



DC POWER OVERVIEW BROCHURE

Powerful Solutions for Critical Data
and Telecom Applications





NETSURE™ APPLICATIONS

- Radio Base Station / Microwave Site
- Wireless & Wireline Access
- Central Office / MTSO
- CATV Headend
- Computer Room
- Data Center
- Enterprise (PBX, LAN)
- Network Closet
- Outside Plant Cabinets & Shelters

From major switching and data centers to remote shelters and computer rooms, NetSure DC power systems have the features and proven performance to match your network application needs.

A Brilliant Combination of Technology and Real-World Capability

The NetSure line of DC power systems from Vertiv™ demonstrates unparalleled reliability and industry-leading efficiency ratings at 12, 24, 48 and 400 VDC. Vertiv rectifiers — the heart of the power system — possess some of the highest power densities and smallest footprints in the business. These power solutions can be further enhanced with the addition of intelligent controllers, remote system monitors, battery management units and a full range of distribution modules.

Mini DC Power Systems, 0.5 kW to 6 kW Power Capacity

High-density mini-sized DC power solutions for outside plant enclosure, central office or embedded applications.

NetSure™ 211 Series

The NetSure 211 Series of compact -48V DC power systems offers 1 RU and 2RU configurations, combining reliable NetSure rectifiers with an advanced Ethernet-accessible controller for mini power applications. The 1 RU model allows for up to three 1000 watt 48 VDC rectifiers in a 23" shelf and two 1000 watt rectifiers in a 19" configuration.

The 2 RU model allows for up to six 1000 watt 48 VDC rectifiers in a 23" shelf and up to four 1000 watt rectifiers in a 19" configuration.



NetSure 211, 1 RU Configuration



*NetSure 211, 2 RU Configuration
with Optional GMT Distribution Panel*



Optional NetSure 211 Battery Cabinet

Vertiv™ provides a complete range of communications network infrastructure solutions and services built on an industry-leading reputation for quality, reliability and value.

Small DC Power Systems, 2 kW to 28.8 kW Power Capacity

Highly reliable, uninterruptible cost-effective power systems for small data or telecom installations.

NetSure™ 5100 Series

The NetSure 5100 Series, a compact -48 volt DC power solution, features an intelligent NCU controller, a high efficiency rectifier, converter, solar converter and multiple distribution options to meet a variety of application demands. The system is available with integrated and external distribution panels, and can provide +24 volt DC power when equipped with converters.

The NetSure 5100 Series is ideal for telecom access and network edge applications requiring reliable, high power density up to 600 A at -48 VDC or up to 400 A at +24 VDC. Optimally designed for use with Zone 4 compliant relay racks and cabinets, thanks to a high operating temperature of +65°C and high operating efficiency levels above 96%. Cost-effectively supports climate system dimensioning in outdoor enclosure applications.



*NetSure 5100
with Integrated Distribution*



*NetSure 5100
with External Distribution*



*Hybrid NetSure 5100
with 2 Row External Distribution*



NetSure Battery Rack

Batteries & Accessories

Products frequently used together with DC power systems are available, including battery disconnects, batteries, battery strands, battery trays, bus covers, assorted panels, circuit breakers and much more.



Medium DC Power Systems, 10 kW to 300 kW Power Capacity

Modular, flexible design for switching, wireless base stations, transmission, LAN, WAN & other networking operations.



NetSure™ 7100 Series

The versatile NetSure 7100 DC power system offers single or three-phase input up to 277/480 VAC and is now available as an indoor enclosure in the row. Designed for 3500 watt or 2000 watt rectifiers and 1500 watt DC to DC converters this modular design provides up to 4000 amps of current for -48 volt systems with up to 520 amps at +24 volts. The basic components of the power system include the NetSure Control Unit (NCU), module mounting shelf assemblies which house the rectifiers and converters, and a modular distribution cabinet.



NetSure 7200 Series

The NetSure 7200 DC power system is an efficient and reliable multi-bay power system that delivers intelligent control, metering and monitoring. The foundation of the system is a patented, proven 3.5kW eSure™ rectifier, featuring high frequency switching technology in a compact package. The flexible and modular design of this series enables deployment in a variety of site configurations and allows for scalable buildouts to match capacity to demand.



NetSure 722 Series

Ideal for replacement or expansion of legacy rectifiers up to 2000 amps at -48V DC. The NetSure 722 can be used with any -48V DC power system, regardless of vendor or plant type and enables the site's existing distribution power board to be retained. Accommodating up to twenty-nine high efficiency 3500 watt rectifiers per system, the NetSure 722 provides up to 2000 amps of current for -48 volt systems. The basic components of the system include an advanced controller, a module mounting shelf for the controller and five rectifiers, and up to four expansion shelves that hold six rectifiers each.



Converter Systems

NetSure DCS Series

Compact, cost effective, modular design, ideal for +24 VDC applications requiring -48 VDC output. The DCS Series includes integrated distribution and alarming within a 19" or 23" mount. Bulk converter systems from -48 V to +24 V are also available.

Rectifiers

eSure High-Efficiency Technology

eSure rectifiers deliver world-class reliability and the highest efficiency in the industry. The high density 2000 watt eSure rectifier, R48-2000e3, reduces power consumption lowering operating cost with efficiency over 96%.



