VERTIV™

IT Infrastructure Solutions

Enabling the Vital Applications of the Digital World



World's Leading Critical Digital Infrastructure Provider

Today's networks have become more distributed and more complex, making availability and connectivity symbiotic. You can't have one without the other. Vertiv connects and protects your network with core-to-edge solutions and expertise that is unmatched anywhere in the world.

Proven Reliability

- IT Infrastructure Support **Since 1965**
- We Keep **750,000+ Customer Sites Connected**
- Trusted Service Provider for **+70% of Fortune 500 Companies**

Global Expertise

- Nearly **27,000 Employees Worldwide**
- **24 Manufacturing Centers**
- **19 Customer Experience Centers**
- **2740 Global Patents** Issued
- **770+ Pending Patent** Applications

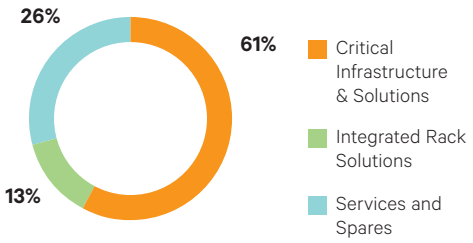
Unmatched Support

- **220+ Global Service Centers**
- **3,500+ Field Service Engineers** Globally
- **87% First-Time Fix Rate** in Site Emergency Visits

As industry experts, we collaborate with our customers to envision and build future-ready infrastructures.
We leverage our portfolio of hardware, software, analytics, and services, to enable our customers' vital applications to run continuously, perform optimally, and scale with business needs.

Data Centers: Hyperscale/Cloud, Colocation, Enterprise and Edge
Communication Networks: Macro Site, Central Office, Small Cell and Data Center
Commercial and Industrial: Healthcare, Manufacturing, Rail/Mass Transit, Power Generation and Oil and Gas

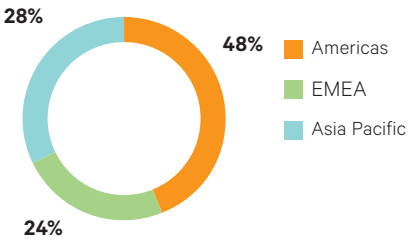
Offering



Broad range of power, thermal, and IT and edge infrastructure, solutions and services portfolio

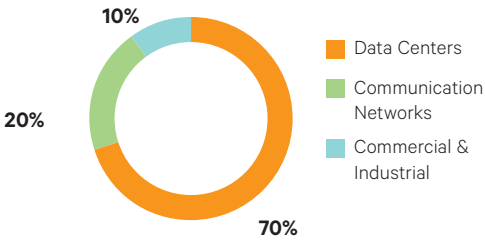
**by revenue*

Geography



Global, well-established footprint and supply-chain network

End Market



Customers who operate in some of the world's most critical industries

Vertiv History

1946
Ralph Liebert founds Capitol Refrigeration Industries, the precursor to Liebert Corporation

1965
Liebert Corporation formed as industry's first manufacturer of computer room air conditioning (CRAC)

1983
Liebert acquires Programmed Power Corporation, expanding its uninterruptible power supply (UPS) business

1987
Emerson acquires Liebert Corporation

2000
Emerson forms Network Power business, integrating critical infrastructure technologies under a single brand

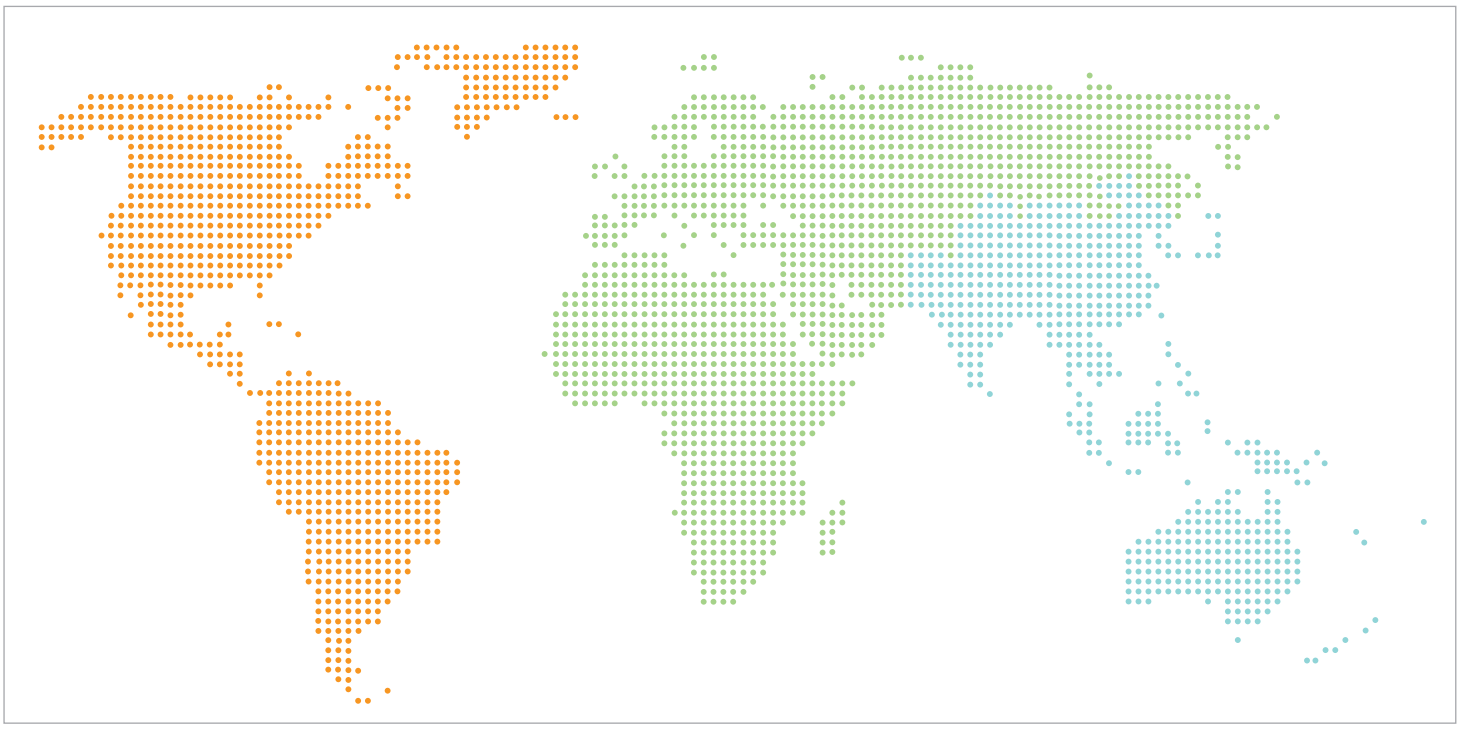
2001
Emerson Network Power increases presence in Asia with purchase of Avansys. Emerson Network Power India is formed

