

Vertiv™ NetSure™ 7100 Energy

4th Generation of -48 VDC Hybrid Solutions



Benefits

At Vertiv, we're committed to sustainable, efficient, and reliable power systems that adapt to your network and energy needs. The Vertiv™ NetSure™ 7100 Energy delivers:

- **Hybrid-ready design:** Supports solar, grid, generator, and battery inputs to reduce reliance on fossil fuels.
- **High-efficiency:** Rectifiers and solar converters.
- **Load shifting:** Energy Logic helps shift usage to off-peak hours and reduce demand charges.
- **Split charging:** enabling excess solar energy to go to battery for later use.
- **Renewable integration:** Solar and with the Open DC port, support for wind, fuel cells and more is possible.

Operational benefits

- Available in peak power configurations of 26kW (500A), 39kW (750A) & 52kW (1000A).
- Flexible Rack Options - Available in 19" and 23" racks.
- Modular & interchangeable - Rectifiers and converters adapt easily across on-grid and off-grid sites.
- Smart controls-remote monitoring, LVD prioritization, and battery management.
- Built for harsh sites - Rugged design supports extreme environments.
- Expert support - Backed by Vertiv™ services for training, startup, and long-term support.

Ideal for on-grid, bad-grid and no-grid sites, the Vertiv™ NetSure™ 7100 Energy system manages multiple energy sources with ease.

The Vertiv™ NetSure™ 7100 Energy is an integrated -48VDC hybrid power solution designed for on-grid, bad-grid, and off-grid sites. Built around the high-efficiency 4300W Vertiv NetSure 7100 rectifiers and solar converters enables reducing energy source switching and control. With the Vertiv™ NetSure™ Control Unit, users can manage fuel tank levels, configure TOU (Time of Use) schedules, support solar integrate with lithium battery systems for optimal performance and much more.

The system includes a flexible distribution panel with support for 2 to 400A circuit breakers, providing protection for both loads and batteries. Its modular design supports up to three load LVDs, allowing prioritization of critical loads without requiring oversized battery banks. Available in multiple rack and cabinet formats, Vertiv NetSure 7100 Energy adapts to a wide range of site needs and business objectives.

Application

Designed for hybrid applications, the Vertiv™ NetSure™ 7100 Energy streamlines management of solar, grid, and generator energy sources—delivering reliable and cost-effective power across challenging environments. Key site benefits include:

- Reducing the cost of expensive electrical utility bills with on-grid solar
- Extending battery life for bad-grid locations
- Managing generator-fuel and battery life in off-grid locations
- Utilizing solar energy when the use of generators is prohibitive



Vertiv™ NetSure™ 7100 Energy 500A - 23" Rack

Available configurations

The Vertiv™ NetSure™ 7100 Energy is available in multiple rack sizes and system capacities to meet diverse deployment requirements.

Technical specifications

Electrical		500A		750A		1000A	
AC Input	Voltage, Nominal	Single Phase: 220 to 240 VAC / 3-Phase: 380 to 415 VAC (3W+N+PE)					
	Voltage Range	Single Phase: 85 to 305 VAC / 3-Phase: 147 to 527 VAC (A/C input values based on rectifier installed)					
	Frequency	45 to 65 Hz					
	Maximum Current	27 A per rectifier, to a low line voltage of 176 VAC					
	Cable Entry	Top Entry, with rear 10mm² terminal blocks					
DC Solar Input	Voltage Range	70 to 420 VDC					
	Maximum Input Current	24 A per solar converter					
	Cable Entry	Top Entry, with rear 10mm² terminal blocks					
Solar Input Protection	CB and SPD	Optional, 2P CB with IEC 61643 Class II, Type 2 SPD with front 10mm² terminal blocks					
DC Output	Voltage, Nominal	-48 VDC					
	Voltage Range	-20 to -58.5 VDC for solar / -20 to -58.0 VDC for rectifier					
	Maximum Power	4320 W per solar converter / 4320 W per rectifier					
	Temperature Performance	100% up to 55°C , derate from 55 to 80°C (solar) / 100% up to 45°C , derate from 45°C to 75°C (rectifier)					
Independent DC Port	Voltage	-42 to -58 VDC (Optional)					
	Current	160A Maximum at 55°C, 140A Maximum at 65°C, Shunt with 80 or 200 ADC CB available		240A Maximum at 55°C, 210A Maximum at 65°C, Shunt with 200 or 300 ADC CB available		320A Maximum at 55°C, 280A Maximum at 65°C, Shunt with 300 or 400 ADC CB available	
Distribution							
Space	Primary MFU Space	468 mm for 23", 378 mm for 19"					
	Optional XDU Space	468 mm for 23", 378 mm for 19"					
	Cable Entry	Top, with front service access					
Circuit Breaker	18 mm (per pole) Thermal Magnetic	1 pole: 3 to 125 ADC, 2 pole: 200 ADC					
	13 mm (per pole) Hydraulic Magnetic	1 pole: 2-63 ADC, 2 pole: 80-125 ADC , 3 pole: 150 ADC, 4 pole: 200 ADC					
	Maximum Battery Breaker Count	6					
	Optional High Current 300A Battery Breaker	2		3		4	
DC Load Options	LVD Options Bi -Stable with Third Mono-Stable LVD Option	400A, 400:200A 400:200:200A, 200:200:200A		400:400A 400:400:200A		400:400A 400:400A	
	200A Load Shunt	(optional)				N/A	
Control & Monitoring							
Control Module	Module Name	NCU - M830B					
	Local Display	Yes					
	Protocols	HTTPS, SNMP V2/V3, NTP, Modbus TCP/IP RTU-485 and EEM					
Interface Board	Modbus RTU-485	Standard					
	CAN Bus	Standard					
	Fuel Sensor, 4-20mA	Standard (Fuel sensor not included)					
	IB2	Optional					
	EIB	Optional					
	IB4	Optional					



