

Vertiv™ NetSure™ 7100 Series

-48V DC Power System – 20 kW to 600 kW



Key Benefits

- Effectively power a variety of equipment types with -48VDC rectifiers, -58VDC or +24VDC converters and 120VAC inverters, all from one power system.
- Actively manage and monitor system performance, battery health, and generator operation using the NetSure controller platform across your entire network.
- Minimize upfront cost by incrementally increasing capacity as needed.
- Easily migrate from -48V to -58V or +24V DC equipment or vice-versa with multi-purpose rectifier/converter slots and field adjustable split bus dual voltage breaker panels.
- Lower energy consumption and reduce cost of ownership with high-efficiency eSure rectifiers and converters.
- Securely manage your site power with optional HTTPS and SNMPv3 encryption, as well as RADIUS User Authentication.
- Easily monitor and adjust system parameters with a simple, graphic user interface accessed through an on-board color display or web pages supported by all major browsers.

Versatile DC power solution with high efficiency eSure™ rectifiers, converters and inverters, modular distribution, and advanced control and monitoring accepts single or three-phase input up to 277/480 VAC.

Description

Vertiv™ NetSure™ 7100 Series DC power systems with high efficiency eSure™ rectifiers, converters and inverters, modular distribution, and advanced control and monitoring are designed to accept single or three-phase input up to 277/480 VAC for a wide range of access, edge and core network applications. Available with 3500 or 2000 watt rectifiers, 2000 watt peak -48V to -58V DC to DC converters or 1500 watt -48V to +24V DC to DC converters, 1000 watt inverters, and a NetSure controller, these systems deliver up to 12,000 amps of current at -48V, up to 520 amps at -58V DC or +24V DC and up to 12kVA at 120VAC. Modular distribution panels, mounting shelves for rectifiers, converters and inverters, batteries and battery trays can be housed in an indoor enclosure or relay rack.

Each shelf can accommodate up to six plug'n'play rectifiers, which are controlled by the NCU. Additional shelves can be added as load requirements increase. The rectifiers, DC to DC converters and inverters are housed in shelves that occupy 1 RU. Each shelf accommodates rectifiers in all six positions and converters in three positions. Inverters are housed in separate shelves that accommodate six inverters each.

The NetSure 7100 can be expanded to up to six distribution bays for a total capacity of 12,000 amps and up to 24 distribution panels. Each NetSure 7100 distribution cabinet is modular by row and position.



NetSure™ 7100

Four distinct distribution cabinet sizes are available to accommodate from one to four distribution panels. This allows the system to be configured in relay racks of various heights for installation in low-profile sites or atop batteries or other equipment to make more effective use of floor space. Several distribution panels are available offering different combinations of distribution positions, low voltage disconnect and battery disconnect options.

Distribution device options include 1 amp to 300 amp bullet-style circuit breakers, 3 amp to 125 amp TPS-style fuses in plug-in bullet-style holders, 100 amp to 800 amp GJ/218-style circuit breakers, and 70 amp to 600 amp TPH-style fuses. These devices can be configured for both -48V load and battery disconnect and -58V or +24V load (bullet devices only). A GMT fuse module is also available.

The 120VAC inverter option is available at 6kVA (2RU total) or 12kVA (4RU total). Output is provided as either bulk via 70 amp breakers or NEMA receptacles at 15 amps each.

Application

The NetSure 7100 system is ideal for wireless, and wireline applications, including cell sites, MTSOs, small COs, datacenters, co-locations, huts, vaults and enclosures.



High-Efficiency eSure™ Rectifiers & Inverter
R48-3500e3 (left), I120-1000 (center)
& R48-2000e3 (right)

Technical Specifications (System)

System Features

System Voltage, Nominal	-48 VDC (-42.0 VDC to -58.0 VDC range)
Output Voltage, Secondary	-58 VDC (-56.0 VDC to -58.0 VDC range) or +24 VDC (+24.0 VDC to +28.0 VDC range)
Output Voltage, Inverter	120VAC nominal
Input Voltage	Single Phase: 208/240/277 VAC (277 VAC for 3500 W rectifiers only) Three Phase: 208 VAC or 277/480 VAC (277/480 VAC for 3500 W rectifiers only)
Control	Microprocessor (NCU)