2004
Emerson Network Power expands telecom industry solutions with acquisition of Marconi outside plant and power system

Brands You Can Trust

Alber™ Battery Monitoring	**Avocent®** IT Management	**Cybex™** IT Management	**E+I Engineering** Electrical Switchgear	**Energy Labs™** Commercial and Industrial Thermal
Geist™ Rack PDU	**Liebert®** AC Power and Thermal	**Netsure™** DC Power	**Powerbar** Busbar Trunking	

Our Presence



GLOBAL PRESENCE
Manuf. and Assembly Locations **24**
Service Centers **220+**
Service Field Engineers **3500+**
Technical Support/Response **220+**
Customer Experience Centers/Labs **19**

AMERICAS
Manuf. and Assembly Locations **10**
Service Centers **80+**
Service Field Engineers **1600+**
Technical Support/Response **90+**
Customer Experience Centers/Labs **5**

ASIA PACIFIC AND INDIA
Manuf. and Assembly Locations **4**
Service Centers **75+**
Service Field Engineers **1250+**
Technical Support/Response **30+**
Customer Experience Centers/Labs **9**

EUROPE, MIDDLE EAST AND AFRICA
Manuf. and Assembly Locations **10**
Service Centers **65+**
Service Field Engineers **650+**
Technical Support/Response **100+**
Customer Experience Centers/Labs **5**

2006
Emerson Network Power acquires Germany-based Knürr AG, a leading provider of enclosure systems

2009
Emerson Network Power acquires Avocent, a leading provider IT management software and KVM solutions

2016
Vertiv launches as a stand-alone business expanding capabilities and commitment to support the mission of designing, building and servicing mission-critical technologies that drive possibility for customers

2018
Vertiv makes its first two acquisitions, Energy Labs, a U.S. based manufacturer of custom air handling systems and Geist, a leading manufacturer of rack power distribution units

2020
Through a business combination with GS Acquisition Holdings, Vertiv Holdings Co began trading on the New York Stock Exchange (NYSE: VRT), becoming a publicly-listed, pure-play digital infrastructure provider

2021
Vertiv completes acquisition of E+I Engineering Ireland Limited and its affiliate, Powerbar Gulf LLC; a leading independent provider of switchgear, busway and modular power solutions

Integrated Solutions

Rapidly deploy and manage IT infrastructure in just weeks without building new data center space. Our Smart Solutions products help you meet your IT needs with significant savings. With simplified, standardized designs, you can start small and expand over time.

Vertiv™ SmartCabinet™ 2

Self-contained, pre-configured, pre-engineered and factory tested infrastructure solutions for data centers and telecom networks.



Vertiv™ SmartCabinet™ 2-E with self-contained cooling

Features:

- **Fully integrated** - Factory assembled and tested for power, thermal management, rack enclosure, power distribution, monitoring and management, and security for IT applications. No dedicated IT room is required.
- **Dust protection and noise insulation** - Fully closed operation, cold/hot air is circulated within the rack for better temperature and humidity control, expanding lifespan of IT equipment, low noise level. Highly suitable for office environment.
- **Highly Efficient** - Built-in high efficiency UPS and cooling equipment, that uses DC frequency conversion technology for energy savings.
- **User-friendly interface** - Large 9-inch LCD touch panel that allows for easy access to system status/alarms/ setting.
- **Fast deployment** – SmartCabinet provides faster deployment and is ready to use from day one, removing the need to build, construct and design computer rooms which dramatically reduces the required deployment period compared to a traditional IT facility build.
- **Central Management** – optional feature of RDU-M that provides central management of multiple SmartCabinet sites.



Vertiv™ SmartCabinet™ Premium with external condenser



800mm width with external condenser



600mm width with external condenser



Vertiv™ SmartCabinet™ 2-M



Vertiv™ SmartRow™ 2

Vertiv™ SmartRow™ 2 brings an innovative approach to efficiently integrate and manage distinct systems namely, Power and Distribution system, Thermal Management, System Security, Comprehensive Interface, Cable management, and other pertinent aspects. It takes over the previous generation of products' set-up and maintains the micro-module application benchmark, to provide users more compact, more reliable, safer, more convenient; a technology room deployment ecperience. The solution comes with the fastest deployment rate, lowest operating cost and the lowest learning curve for operation.

Features:

- Power Distribution System
- Modular Construction
- UPS System
- Precision Cooling Units
- Support Utilities
- Cable Management
- Remote Monitoring
- Advanced Touch Screen Display Controller



New Vertiv™ SmartAisle™

Liebert® SmartAisle™ the most advanced fully integrated data center infrastructure solution with the futuristic capabilities embedded with sophisticated technology to make the data center operations efficient, quickly deployable , and provide monitoring and control of the entire operations.

