

Vertiv™ NetSure™ 7100 Modular System

A modular, high power density system with full front access



This -48 VDC power system delivers scalable power up to 38.7 kW with modular building blocks. Field-expandable with solar converter support for flexible power management.

Application

Engineered for access network applications, including wireless (RAN, LTE, 4G, 5G), wireline (PoP, FTTx), and edge.

Key benefits

- Solar and hybrid capability: Supports solar panels alongside grid and diesel sources for versatile power configurations.
- High efficiency: Vertiv™ eSure™ rectifiers and solar converters deliver up to 98% efficiency* (model R48-3500E4), which can help reduce total cost of ownership (TCO). ECO mode is designed to optimize energy consumption across a wide range of load conditions, and energy logic shifts use to off-peak hours.
- High power density: Delivers power in a compact footprint.
- Modular, front-access design: Simplifies customization, scalability, and maintenance with easy addition and removal of system components.
- Live expansion: Rectifier and distribution sub-racks can be added on live sites, helping minimize service disruption during upgrades.

* Efficiency varies by rectifier model. See technical specifications table for model-specific ratings.



Vertiv™ NetSure™ 7100 Modular 2U



Vertiv™ NetSure™ 7100 Modular 4U



Vertiv™ NetSure™ 7100 Modular 6U

Operators with growing network requirements need power that expands without service disruption. The Vertiv™ NetSure™ 7100 Modular system supports high-efficiency rectifiers and solar converters, all managed through the Vertiv NetSure Control Unit. This includes operating expense-saving (OpEx) features such as ECO mode, time of use (TOU) consumption schedules, and lithium-ion batteries.

The system utilizes front-pluggable circuit breakers rated up to 125A for load and 200A for battery, with up to three customizable low voltage disconnect (LVD) levels to prioritize loads and help reduce battery backup costs.

Live expansion (pay-as-you-grow) helps lower initial capital expenses (CapEx) and allows rectifiers and distribution capacity to be added on live sites. Designed for standard 19" racks or cabinets, the system delivers 12.9 kW in a compact 2U chassis and up to 38.7 kW in as little as 5U.

Technical specifications - Vertiv™ NetSure™ 7100 modular system

System

Nominal voltage	-48 VDC
System capacity	Up to 38.7 kW
Rectifier and solar converter configuration	Maximum nine rectifier modules plus nine solar converter modules
System controller	Vertiv™ NetSure™ Control Unit, M830B
Remote communication protocols	HTTP, HTTPS, SNMP v2 and v3, NTP, Modbus TCP/IP, Modbus RTU-485 and EEM
Local I/O	Two temperature sensors, three alarm relay outputs, four digital inputs, two RS-485 ports and two fuel level sensor inputs
Extended I/O (optional)	Up to two IB2 or EIB controller extension boards
LVD control	Up to three levels of LVD control
DC surge protection (optional)	20 kA / 40 kA, 8/20 μs
Ingress protection	IP20
Normal operating temperature	-5 °C to +45 °C, derated above +45 °C
Storage temperature	-40 °C to +70 °C
Relative humidity	Up to 95%
Altitude	3000 m
Standards compliance, CE	2014/35/EU (LVD); 2014/30/EU (EMC); 2011/65/EU (RoHS); Regulation (EC) 1907/2006 (REACH)
Standards compliance, safety	EN62368-1
Standards compliance, EMC	EN300386
Standards compliance, environmental	EN300019-1-3, class 3.1 (operating); EN300019-1-1, class 1.2 (storage); EN300019-1-2, class 2.1 (transport)

System sub-rack

Dimensions (W x H x D)	19 inch x 1U x 409 mm
Weight	6.7 kg without MCBs
Rating at 54 VDC, ≤ +45 °C	90 A per LVD section; 180 A maximum combined load (LVD-A + LVD-B)
Rating at 54 VDC, ≤ +50 °C¹	80 A per LVD section; 160 A maximum combined load (LVD-A + LVD-B)
Rating at 54 VDC, ≤ +55 °C¹	65 A per LVD section; 125 A maximum combined load (LVD-A + LVD-B)
Load MCB options, LVD-A section	5 x 6 A to 63 A; 3 x 6 A to 63 A + 1 x 80 A to 125 A; or 2 x 6 A to 63 A + 2 x 80 A to 125 A
Load MCB options, LVD-B section	5 x 6 A to 63 A; 3 x 6 A to 63 A + 1 x 80 A to 125 A; or 2 x 6 A to 63 A + 2 x 80 A to 125 A
Maximum number in system	One sub-rack