Rated Output Capacity

Bay - Rectifier, Converter, Inverter	2500 amps (-48VDC), 520 amps (-58VDC or +24VDC), 6kVA or 12kVA (120VAC)
Bay, Distribution	2000 amps (48 VDC) and 520 amps (-58 VDC or +24 VDC), 6kVA or 12kVA (120VAC)
Rectifier	3500 W (R48-3500e3 or R48-3500) or 2000 W (R48-2000e3)
Shelf	438 amps (3500W rectifiers) or 250 amps (2000W rectifiers)
Distribution Panel	600 amps

Physical Characteristics

Framework Type	Rail-mount (can be mounted in an enclosure or relay rack)
Mounting Width	23 inches
Mounting Depth	20 inches, 9 inch front projection
Access	Front access for installation, operation and maintenance

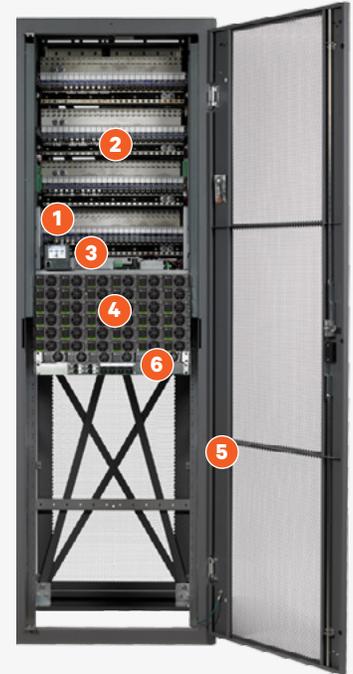
Environmental

Operating Temperature	-40 °F to 104 °F (-40 °C to 40 °C) continuous operation
Storage	-40 °F to 185 °F (-40 °C to 85 °C)
Humidity	0% to 95% relative humidity, non-condensing
Ventilation	Rectifiers and converters are fan-cooled front to rear
EMI/RFI Suppression	Conforms to FCC rules Part 15, Subpart B, Class B and EN55022 Class B, radiated and conducted
Safety Compliance	UL Listed 1801, cUL, NEBS Level 3

Ordering Information

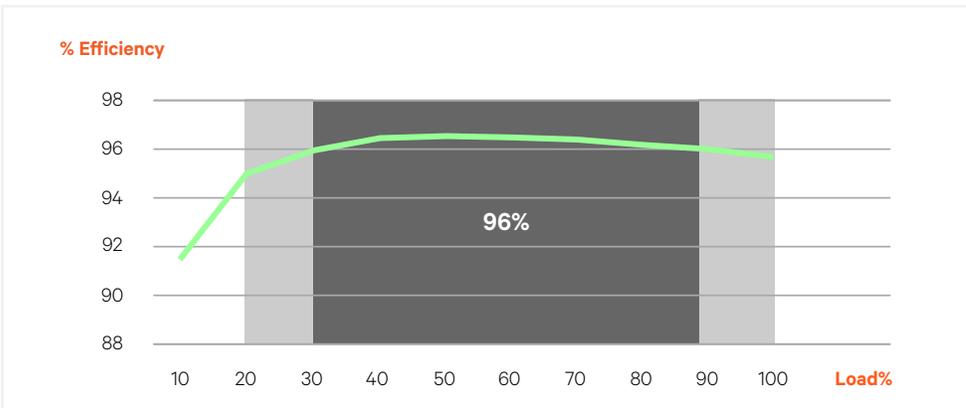
Part Number	Description
582127000	NetSure™ 7100 DC power system
1M830DNA	NCU controller
1R483500E3	3500 W eSure rectifier, 1RU height
1R483500E	3500 W eSure™ rectifier, 3RU height
588705400	Power shelf for 1 RU 3500 W rectifiers
1R482000E3	2000 W eSure rectifier, 1RU height
1C48582000P3	2000 W peak, 1600 W average -48 VDC to -58 VDC converter
1C48241500	1500 W -48 VDC to +24 VDC converter
588705300	Power shelf for 1 RU (2000 W) rectifiers and converters
1I1201000	1000VA Inverter, 1RU height

System Elements



-48 VDC NetSure™ 7100

1. AC Connection Panel (both sides)
2. DC Distribution Cabinet
3. NetSure Control Unit
4. Rectifiers/Converters
5. Relay Rack or Enclosure
6. Inverters



R48-3500e3 Efficiency Curve at 230 VAC Nominal