



## DC Power Overview

Powerful Solutions for Critical Data  
and Telecom Applications







## NetSure™ Applications

- Radio Base Station / Microwave Site / 5G, 4G, 3G
- Wireless & Wireline Access
- Central Office / MTSO
- CATV Headend
- Computer Room
- Data Center
- Enterprise (PBX, LAN)
- Network Closet
- Outside Plant Cabinets & Shelters



NetSure 2100 Rear View



Optional NetSure 48V Battery Cabinet



NetSure 2100

*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. 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™ 2100 Series

The NetSure 2100 Series, a compact -48 volt, 48 amp DC power shelf, features an advanced control unit, up to (3) positions for 1000W high-efficiency eSure rectifiers and space for distribution breakers and fuses. The power system supports 19"W and 23"W rack mounting and is available in a number of configurations. The distribution section supports four different options for circuit breakers up to 60A or GMT fuses up to 15A. A low voltage battery disconnect option is available.

*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 600A at -48 VDC or up to 400A 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™ IPE Series**

The NetSure™ IPE series high-efficiency R48-2000C2 rectifier is designed to support 5G radio applications with low power requirements, such as small cells and remote radio heads (RRHs). Fanless cooling eliminates maintenance and results in silent operation. Ideal for rapid deployment in urban, rural, or protected public areas.



## 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 available as both indoor and outdoor applications in the row. Designed for 3500 watt or 2000 watt rectifiers and up to 3750 watt DC to DC converters this modular design provides up to 12000 amps of current for -48 volt systems with up to 500 amps at -58 volts or +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 701 NCU Retrofit Kit

The Vertiv™ NetSure™ 701 NCU Retrofit kit provides an advanced upgrade for legacy NetSure plants to the NCU control unit and associated features and options. All power (rectifiers) and distribution remains intact, allowing for installation on a live system without service disruption. Existing connections are re-purposed to minimize installation complexity.

Kits are available for both the main bay and supplemental bay. The main bay accepts the NCU controller (ordered separately) with either the standard configuration or custom configuration upon request.

Once updated, the NetSure 701 system will have all the features of the current model (NetSure 7100) including compatibility with the latest monitoring options and supervisory modules. The retrofitted NetSure 701 can be expanded with a NetSure 7100 supplemental bay as needed.



### NetSure 802 NCU Retrofit Kit

The NetSure 802 Controller Retrofit Kit enables seamless modernization of primary, secondary, and distribution-only bays, preparing them for future expansion with the NetSure 8200 platform. The primary bay kit includes a new 10-inch touchscreen display and enhanced control chassis, while secondary and distribution-only bays receive updated control and monitoring assemblies for streamlined communication and integration. With advanced security, intuitive remote and local monitoring, and compatibility with multiple networks, the NetSure 802 Retrofit Kit is a comprehensive solution for improving site management and efficiency.

## NetSure Accessories

Batteries and more for DC power systems.



### Batteries & Accessories

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

## 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 8200 Series

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



NetSure 8200



LCD Display



## Converter Technology



### eSure™ Power Extend Converter

The eSure™ C48/58-1000 Power Extend Converter is a 1000W, -48 VDC to -58 VDC converter with bullet terminals designed to increase power output to remote radio heads (RRHs) and function as an overcurrent protection device for the RRH circuit. It is ideal for upgrading legacy DC power plants at macro cell sites to support the increasing power requirements of 5G applications.

## Rectifier Technology



### eSure High-Efficiency Technology

eSure rectifiers deliver world-class reliability and the highest efficiency in the industry. Ranging from 1000W to 12000W DC output, these extremely dense modules minimize energy loss, reduce carbon emissions and lower operating cost.

## DC Power Distribution

### NetSure Distribution Series

High capacity, modular bays deliver effective secondary -48V DC 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 Distribution Bay



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.



NetSure Distribution Panel

### NetSure Inverter Series

NetSure™ Inverter systems deliver outstanding reliability, modularity and scalability. With market leading inverter module density, the systems support your AC loads in a compact footprint. Rectifiers and inverters are connected to the same battery bank which not only facilitates zero second transfer time should commercial AC fail, but also saves space and reduces financial investment.



## Emerging DC Architectures

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

### 50V DC Power for the Data Rack

Centralizing power in the rack allows both main power and backup power to scale at the same rate as the IT load. With this 50V 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.



NetSure ITS 50V DC 33kW Power System

### NetSure Solar Converter Shelf

The NetSure™ Solar Converter Shelf is a compact -48 VDC solution that can easily be added to an existing telecom DC power plant from any manufacturer. Built on the proven reliability of Vertiv's eSure Solar Converter, the NetSure Solar Converter Shelf delivers industry-leading system density and full power up to 55°C. It can support one or two 4300W solar converter modules and features front access connections.



## Enclosure Solutions



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

### **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**

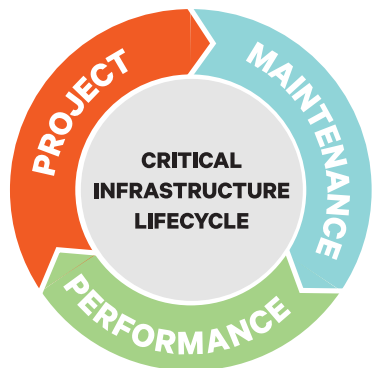
By far our broadest line of enclosures, the XTE 600 series ranges from 8RU all the way to 44RU of equipment space. They can be configured in literally thousands of combinations such that they are ideal for any wireline or wireless application, including - DSLAM, FTTx, backhaul, macro cell, and C-RAN. Supporting battery backup enclosures are also available. 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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