

Vertiv™ NetSure™ 7100 Series

Converged AC & DC Power System



Key Benefits

- Free up floor space by powering AC and DC loads in a single subrack or cabinet with a common battery bank
- Minimize energy consumption with up to 98% rectifier power efficiency and 96.3% inverter efficiency
- Maximize site availability thanks to zero transfer time from grid to battery
- Seamlessly manage your complete back-up solution locally or remotely through a single interface

The converged Vertiv™ NetSure™ 7100 Series powers AC and DC loads from a single system with a common battery bank, freeing up floor space while minimizing energy loss and lowering energy consumption.



Improve reliability

The NetSure 7100 converged AC and DC power system with eSure™ inverters delivers outstanding reliability, modularity and scalability. With market leading power module density, a single system houses both AC and DC power in a compact footprint. Rectifiers and inverters can be fed from the same battery bank, saving additional space and financial investment. The converged NetSure 7100 Series delivers superior reliability and enables hours of battery backup when required. Systems include 1.2kW AC inverters and 3.5kW rectifiers with up to 14.4kW AC and 63kW DC power in a single system.

Minimize energy loss

Converged NetSure 7100 systems are designed for efficient operation at any load condition.

High-efficiency eSure rectifiers are available up to 98% efficiency and eSure inverters operate up to a market-leading 96.3% efficiency. Powering your AC and DC loads with eSure™ technology helps ensure energy loss is kept to a minimum and your network is supported by an extremely reliable backup system.

Secure availability

Combining AC and DC power in a single cabinet allows power to be adjusted for future requirements. Knowing when to add capacity is simplified with Intelligent Load Management (ILM), an innovative capability enabled through the NetSure controller. ILM technology eliminates the need to install excess capacity up-front to cover for load buildups and potential overloads. Each load can be monitored and measured down on the distribution, fuse or circuit breaker level.

The NetSure™ controller displays actual load current utilization in relation to fuse/circuit breaker threshold levels. Site load can be added incrementally, at an optimal investment pace, without compromising system reliability and power availability.

Application

The converged NetSure 7100 Series is ideal for edge sites and smaller core facilities (MTSO, CORD, data center) that operate both AC and DC loads and require high power availability in a small footprint. Ideal for replacement of inefficient UPS and DC installations or when frequent DC load changes require continuous monitoring of individual loads to assure optimal power efficiency and keep potential distribution overloads at bay.

Technical Specifications

AC Input – Rectifiers

Range Single phase	85 VAC to 300 VAC (Nominal: 200 VAC to 240 VAC)
Line Frequency	50 Hz or 60 Hz (45 Hz to 65 Hz)
Connections	Terminal or distribution for circuit breakers
Surge Protection	Optional

AC and DC Input – Inverters

Range	Single phase: 185 VAC to 275 VAC (Nominal: 230 VAC) DC supply: 40 VDC to 60 VDC (Nominal: 48 VDC)
Line Frequency	50 Hz or 60 Hz
Connections	Dedicated input on terminals
Surge Protection	Included

DC Output

Adjustable Range	-42 VDC to -58 VDC (Nominal: -48 VDC)
Power, Maximum	BMK220A12: 63 kW (18 x 3.5 kW rectifier modules) BMK220A13: 21 kW (6 x 3.5 kW rectifier modules)
Efficiency, Peak	96.3% eSure™ R48-3500e3 rectifier 98% eSure™ R48-3500e4 rectifier

DC System Units

Distribution Units	Available for circuit breakers, cartridge fuses, NH00 fuses, NH2 fuses
Circuit Breakers	From 2 A up to 200 A
Fuses	NH00 (up to 400 A) and NH2 (up to 400 A)
Intelligent Load Management	Optional, equipment for all distribution units
Battery Connections	4 x (300 A or 400 A) circuit breakers or fuses
Battery Shelves	Optional, up to 2 x 8 U

AC Output

Range	Single phase: 200 VAC to 240 VAC (Nominal: 230 VAC)
Line Frequency	50 or 60 Hz (50 Hz to 60 Hz)
Power	BMK220A12: 7.2 kW or 7.5 kVA (6 x 1.2 kW or 1.25 kVA modules), or 14.4 kW or 15 kVA (12 x 1.2 kW or 1.25 kVA modules) BMK220A13: 7.2 kW or 7.5 kVA (6 x 1.2 kW or 1.25 kVA modules)
Efficiency	96.3% AC/AC (offline), 93.5% DC/AC (online)

AC System Units

Distribution Units	Optional distribution unit for circuit breakers
Circuit Breakers	From 1 A up to 63 A
Residual Current Device	Optional, 30 mA or 300 mA
Transfer Performance	0 s
DC Current Consumed by Inverters	27 A @-48 VDC per inverter module
Manual Bypass	Standard

Physical Characteristics

Mounting	Top cabling
Dimensions (H x W x D)	2020 mm x 600 mm x 600 mm (per cabinet)
Weight	246 kg per cabinet (fully equipped)
Access and Security	Front access, IP20, door with lock as option
Doors	Optional (front or back with either left or right hinges)

Environmental

Temperature Range, Operating	-5 °C to +40 °C (full power up to +40 °C)
Relative Humidity, Operating	<90%
Altitude	2000 m
Ventilation	Forced ventilated (rectifier and/or inverter fans)

Safety and Standards Compliance

Electrical	System EN62368-1; inverter module EN62040-1-1
EMC	EN 300 386-2, Class A
Environmental	REACH, RoHS 6

Note: When the AC mains is OFF, DC current from the battery must be sufficient to support the site's DC load plus the consumption of the inverters required to support the site's AC loads.

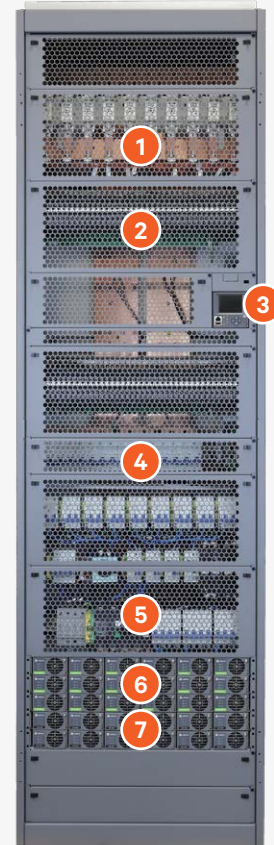
Ordering Information

Model Number	Part Number	Description
-	BMK220A12	Converged NetSure 7100 AC & DC power system 63 kW
-	BMK220A13	Converged NetSure 7100 AC & DC power system 21 kW
1R483500E3	BML440068/1	3.5 kW eSure rectifier, high efficiency
1R483500E4	BML440069/1	3.5 kW eSure rectifier, ultra high efficiency
1I2301200	1I2301200	1.25 kVA or 1.2 kW inverter, high efficiency
M830D	BMP903100/2	NetSure control unit (2 x 2 U front)

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Overview



NetSure™ 7100 Converged AC & DC Power Cabinet

1. Load Distribution Unit
2. Load Distribution Unit
3. NetSure™ Control Unit
4. Battery Connection Unit
5. AC Distribution Unit
6. eSure™ Rectifiers
7. Inverters