Features:

- Lowest Total Cost of Ownership Increase of 30+% cooling efficiency utilize SmartAisle™ logic ensures the most accurate cooling environment.
- An integrated design facilitates quick deployment in less than 2 weeks
- Simple Architecture, an integrated stand-alone build-to-install approach for the entire DC set-up in one go
- A 15-inch large HMI control panel enables administrators and facility managers to visualize the entire system operation in real time
- Uptime Tier IV Ready

Uninterruptible Power Supplies

We take a holistic approach to power efficiency and availability across the power spectrum. Using our solutions, companies can overcome challenges to developing, deploying and managing power regardless of industry.

Vertiv™ Liebert® GXT5 Lithium-Ion

(1000VA to 3000VA)

On-line Double Conversion UPS



Features and Benefits

- Lowest total cost of ownership; lithium-ion batteries last up to 3 times as long as VRLA batteries, resulting in fewer battery replacements saving time and money
- 5-years standard warranty on the UPS and batteries
- Longer battery runtime and quicker battery recharge times to ensure availability of your critical applications
- 0.9 (or better) Output Power Factor delivers more usable power, saving space and cost
- High efficiency, up to 92% in double-conversion online mode to deliver energy savings
- Advanced User-Friendly Color Graphic LCD with gravity sensing orientation for simple local UPS configuration and management
- Flexible 2U rack/tower convertible form factor
- Up to seven battery-backed outlets ensuring you critical equipment is protected
- (4) Individually Programmable outlets to optimize battery runtime for critical loads
- Hot-swappable, user-replaceable internal batteries enable battery replacement without disrupting power to connected equipment
- Input circuit breaker for additional protection of the equipment in the event of a worst-case failure
- Remote Emergency Power Off (EPO) to turn off the UPS in the event of an emergency
- USB communications for local UPS monitoring and management using free Power Assist software
- Optional Liebert® IntelliSlot RDU101 network communications card for remote monitoring, control and management of the UPS
- Environmentally Friendly; RoHS and REACH compliant

Vertiv™ Liebert® GXT5

(750VA to 3kVA; 5kVA to 10kVA; 16 & 20kVA)

On-line Double Conversion UPS



Features and Benefits

- Available in 750VA, 1-1.5-2-3 kVA & 5-6-8-10 kVA & 16-20kVA ratings
- Unity output power factor (PF=1)
- LCD multi-language color display (gravity sensing)
- On-line (VFI) mode efficiency up to 95%
- Active ECO mode efficiency up to 98%
- Energy Star® 2.0 certified
- Controllable and programmable output sockets
- Integrated solution with batteries and electronics
- Parallel capability for 10kVA
- External battery cabinets with auto-detection feature.
- Operation at full power up to 40°C (up to 50°C with derating)
- Available in rack and tower configurations
- Vertiv™ Power Insight for free download
- 3 years warranty

Vertiv™ EDGE UPS

(500VA-3000VA)



Features and Benefits

- High output PF=0.9 to maximize available power and protect more equipment
- High efficiency, up to 98% in line mode, to deliver energy savings
- 1U, 2U, 3U, tower, rack/tower form factors, with power ratings from 500VA to 3000VA, to address a broad range of power requirements
- Advanced AVR protection with 2x boost and 1x buck tap to protect the battery by smoothing out spikes, sags and brownouts
- Color graphic LCD display
- Add up to 6 extended run battery cabinets to increase runtime
- External battery cabinets with auto-detection
- Rack/tower 3kVA model with short depth for flexible installation
- "Green mode" operation: in battery mode with small loads, the UPS will automatically shut down to protect batteries, optimize energy savings
- Programmable outlets to disable non-critical loads, optimize battery runtime
- Input breaker device for additional protection to the load in worst case failures
- Smart fan speed control for lower audible noise
- Remote connectivity via network interface or serial connection to monitor power consumption and configure user-defined alert notifications to prevent downtime
- Extend battery life with deep discharge protection
- RoHS and REACH compliant

Vertiv™ EDGE Lithium-Ion UPS

(1500 – 3000VA 230V)

Line-Interactive UPS



Features and Benefits

- 0.9 Output power factor delivers more usable power, savings space and cost
- High efficiency, up to 98% in line mode, to deliver energy savings
- Color graphic LCD display
- Flexible 2U rack/tower form factor
- Up to seven battery-backed outlets
- Programmable outlets to optimize battery runtime
- Hot-swappable user-replaceable internal batteries
- Input breaker device for additional protection to the load in worst case failures
- Remote emergency shut down capability via EPO port
- USB communications for UPS status monitoring and management
- Optional Liebert® IntelliSlot™ IS-UNITY communications card for remote monitoring and control
- RoHS and REACH compliant

Vertiv™ Liebert® APM Plus

(50 - 500kW)



Features and Benefits

- Remarkable double conversion efficiency - up to 97%
- Eco mode efficiency - >99%
- Flat efficiency curve
- High power density
- Fit for the row or room applications
- Modular and scalable
- Hot-swappable power modules & bypass module
- Distributed module control system
- Unitary output power factor and symmetrical power factor diagram
- Reliability boosters - Robust air channels, PCBs embedded with conformal coating
- Integrated parallel and load bus synchronization
- Intelligent paralleling function
- User-friendly 9-inch LCD touch screen display
- Supports UPS self-capacity test without load banks
- Tolerates higher ambient temperatures up to 50 °C with auto-derating

Vertiv™ Liebert® GXE

(6kVA- 10kVA 230V)



Features and Benefits

- High output power factor (1.0)
- Full-color graphic LCD with gravity sensing orientation
- High efficiency in online mode (up to 94%)
- Even higher efficiency (up to 98%) in ECO mode
- Flexible rack/tower design, with rack mount kit included
- Extended runtime with up to 4 External Battery Cabinets (EBC)
- Hot-swappable user replaceable internal UPS batteries
- Remote management capability with optional Vertiv™ Liebert® Intellislot™
- IS-UNITY network management cards
- Wide input frequency operation (40-70 Hz) without any power derating
- Automatic internal bypass
- Free UPS management software
- Fast recharge time (3 hours @ 90%)

