NetSure™ 5100 Series

DC Power System – 2 kW to 28.8 kW

VERTIV™

Key Features

- High Efficiency – 96.2% efficient eSure™ rectifiers ensure optimized total cost of ownership

- Solar/Hybrid Capability (non-integrated version) – allows for connection of solar panels and facilitates hybrid site solutions to reduce grid dependency

- Wide Operating Temperature Range – rectifiers function at -40°C to +80°C, up to +65°C without derating, enabling CapEx and OpEx savings on climate systems in outdoor applications

- Modular Design – simple to install and operate; allows incremental cost effective system growth

- ECO Mode – an innovative function that enables energy savings, even at low load operation

- Remote Access – monitoring through web browsers, TCP/IP & SNMP as standard, 2nd Ethernet port option available

- Battery Management (582137100 only) – automatic battery tests in conjunction with battery midpoint or block voltage monitoring ensures early detection of battery problems

NetSure™ 5100 Series is designed for wireless access and fixed network applications offering unmatched temperature performance and high power density.

Description

The NetSure 5100 Series, a compact -48 volt DC power solution which can provide +24 volt DC power when equipped with converters, features an advanced control unit, a high efficiency rectifier, converter, solar converter and multiple distribution options to meet the demands of many different applications. The system is available in two types; an integrated version and an external distribution version.

The rack mountable 19" wide integrated version (582137200) provides up to 150A at -48 VDC and up to (9) positions available (with expansion rectifier shelf) for 2000 watt high efficiency eSure rectifiers and a distribution panel consisting of either (36) GMT fuse positions, (4) load breakers and (12) GMT fuse positions or (2) load breakers, (2) battery breakers and (12) GMT fuse positions. Optional battery or load low voltage disconnect contactors are available.

The external distribution version (582137100) provides up to 600A at -48 VDC and up to (29) positions available (23" version with five module shelves) for 2000 watt eSure rectifiers, 1500 watt -48V to +24V converters or 2000 watt solar converters, a single or dual row distribution cabinet, and hybrid and solar connectivity panels. The rack mountable 19" or 23" wide power system is available in a number of configurations and designed to work with a wide range of applications. The 23" wide distribution cabinet supports up to (52) 1A to 300A circuit breakers or 1A to 100A TPS/TLS fuses. Options for battery disconnect breaker positions and

dual voltage (-48V /+24V) breaker panels are available. Multiple LVD levels are supported in the dual row distribution configuration, allowing load prioritization in up to two steps.

Remote monitoring and control is supported by multiple web browsers including IE, Firefox, Chrome and Safari. Standard protocols include ModBus, SNMP V2 & V3. Encrypted security is provided by IPv6 and SNMPV3. Local access is provided through the controllers' keypad and TFT display.

NetSure™ DC Power systems from Vertiv™ offer extremely low failure rates, as well as low total cost of ownership. The 2000 watt eSure rectifier delivers peak system efficiency above 96%. Maximum value is achieved by an advanced energy optimization function known as ECO mode, enabling energy savings even at low loads.

Application

NetSure 5100 Series DC power systems are designed for deployment in telecom access network applications requiring a reliable and high power density supply up to 600 A at -48 VDC or up to 400 A at +24 VDC (external distribution version). The high operating temperature (+65°C) in conjunction with high operational efficiency has a positive impact on climate system dimensioning in outdoor enclosure applications. This DC power system is designed for insertion into EQ zone 4 compliant relay racks and cabinets.

