric vehicle charging stations. All solutions are supported globally by local Emerson Network Power service technicians. Learn more about Emerson Network Power products and services at: www.emersonnetwork.com.cn, or call 400-887-6510

About Emerson

Emerson (NYSE: EMR), based in St. Louis, Missouri (USA), is a global leader in bringing technology and engineering together to provide innovative solutions for customers in industrial, commercial, and consumer markets through its network power, process management, industrial automation, climate technologies, and tools and storage businesses. Sales in fiscal 2010 were $21 billion. For more information, visit: www.emerson.com

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- Infrastructure Management & Monitoring
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- Racks and Integrated Cabinets
- Services
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