Vertiv™ Liebert® PSA

(500, 650, 1000, 1500VA)

Line-Interactive UPS



Features and Benefits

- Boost and buck AVR to stabilize the input voltage
- Three to six battery-backed UPS outlets, depending on model size
- One to two surge-only outlets, differentiated by color
- USB communications / shutdown software and cable included
- Up to five minutes of battery backup time of full load
- RJ-45 port for data line surge protection
- 2 years warranty

Vertiv™ Liebert® APS

(5- 20kVA)



Features and Benefits

- Industry-leading efficiency: 92% for transformer-free systems and up to 89.9% for transformer based systems.
- Scalability that allows you to cost-effectively add power capacity or battery modules as needed.
- Modular batteries, controls and power components to help reduce maintenance costs with user replacement.
- Two year hassle-free factory warranty program for repair or replacement of your Liebert® APS UPS.
- Module-level redundancy eliminates the expense of purchasing and planning for additional cabinets.
- Reduced installation time and cost because units are shipped pre-configured and factory tested, no need for on-site assembly.
- Everything you need for efficiency and availability in one box: power modules, batteries, maintenance bypass, and distribution in a single, small-footprint cabinet.
- Integral battery monitoring with temperature compensated charging to prolong battery life and help reduce replacement costs.
- Reliability and Serviceability

Vertiv™ Liebert® EXM2

(100- 250kVA)



Features and Benefits

- Guarantees Maximum Energy Savings: Up to 97% and 99.2% efficiency in double conversion and ECO mode respectively
- Further Maximizes Energy Savings: Up to 98.8% efficiency in third mode of operation (Dynamic online mode) and Intelligent parallel function
- Compact Footprint: Saves space up to 15% over legacy system
- Increases Flexibility: Seamlessly fits in multiple application scenarios
- Guarantees Faster Battery Recharging: Powerful battery charger
- Guarantees Wider Battery selection and Lowers Installation Costs: 2-Wire DC bus & compatibility with lithium-ion batteries
- Increases Adaptability and Lowers Cooling Costs: Seamlessly operates up to 50 °C
- Fully Compatible with Critical IT and Non-IT loads: 0.5 lagging to 0.5 leading loads without derating
- Guarantees More User Friendly HMI and Leaner Spare Parts Management: Integrated user-friendly touch screen display consistent with existing Vertiv offering
- Fault Tolerant Design: Use of modular blocks allows safe, easy and fast installation and service, reducing mean time to repair (MTTR) and maximizing availability

Vertiv™ Liebert® ITA2

On-line UPS

(5KVA - 40KVA)



Features and Benefits

- Robust structure with cutting edge channelized airflow design
- Wide input voltage range, making it immune to grid interference
- Rack-tower design for installationn flexibility
- Able to deliver both three-phase and single phase output
- 0.99 input power factor for better grid or generator compatibility
- Powerful charging capability for minimum battery recharging time
- Programmable output outlets/ terminals with cascade protection to protect key devices during heavy load
- Integrated communication port for remote monitoring
- Easy to install, repair, and maintain
- Compliance with seismic conduction & vehicle carrying test
- Gravity sense LCD Display

Vertiv™ Liebert® EXS

True On-line Double Conversion UPS

(10 to 80 kW)



Features and Benefits

- Output power factor up to 1
- Double conversion efficiency up to 96.2%
- ECO mode efficiency up to 99.3%
- Compact footprint with multiple internal runtime configurations
- Available in 3/3 and 3/1 versions (10-20kVA)
- Integrated maintenance bypass
- Integrated input and output breakers/switches
- Parallel capability for capacity and redundancy
- Lithium-ion battery compatible

Vertiv™ Liebert® GXT MT+ CX

(1kVA, 2kVA, 3kVA)

True On-line Double Conversion UPS



Available only in SEA

Features and Benefits

- IGBT Based Rectifier
- True Online Double Conversion With DSP Control Technology For High Performance And Reliability
- New Graphical LCD Display Provides UPS Data, Alarms And Helps In Faults Diagnostics And Trouble Shooting
- Double Conversion Efficiency Upto 90%
- Active Input Power Factor Correction 0.99
- 0.9 Output Power Factor*
- Ultra Wide Input Voltage Window: 110-280VAC, Suited For Very Poor Quality Power Grid.
- Configurable Output Voltage (200/208/220/230/240Vac)
- Generator Compatible With Wide Input Frequency Range (40Hz-70Hz)
- Adjustable Battery Charging Design For Optimized Battery Performance
- 50/60Hz Automatic Frequency Converter Mode
- Intelligent Monitoring with Standard RS232/USB Port Plus Slot Available for Dry Contact/SNMP Card

Vertiv™ Liebert® itON™ PSA-SOHO

(650VA, 850VA, 1kVA)

Line-Interactive UPS



Available only in SEA

Features and Benefits

- Universal Sockets
- USB Port Charge (for 650VA & 850VA model)
- Built-in Boost and Buck AVR
- Space for large power plugs
- Fuse Protection
- Provides AC overload protection
- Auto restart when AC source recovers
- Compact size, lightweight
- Fast charging
- OFF mode charging
- Cold start function
- Overload protection and alarm
- Surge protector against transient voltages

Vertiv™ Liebert® GXT RT+

On-line Double Conversion UPS

(1kVA-3kVA, 230V)



Features and Benefits

- Available in 1-1.5-2-3 kVA ratings
- High output power factor (PF=0.9)
- Rack / tower design allows for flexible installations
- User-friendly liquid crystal display (LCD)
- High efficiency ECO mode
- Compact dimensions (2Us height) including batteries
- Integrated solution with batteries and electronics
- External battery cabinets (upto 6) for applications requiring long runtime
- Flexible communications through RS232 or USB ports
- Slot available for optional SNMP/web monitoring cards
- Rack mounting kit included
- 2 years warranty