NetSure™ 5100 System, Integrated 7.2 kW, 19" Rack (582137200)

NetSure™ 5100 System, External Distribution 18 kW, 19" Rack (582137100)

NetSure™ 5100 System, External Distribution 19.2 kW, 23" Rack (582137100)

Technical Specifications

Input	Integrated	Single Row	Two Row
Nominal	Rectifier: 120 VAC, 208 VAC, 240 VAC	Rectifier: 120 VAC, 208 VAC, 240 VAC Solar Converter: 140 VDC to 400 VDC	
Operational	Rectifier: (Single Phase) 85 VAC to 300 VAC	Rectifier: (Single Phase) 85 VAC to 300 VAC Solar Converter: 120 VDC to 420 VDC	
Frequency	45 Hz to 65 Hz	45 Hz to 65 Hz, DC (solar input)	
Input Connections	Molex	Molex, terminal strip or breaker (solar)	

Output			
Nominal	-48 VDC	-48 VDC / +24 VDC	
Adjustable Range	-42 VDC to -58 VDC	-42 VDC to -58 VDC, +24 VDC to +28 VDC	
Capacity (at 40 °C)	1 shelf: 150 A @ 208-240 VAC; 2 shelves: 150 A (N+1) @ 208-240 VAC or @ 120 VAC	400 amps at -48 VDC; 600 amps at -48 VDC with List 27	600 amps at -48 VDC, 400 amps at +24 VDC
Breakers	1A to 150 A E/M or E breakers	1A to 300 A E/M or E breakers	
Fuses	18/100 A to 15 A GMT	3 A to 100 A TPS/TLS and 18/100 A to 15 A GMT	

Physical Characteristics			
Mounting	Standard 19" rack mounting	Standard 19" and 23" rack mounting	
Distribution Shelf / Cabinet Dimensions (H x W x D)	1U x 19" x 15" shelf	4U x (19" or 23") x 15" cabinet (19" depth with AC/solar termination panel)	8U x (19" or 23") x 15" cabinet
Module Shelf Dimensions (H x W x D)	1U x 19" x 15"	1U x (19" or 23") x 15"	1U x (19" or 23") x 15"
System Dimensions (H x W x D)	(3.5" up to 5.25") x 19" x 15"	(8.75" to 7.5') x (19" or 23") x 23.14" (with batteries)	
AC Accessibility	Rear/front	Rear	Rear
DC Load Accessibility	Front	Top or rear cabled with front and top access	

Environmental	
Operating	-40°C to +65°C (-40°F to +149°F)
Storage	-40°C to +85°C (-40°F to +185°F)

Standards Compliance			
Safety	UL 1801		
EMC	Conforms to FCC rules Part 15, Subpart B, Class B and EN55022 Class B, radiated and conducted		
NEBS	Level 3 (pending)	Level 3	Level 3

Ordering Information

Model Number	Part Number	Description
NetSure 5100	582137100*	-48V NetSure 5100 DC power system with external distribution
NetSure 5100	582137200*	-48V NetSure 5100 DC power system with integrated distribution
R48-2000E3	1R482000E3	Rectifier, 2 kW, high efficiency, refer to separate data sheet
C4824-1500	1C48241500**	Converter, 1.5 kW, high efficiency, refer to separate data sheet
S48-2000E3	1S482000E3**	Solar converter, 2 kW, high efficiency, refer to separate data sheet
M830B	1M830BNA*	NCU controller, refer to separate data sheet

* Overall base system or controller number.

** The converter and solar converter are only used on the NetSure™ 5100 with external distribution (582137100).

System Elements
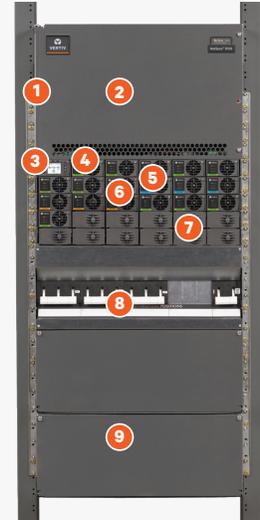
Hybrid NetSure™ 5100 Series, 28.8 kW, 23" Rack with 2 Row Distribution

Integrated NetSure 5100 Series

1. Relay Rack
2. Distribution Panel
3. NetSure Control Unit, M830B
4. eSure™ Rectifier, R48-2000e3
5. -48 V to +24 V Converter, C4824-1500
6. Solar Converter, S48-2000e3
7. Blank Cover
8. Hybrid Panel
9. Solar Panel

Vertiv.com | **Vertiv Headquarters,** 1050 Dearborn Drive, Columbus, OH, 43085, USA