Environmental

500A

750A

1000A

System	Current Capacity	500 A at 55°C, 21 kW at 42 VDC 400 A at 65°C, 16.8 kW at 42 VDC	750 A at 55°C, 31.5 kW at 42 VDC 600 A at 65°C, 25.2 kW at 42 VDC	1000 A at 55°C, 42 kW at 42 VDC 800 A at 65°C, 33.6 kW at 42 VDC
	Maximum Load, Standby	400 A, ~20 kW	600A, ~30kW	700A, ~35kW
	Suggested Maximum Load, CDC +Solar	208A, ~10kW	312A, ~15kW	416A, ~ 20kW
	Suggested Maximum Load, Solar Only	80 A, ~3.2 kW	120A, ~ 5.76kW	160A, ~7.68 kW

System Operating Temperature

Circuit Breakers	Thermal Magnetic	-40°C to 55°C/ -40°F to 131°F
	Hydraulic Magnetic	-40°C to 65°C/ -40°F to 149°F

Storage Temperature

-40°C to 75°C / -40°F to 167°F

Relative Humidity

0% to 95%

Altitude

3000 m / 9842 ft at full power

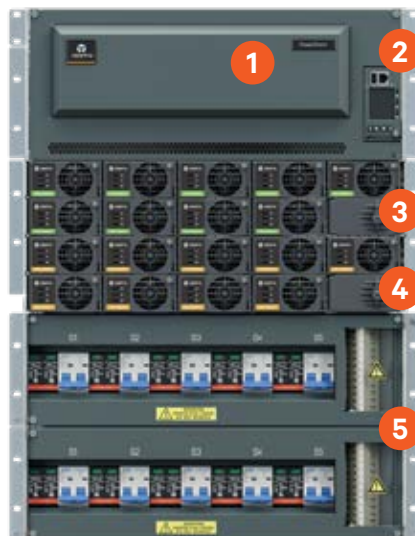
Physical Characteristics

Mounting Standard	Width	19" rack mounting / 23" rack mounting	23" rack mounting
	Depth	480mm Maximum	
	Height MFU + R/S shelves	MFU 3U +1U for Cabling + 19" R/S shelves 1U /2U/ 3U or + 23" R/S shelves 1U /2U	MFU 4U +1U for Cabling + 19" R/S shelves 2U /3U/ 4U or + 23" R/S shelves 2U /3U
	Height Optional XDU	4U	
	Height Optional Solar input Protection shelf (max 2pcs)	3U (supporting 5 S48 in 19" & 6 in 23") / 6U (supporting 10 S48 in 19" & 12 in 23")	

Standards Compliance

Safety	EN62368-1, CE
EMC	ETSI EN300 386
Materials	ROHS, REACH
Ingress Protection	IP20

Overview



1. Distribution unit
2. NCU
3. Rectifiers
4. Solar MPPT
5. Solar Input Protection

Vertiv™ NetSure 7100 Energy
750A SP - 19" Rack

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