Vertiv™ Liebert® GXT MT+

(1kVA, 2kVA, 3kVA)

True On-line Double Conversion UPS



Available only in ANZ

Features and Benefits

- Double conversion on-line technology
- Compact tower design standard models and long backup models available
- Extended runtime capabilities by building up additional battery resources
- Flexible (site specific) battery configuration
- Standard model comes with internal battery
- Generator-compatible with wide input frequency range (40 to 70 Hz)
- 0.8 output power factor
- Class A electromagnetic interference (EMC)
- Ultra wide input voltage range
- High input power factor & low THDi
- Emergency power off (EPO)
- Configurable to energy saving mode (ECO)
- LCD display for operational convenience and status / fault information
- Multiple AC output interfaces via IEC standard sockets with Programmable output
- Remote Monitoring is available through USB / RS232, and optional via dry contacts and SNMP

Thermal Management

Intelligent, comprehensive approach to managing and controlling heat across your mission-critical facilities

In-Row Cooling

Vertiv™ Liebert® CRV4

(12 to 66kW)



The Vertiv™ Liebert® CRV4 thermal management solution is a row-based solution designed to provide maximum cooling in a compact footprint. The solution provides the highest efficiency and availability by removing heated air from the data center hot aisle and using it to return cooled air to the servers (cold aisle).

Features

Evaporator Coil Design

- The finned tube evaporator with high heat dissipation efficiency is used. R&D has produced evaporator designed with increased in efficiency by ensuring that the refrigerant is distributed evenly in each loop

Variable Capacity Brushless DC Inverter Compressor

- DC inverter compressor technology provides infinite variable capacity modulation between 30% - 100% to ensure precise respose to dynamic changing cooling demand
- Improved reliability by reducing compressor cycling and component wear
- Environment-friendly R410A refrigerant

Flexible Fan Operation

- The EC fan speed is automatically regulated by the CRV4 smart controller
- High efficiency EC fans saves energy and hot swappable design allows replacement while the unit is running

Electronic Expansion Valve (EEV)

- Allows for integrated and optimal variable capacity control
- Maintain constant superheat & dehumidification assistance

Immersion Cooling

Vertiv™ Liebert® VIC

(25 to 200kW)



Features

Liebert® VIC Liquid Immersion Cooling Enables You to:

- Scale easily, cost-effectively — and limitlessly
- Increase cooling capacity up to 100 kW with warm water at 35 °C (95 °F) up to 200kW with chilled water at 7C (45F)
- Achieve PUE approximately 1.05

Liebert VIC solution delivers optimum results with the help of ElectroSafe Dielectric Liquid Coolants:

- An odorless, non-toxic, single phase coolant that is both electrically and chemically Inert
- Does not need to be replaced over the life of the data center
- National Fire Prevention Association (NFPA) 704 Diamond rates ElectroSafe as a 0-1-0 substance. This means that it poses no health hazard, has a high flash point, and is stable even under fire exposure conditions

Room Cooling

Vertiv™ Liebert® PEX 3

(30 to 100kW)

Vertiv™ Liebert® PEX 4

(35 to 120kW)



The Liebert PEX3 and PEX4 are our room-based solution that offers unparalleled efficiency and precision cooling for medium to large data center. The Liebert PEX3 features advance technologies that gives mission critical loads the highest levels of efficiency and utmost reliability within the most compact footprint. The Liebert PEX4 efficiently reduces operating costs with enhanced capacity, allowing modern data centers to enjoy abundant load variations with premium efficiency.

Features

Microchannel Evaporator Coil

- Microchannel coils are 40% smaller, 40% more efficient, and use 50% less refrigerant than standard tube and fin coils.
- It's compact design and flat tube results in reduced weight and lesser power consumption.

EC Fan

- The EC fan technology regulates airflow and reduces the fan input power.
- The Liebert EC 2.0 fan modulates the fan speed according to load density, saving nearly 30% of energy consumption.

Electronic Expansion Valve (EEV)

- Necessary for integrated and optimal variable capacity control.

Inverter Compressor (PEX4 only)

- Optimized variable speed design through efficient BPM motor, wide speed range 1000 ~ 7200 RPM for part load efficiency.
- High return air capability. Supports up to 40C return temp, increasing capacity and efficiency.
- Coupled with R410A refrigerant and EEV, premium efficiency is achieved as compared to legacy solution.

Small Room Cooling

Vertiv™ Liebert® SRC-G

(3 to 11kW)



The Liebert® SRC-G is an innovative thermal management solution with zero indoor unit footprint, making it ideal for wide applications – small technological rooms across aviation industry, railways transportation, power plant, healthcare, and BFSI.

Features

- High efficiency
- High ambient operation
- Advanced controller
- Easy maintenance and service
- Zero Footprint
- G4 filters as standard

Room Cooling

Vertiv™ Liebert® DM

(7 to 27kW)



Vertiv™ Liebert® DM delivers enterprise-level thermal management to small computer rooms and network closets. It is designed for year-round temperature and humidity control for IT applications across the critical infrastructure, and equipped with an air-filtration feature. The Liebert® DM offers a selection of variants to fit your infrastructure's requirements and conditions. It also features communication capabilities to the critical infrastructure manager for easy monitoring of the temperature across the IT infrastructure.