Technical specifications - Vertiv™ NetSure™ 7100 modular system sub-racks

Rectifier and solar MPPT sub-rack

Dimensions (W x H x D)	19 inch x 1U x 409 mm
Weight	4.2 kg without rectifier or MPPT modules
Rating, ≤ +45 °C	240 A
Rating, ≤ +50 °C¹	210 A
Rating, ≤ +55 °C¹	190 A
Rectifier and solar converter configuration	Three positions, in any combination
AC input	Three phase 400/230 VAC; single phase 230 VAC
DC input, photovoltaic solar panel	400 VDC
Plug-in kit slot	Accepts the battery kit or the expansion kit
Maximum number in system	Three sub-racks supporting nine rectifiers, plus three sub-racks supporting nine solar converters

Distribution sub-rack

Dimensions (W x H x D)	19 inch x 1U x 409 mm
Weight	5.1 kg without MCBs
Rating at 54 VDC, ≤ +45 °C	110 A per LVD section; 220 A maximum combined load (LVD-A + LVD-B)
Rating at 54 VDC, ≤ +50 °C¹	100 A per LVD section; 200 A maximum combined load (LVD-A + LVD-B)
Rating at 54 VDC, ≤ +55 °C¹	80 A per LVD section; 160 A maximum combined load (LVD-A + LVD-B)
Load MCB options, LVD-A section	9 x 6 A to 63 A; 7 x 6 A to 63 A + 1 x 80 A to 125 A; or 6 x 6 A to 63 A + 2 x 80 A to 125 A
Load MCB options, LVD-B section	9 x 6 A to 63 A; 7 x 6 A to 63 A + 1 x 80 A to 125 A; or 6 x 6 A to 63 A + 2 x 80 A to 125 A
Maximum number in system	Four sub-racks
Maximum number in system	Three sub-racks supporting nine rectifiers, plus three sub-racks supporting nine solar converters

Battery sub-rack

Dimensions (W x H x D)	19 inch x 1U x 409 mm
Weight	5.9 kg without MCBs
Charge/discharge, ≤ +45 °C	550 A / 600 A
Charge/discharge, ≤ +50 °C¹	500 A / 500 A
Charge/discharge, ≤ +55 °C¹	480 A / 480 A
Battery MCB configuration options	6 x 80 A to 125 A; or 4 x 200 A
Maximum number in system	One sub-rack



Technical specifications - Vertiv™ NetSure™ 7100 modular system plug-in kits, rectifiers and circuit breakers

Battery plug-in kit

Weight	1.1 kg without MCBs
Charge/discharge, ≤ +40 °C	200 A / 200 A
Charge/discharge, ≤ +45 °C	180 A / 180 A
Charge/discharge, ≤ +50 °C¹	160 A / 160 A
Charge/discharge, ≤ +55 °C¹	150 A / 150 A
Battery MCB configuration options	3 x 80 A to 125 A; or 1 x 200 A
Maximum number in system	Two kits

Expansion plug-in kit

Weight	1.9 kg
Rating, ≤ +35 °C	240 A
Rating, ≤ +45 °C	200 A
Rating, ≤ +50 °C¹	180 A
Rating, ≤ +55 °C¹	170 A
Maximum number in system	One kit

Rectifiers and solar converter

R48-3000E3A	3 kW; 62.5 A maximum; 96.5% efficiency
R48-3500E3	3.5 kW; 73 A maximum; 96.3% efficiency
R48-3500E4	3.5 kW; 73 A; 98% efficiency
R48-3600E4	3.6 kW; 76 A; 97.6% efficiency
R48-4300E3	4.3 kW; 81.5 A; 96.5% efficiency
S48-4300E4 solar MPPT	4.3 kW; 81.5 A; 97.3% efficiency

Circuit breakers

Type	Front-pluggable 1U MCBs with cable connection at the front, available in thermal magnetic or hydraulic magnetic versions
63 A frame size	6 A to 63 A
125 A frame size	80 A to 125 A
200 A frame size	200 A, battery use only
Dummy cover, 63 A frame size	For unused MCB positions
Dummy cover, 125 A frame size	For unused MCB positions
Dummy cover, 200 A frame size	Use two 125 A frame size dummy covers