Large DC Power Systems, 20 kW to 600 kW Power Capacity

Power systems for data center and central office applications such as wireline & wireless switching, transmission, data routing and large telecom hotels.

NetSure™ 801 Series

The NetSure 801 high-density power system offers the increased flexibility of a cabled plant in a centralized or distributed architecture. The system consists of individual power bays and distribution bays that may be configured with modular 5800 watt rectifiers that operate at 96% efficiency to meet any -48 volt application requirement.



NetSure 801

NetSure 802

NetSure 802 Series

Integrated -48 VDC 3-phase rectifiers, distribution, control and monitoring in a single frame. Expandable to 16,000 amps with additional frames.

DC Power Distribution

NetSure 8100DB Series

The high capacity, modular NetSure 8100DB delivers effective secondary load distribution with increased visibility and detailed understanding of all loads in your core facility. These top or bottom feed distribution bays deliver 4,800 amp (eight panel) or 3600 amp (six panel) continuous rating with an interrupting capacity of 10,000 amps. Ideal for colocation and core facilities including cable headends, MTSOs and MSOs requiring protection of power plants up to 640 amp capacity per load.



NetSure 8100DB



Individual current measurement for each fuse/breaker

Distribution Panels

DC distribution panels for NetSure systems are designed to provide overcurrent protection for multiple small loads. Panels accept either fuses from 1A to 20A or load breakers up to 150A. Options include up to (36) GMT fuses or up to (4) load breakers and (12) GMT fuses. The fuses plug into one of the mounting positions on the front panel. Each position has a localized return landing.



GMT Fuse Panel

Emerging DC Architectures

Power systems designed to address emerging applications in telecommunications, data centers, and commercial building.

12V DC Power

Centralizing power in the rack allows both main power and backup power to scale at the same rate as the IT load. With this 12V DC integrated rack solution from Vertiv™, IT loads and power are configured to minimize stranded capacity and to size hold up times according to the user's needs. The result is an efficient and economical power strategy that provides ultimate flexibility by enabling IT capacity to be added one rack at a time.



12V DC Rack with NetSure ITS

400V DC Power

NetSure 400V DC Power systems from Vertiv are built with proven topologies including modular, hot-swappable 15 kW rectifiers that achieve greater than 97% peak efficiency. This architecture can significantly reduce copper cabling costs compared to -48V DC and can improve availability and efficiency compared to traditional AC power. NetSure 400V DC to -48V DC converter systems extend the copper reduction benefits of 400V DC to existing -48V DC networking loads in core telecom applications.



NetSure 9500

Enclosure Solutions



Custom designed or standard enclosures available for all types of telecom and data equipment.

Vertiv XTE 200 Series

This series of enclosures is specifically designed for small cell applications where DC power is required to support your network equipment. The power cabinets not only house the DC power system, but also have 1 RU of room for ancillary network equipment. They can be paired with a separate battery enclosure in a variety of pole mount configurations.



Vertiv XTE 400 Series

The XTE 400 series is a family of three small to medium sized enclosures that are designed to support a wide range of equipment for communication networks, monitoring equipment and general industrial applications. Even though these enclosures are relatively small in size, there is a long list of rack, backboard, power, thermal and mounting options that make these enclosures very adaptable to your specific requirements.



Vertiv XTE 600 Series

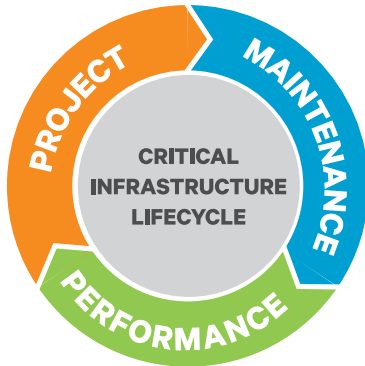
By far our broadest line of enclosures, the XTE 600 series ranges from 8RU all the way to 44RU of equipment space. They can be configured in literally thousands of combinations such that they are ideal for any wireline or wireless application, including - DSLAM, FTTx, backhaul, macro cell, C-RAN, and batteries. These enclosures have field proven reliability and have been deployed widely throughout North America by all major operators for over ten years.



Vertiv XTE 800 Series

Our largest size of enclosures supports seven-foot-tall relay equipment racks and give you the ability to walk into them for protection from the elements. In addition to multiple sizes that can be configured to your specific application, they have the added benefit of being classified as a 'cabinet' vs. a 'shelter' in most jurisdictions which keeps permitting and deployment costs to a minimum.

Services



A complete life-cycle approach to service, from project launch to ongoing maintenance and performance optimization

We strive to keep your network infrastructure highly available, efficient and adaptable, so you can:

- Increase mean time between failure
- Decrease operating cost
- Implement future technologies while maximizing your resources

PROJECT

When launching new facilities or powering up new equipment, you want to do it right – right from the start

- Plan
- Design
- Engineer
- Integrate
- Commission
- Project management

MAINTENANCE

Services to ensure that your business-critical infrastructure operates reliably, safely and efficiently

- Preventive and corrective maintenance
- Remote services and monitoring
- Cap / fan / battery replacements
- Repair
- Spare parts

PERFORMANCE

Full range of services designed to optimize infrastructure performance and reduce complexity

- Assess
- Audit
- Model
- Configure
- Upgrade
- Train



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