Features

Energy Savings:

- High sensible heat ratio and high energy efficiency
- Equipped with scroll compressors
- Provides stable temperature and humidity condition
- Fans for outdoor units feature easy to access full range speed regulation
- Manageable and unique ECO-Mode option
- Energy saving component options

Space Saving:

- Small footprint - 100% front door access

Intelligent Controller:

- 7-inch HMI Colourscreen & easy to use interface
- 3 level password protection to prevent unauthorized operation
- Graphical representation of return air temperature & relative humidity display in real time
- Email and SMS notification (thru Vertiv™ Liebert® RDU™) for remote monitoring functions
- Store up to 1000 alarm history

User Friendly and Maintenance Free:

- 24/7 operation capable
- Ultra wide input voltage range: multiple power protection functions
- Environment adaptability: adoption to outdoor temperature while meeting cooling requirements
- Adaptive to heat dissipation of the main equipment

Monitoring, Control and Management

Our solutions provide comprehensive functionality, scalability and security across the facility. By expanding data access and analysis, we provide unprecedented insight which lowers costs and enables rich remote management while ensuring security.

Vertiv™ CLRA



Features and Benefits

Local Rack Console

- **Widescreen:** 18.5" LED LCD panel with a 16:9 aspect ratio. Supports resolutions up to 1920 × 1080 at both full screen and aspect ratio.
- **Form Factor:** Easy access in the 1U space. Detent lock engages when stowed in the rack. Save space by installing an Avocent KVM (AV3000/ CSV1000 series) in the same 1U space.
- **KVM Compatibility:** CLRA Consoles are compatible with all Avocent data center KVM switches.
- **User Interface:** On-screen menu has an intuitive OSCAR interface and can be accessed in multiple languages.
- **Data Center Local Access:** Complete entry point to local servers when needed.
- **Ease of Use:** Full desktop style keyboard with number pad, touch pad and two USB 2.0 pass through ports.
- **Environmentally Responsible:** Low power usage during operation and standby.
- **Global availability:** Certifications and keyboard language support.

KVM Models

- Integrated KVM switch options with 8- or 16-port, local and/or remote access to servers.

Vertiv™ Avocent® ACS 8000 Serial Console



The Vertiv™ Avocent® ACS 8000 Serial Consoles deliver secure in-band and out-of-band visibility and control to downstream equipment in enterprise data centers, as well as cloud and colocation facilities. Now with cellular capabilities, the system provides flexibility to access devices when wired networks are down (failover) or unavailable at the location.

Features and Benefits

- NEW! - Cellular option for Out-of-Band or failover connectivity
- Environmental sensor port gives visibility into onsite conditions
- Access and troubleshoot remote locations using automatic network failover to cellular, Ethernet or analog modem
- Strong dial-up and secure dial-back using optional built-in modem
- Compliance with data center access and security policies via customizable, multiple access levels
- No need for adaptors with automatic Cyclades™ and Cisco pin-out conversions
- Integrated support for 1Gb SFP fiber modules 8 USB ports to support new IT equipment and external devices
- Uses an embedded cryptographic module that is based on a FIPS 140-2 validated cryptographic module
- Integration with Avocent DSView™ software for centralized management
- Expanded support for Rack PDUs from Vertiv™, ServerTech, APC, Raritan & Eaton along w/ GXT4/5 UPS systems

Vertiv™ Avocent® ADX Ecosystem



The Vertiv™ Avocent® ADX Ecosystem is built upon a secure common architecture which seamlessly integrate and scale to create an open yet resilient IT management platform – from Enterprise to Edge configurations.

Features and Benefits

- Flexible and scalable deployments
- Multilevel security for users and devices
- USB-C native to match IT trends
- IP addressable 4K KVM device
- Centralized firmware updates to limit security risk
- Simplified management and control of virtual and physical infrastructure
- Secure and auditable access to devices for IT operators
- Improve efficiency of making changes to IT devices
- Minimize costs with IP consolidation, PoE and API automation
- Improved scalability with diverse devices and higher remote sessions
- Resilient platform for security, reliability and high bandwidth demand
- Increased productivity for remote access and remote working
- Scalable to meet diverse connectivity and resolution needs
- Secure access to remote devices
- Common architecture with an Open platform and APIs

Vertiv™ Avocent® AV Series KVM Switch



Features and Benefits

Powerful User Access Control

- Grant access to specified users or implement LDAP directory authentication
- Limit KVM access to specific targets on the switch
- Enable smart card or CAC readers to support two factor authentication
- Support HTML5 Viewer for more secured and Java-free KVM access

Streamlined Management

Virtual Media support allows servers to access storage media attached to the KVM, enabling out-of-band file transfers and OS patch deployments.

Local Port Access

Support for virtual media, USB keyboards and mice.

Graphical, Multilingual OSD

Advanced, graphical On-Screen Display eases system configuration and server selection.

Space-Saving

CAT-5, thin cabling saves space in the rack and allows up to a 30 meter distance between the server and the switch.

Intelligent Cabling

Server interface modules and integrated access cables automatically assign and retain unique server names for each attached server.

Vertiv™ Avocent® MergePoint Unity™ IP-KVM Switch



Features and Benefits

- Advanced Remote Management provides secure and remote, out-of-band connections directly to the physical KVM, USB and serial ports to complement existing in-band software management tools.
- Meet service level agreements and minimize downtime through a unified approach that provides IT administrators a faster method to diagnose, reconfigure or restore equipment.
- Virtual Media support enables USB media such as CD-ROMs, flash memory and external drives to be virtually attached to a remote server's USB port.
- CAC/Smart Card support allows remote or local users to map a USB-based smart card reader to the attached servers and authenticate using their smart cards.
- FIPS 140-2 compliance: based on the FIPS 140-2 validated cryptographic modules (certificate number 1051).

Vertiv™ Avocent® DSView™ Management Software



Features

- Secure, remote, centralized data centre management
- Multi-device support
- Virtual media support
- Integrated solution for KVM and power control
- Simple, fast and reliable user interface
- Access service processor managers
- Notifications
- Scheduling
- Multi-platform support
- Flexible authentication/access control
- System/User logs
- Selectable encryption modes

Vertiv™ Avocent® HMX 1080/2080



Features and Benefits

- Supports USB2.0 devices
- Supports transmitter DVI local loop output (local KVM interface) with dedicated selection button
- Support full-HD video transmission (1920×1200 @ 60HZ)
- Low latency of <1 frame per second
- Supports multi-channel lossless compression audio formats
- Matrix and extension modes
- Drawing and video modes
- Integrated 2-Port Gigabit switch
- Virtual IP Matrix function
- On-screen display menu supports screen preview
- RS232 port transmission
- Optional IR wired remote control kit

Vertiv™ Liebert® RDU501



The RDU501 is a premium infrastructure gateway appliance equipped with out-of-band access to service processors with out-of-band access to service processors via IPMI as well as serial console management capabilities.

Features and Benefits

The Liebert® RDU 501 allows data center managers to perform the following operations through a secure web page:

- Monitoring of the health and status of the equipment
- Monitoring of environmental conditions i.e. temperature and humidity, leak and smoke.
- Monitor the improved communication speed in transmitting control or commands to the equipment and parameter setting
- Records Data and Logs of historical information of alarms and notifications

3rd Party Communications:

- SNMP
- Modbus 485
- Dry contacts
- Analog Signals

Vertiv™ Power Insight



Features and Benefits

- Alarm notifications via email, SMS and on-screen icons
- Shutdown protection for individual and virtual servers
- Auto discovery of devices
- Access to each device web interface
- Alarm views with data that can be sorted or filtered
- Summary data of individual devices
- Dashboard views of key data points such as capacity load percentage, output current, battery percentage charge and battery time remaining
- Redundant device support
- Sequential server shutdown function to extend runtime for the most critical loads
- Vertiv™ Power Insight provides easy integration into VMware's vSphere management platform.

Vertiv™ Avocent® HMX 3080/4080



Features and Benefits

- Distributed IP matrix architecture
- The switching speed time isless than one second between target computers
- Multicast 1:1 pixel mapping with instant video transmission
- Support two-way audio, USB2.0 pass-through transmission, RS232 serial port or IR infrared transmission
- The built-in SFP port supports fiber optic fiber access
- Supports Video Wall set up (2x2, 4x4, 8x8)
- Supports mouse slide roaming
- Supports agent push and share function, can be used to monitor the screen push of the large screen
- Supports group preset. Screen of multiple receivers can be switched with one click
- PoE (Power Over Ethernet) power supply is supported (selected models)

Vertiv™ Smart Infrasight



Vertiv™ Smart InfraSight takes data from Liebert® RDU and represents it into a 3D model for one glance monitoring. With the RDU auto-discovery and drag-and-drop 3D modelling features, you can configure the software and start monitoring power usage, temperature, humidity and HD video streams in minutes.

Vertiv™ Smart InfraSight also allows you to control access via access cards.

Features and Benefits

- Auto discovery of Liebert® RDU devices
- Power usage, temperature and humidity monitoring
- Alarm notifications via email, SMS and on-screen icons
- Drag-and-drop 3D modelling
- Entry control via access cards
- Up to 9 HD video streams

Vertiv™ Environet™ Alert



Features and Benefits

- Equipment vendor neutral solution
- Modern user interface (UI), enabling complete user flexibility and control
- Delivers reporting, graphs and user customizable dashboards
- Offers a customizable data visualization and flow
- Provides powerful real-time monitoring, alarming and alerting
- Monitor via SNMP, Modbus-IP, BACnet-IP
- REST API for 3rd party integration
- High availability ready

Vertiv™ Geist™ SwitchAir®



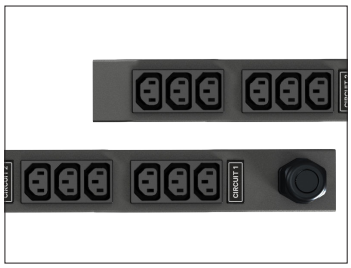
Network switches, load balancers and routers typically sit at the top and back portion of the rack, away from the cold aisle airflow at the front of the cabinet.

Features and Benefits

- Provides a path for cool air to flow to the intake of network switch equipment and other devices with rear (non-port side), front (port side), single or dual side intakes.
- Creates a barrier to effectively prevent hot exhaust air from recirculating to device intakes.
- Simple and quick installation in all standard racks or cabinets.
- TAA and/or BAA compliant.
- Reduces the chance of network switches overheating by directing cool air to device intakes.
- Reduces the likelihood of premature equipment failure due to high intake temperatures.
- Improves equipment efficiency by providing network equipment with the same cold aisle air temperature as other devices in the rack.
- Decreases wraparound hot airflow from the hot aisle to the cold aisle due to missing blanking panels.
- Standard three-year warranty, upgraded to five years with product registration.

Power Distribution Units

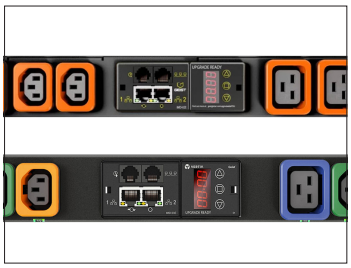
Your power distribution system impacts both availability and scalability. Our room, row and rack power distribution units give you the flexibility to adapt to changing environments. They also support monitoring to ensure availability and provide insight into energy use.



Vertiv™ Geist® Basic Rack PDU

Features and Benefits

- Reliable rack power distribution
- Every unit is 100% tested for reliability and functionality
- Available in vertical and horizontal rackmount form factors.
- Flexibility to meet a broad range of requirements, with a variety of electrical and receptacle configurations available.
- Standard three-year warranty, upgraded to five years with product registration.



Vertiv™ Geist® Monitored Rack PDU

Features and Benefits

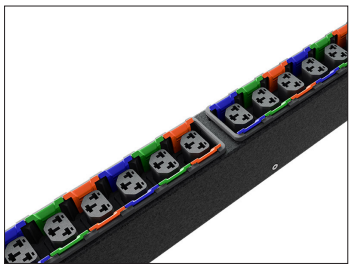
- Reliable power distribution with local and remote power monitoring options offer quick access to critical power usage information to evaluate energy usage trends and maximize uptime.
- Upgrade your hot-swappable monitoring device on the fly to leverage new technologies and accommodate changing business needs without having to replace entire power strips
- Every unit is 100% tested for reliability and functionality to ensure units function as designed.
- Standard three-year warranty, upgraded to five years with product registration.



Vertiv™ Geist® Metered Rack PDU

Features and Benefits

- Avoid accidental overloads when deploying or moving critical server equipment with instant access to power consumption metrics on the local LED digital display.
- Available in vertical and horizontal rackmount form factors.
- Every unit is 100% tested for reliability and functionality to ensure units function as designed.
- Standard three-year warranty, upgraded to five years with product registration.



Vertiv™ Geist® Combination Outlet C13/ C19

Features and Benefits

- Combination Outlet C13 / C19 is a 2-in-1 receptacle functioning as both an IEC C13 and C19 providing flexibility to connect C14 and C20 plugs in the same outlet
- Select the appropriate power configuration with confidence that the rPDU will have the right
- combination of outlets available no matter what equipment is.
- For ultimate rack power flexibility, select a Vertiv Geist UPDU, Universal Power Distribution Unit, with the Combination Outlet C13 / C19 to accommodate all initial deployment needs and any future equipment adds, moves, or changes.

Vertiv™ Powerbar iMPB



Features and Benefits

- Modular design with IP2X certified open-face track
- Extendable segments in increments ranging from 0.6 to 4 meters
- Capacities that range from 160 to 1000 amps
- Rigid aluminium busway track chassis
- Easy-to-change, hot-swappable tap-off boxes
- Busway track rated for 100% continuous current
- Interrupt capacity rating up of 10 to 50 kA
- Tap-off boxes with mechanical and electrical interlocks that utilize a ground-first, break-last safety feature
- Monitoring options for electrical oversight

Vertiv™ Geist® Rack Transfer Switch



Features and Benefits

- Automatic detection of power loss
- Reliable power switching
- Upgradable Technology
- Enhanced Intelligence
- Automatic Power loss detection
- Predict overloads with real-time power usage metrics
- Supports out of phase transfers
- <4-8ms Transfer Speeds
- Easy to use Front Panel Interface
- Combination Outlet C13/C19

Vertiv™ Liebert® RXA



Key Benefits

- Reliable uninterrupted power distribution for your IT infrastructure
- High power density:
  - 400 Amps 84 Poles in 0.19 m2
  - 800 Amps 168 Poles in 0.38 m2
- Available in two ratings:
- 250 Amps or 400 Amps
  Flexible and scalable panel board, accepts 1, 2, 3 or 4 Poles branch circuit breakers, up to 84 Poles of available space
- Hot-swappable panel board system: replace or add a branch circuit in less than 20 seconds while other branches remain live
- Intelligent oversight with Vertiv™ Liebert® DPM monitoring system

Vertiv™ Liebert® SPM 1.0



Features and Benefits

- Aesthetic and effective structure
- Monitoring system
- Advanced calculation and control system
- Hot swappable
- Anti-disturbance solution

Racks and Containment

You want the optimum benefits of your investments. And you want to be prepared for the unknown and unexpected. Our rack and containment products deliver flexibility, adaptability and cost-effective solutions to your specific data center requirements.



Vertiv™ VE Rack

The Vertiv VE Rack is an innovative enclosure system that integrates your computing hardware, power management technologies and peripherals in data centers and computer rooms. It offers superior design and flexibility, allowing optimal data center performance and easy installation.

Features

- Strong and durable nine-folded solid frame profile which can hold a static load of up to 1,600 kg
- 75% open high perforated doors for optimal air flow
- Convenient tool-less installation of cable and air flow management
- Internal and external battery configurations for optimized back up time management
- Fast deployment leveling feet Heavy duty caster wheels for easy movement

Enhanced Rack Installation Space Efficiency

- Solid steel frame with installation slots
- Rack static load capacity of 1,600 kg

Excellent Rack Cooling Efficiency

- Optimal heat management with 75% perforation rate for both front and rear doors
- Optional blanking panels for air flow are available

Enhanced Rack System Applicability In Data Centers

- Accessories available for cabling and air flow management
- Optional features for specific requirements in data centers available

Increased Convenience In Installation and Maintenance

- Tool-less design for cable, air flow management, and PDU mounting for flexible and quick installation
- Low profile casters preconfigured for easy deployment and mobility
- Self-leveling feet for easy installation

Increased Rack Adaptability and Expansibility

- Integral part of the total data center solution of Vertiv
- Highly adaptable and flexible to integrate power, cooling, and monitoring equipment
- Containment solutions available
- Supports a variety of rackbased SmartAisle (cold aisle / hot aisle) solutions

Service

Vertiv ensures continuous uptime of your critical operations so you can perform at your peak and maximize your resources. Whether you are in a data center, communications facility, government agency, or industrial plant, we collaborate with you every step of the way.



Spare Parts & Parts Management
Having the parts you need on site and at the latest revision level reduces unplanned downtime and keeps your systems up and running.



Preventive Maintenance
Design and implement a maintenance strategy that will improve your facility's availability and performance.



Performance Optimization Services
The life of your IT critical equipment can be shorter than design life if you do not regularly optimize the equipment and your data centre. With that in mind, we designed a holistic Performance Services offering, to enable you to optimize the life of your critical equipment and the life of your data center.



Remote Services
Ensure healthy critical systems by relying on domain experts who use advanced monitoring to capture and analyze your system data, and turn it into action.



Project & Commissioning Services
Maximize your investments, prevent delays, and avoid rework with effective project planning and execution.



Preventive Maintenance for Industrial
Have regular maintenance to ensure that your industrial systems are performing at optimal levels.



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