NETSURE™ 7100 SERIES

Converged AC & DC Power System

KEY FEATURES

- Common battery bank designed to feed both rectifiers and inverters, minimizing system footprint, maintenance and investment
- System features world leading power density rectifiers, enabling up to 63kW applications with plenty of distribution space, all in a single footprint
- Individual current measurement feature displays current reading for each fuse/circuit breaker
- Cabinet efficiency >99,7% from rectifier output to distribution output enabling maximum system efficiency >96,2% from grid to load
- Remote battery management and load control functions minimize the dependency of reactive site call-outs
- TSI inverters bridge static switch shortcomings with 'electronic switch' functionality that provides redundancy in N+1 configurations

The converged AC and DC power system is designed to provide maximal power flexibility for various load types, minimizing energy losses, reducing heat dissipation, and lowering energy consumption on both the power supply and cooling system.

Improving reliability

Where constant migration and change is the norm

The converged NetSure 7100 Series of -48V DC power systems delivers outstanding reliability within a modular, scalable cabinet that houses both AC and DC power. This easy to use system occupies a minimal footprint and eliminates the need for separate AC and DC backup since rectifiers and inverters can be fed from the same battery bank. TSI™ inverters bridge the shortcomings of static switch architecture. Power can be scaled in 3,5 kW increments up to 63 kW, along with inverters in 750 VA or 2,5 kVA increments up to 20 kVA - all in one cabinet. Distribution units can be added, swapped or removed on live sites, making system expansions a standard procedure. Power supply extensions can be made safe-and-easy, without compromising reliability.

Minimizing energy loss

Save operating costs and non-renewable resources

Cabinet infrastructure efficiency is greater than 99,7% from rectifier output to breaker output with maximum system efficiency just over 96,2%. TSI inverters can be fed from the grid through a dual conversion process with up to 96% power efficiency. Upon grid failure, inverters are fed from the batteries.

Securing availability

Instead of deploying costly excess capacity up-front

Combining AC and DC power in a single cabinet allows power to be easily adjusted to meet future requirements. Intelligent load management 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. Our 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

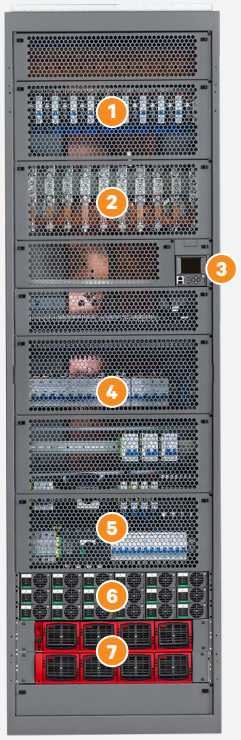
The converged NetSure 7100 Series is ideal for small central office telecom and data center sites that operate both AC and DC loads and require high reliability and power availability in a small footprint. This solution is perfect for replacement of inefficient UPS and DC installations or when frequent 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 up to 18 circuit breakers
Surge Protection	Optional
AC AND DC INPUT – INVERTERS	
Range	Single phase: 150 VAC to 265 VAC (Nominal: 230 VAC) DC supply: 40 VDC to 60 VDC (Nominal: 48 VDC)
Line Frequency	50 Hz or 60 Hz (47 Hz to 53 Hz or 57 Hz to 63 Hz)
Connections	Dedicated input on terminals
Surge Protection	Included
DC OUTPUT	
Adjustable Range	-42 VDC to -58 VDC (Nominal: -48 VDC)
Power, Maximum	63 kW (18 x 3,5 kW rectifier modules)
Efficiency, Peak	96,3% eSure R48-3500e3 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 600 A) and NH2 (up to 400 A)
Intelligent Load Management	Optional, equipment for all distribution units
Battery Connections	4 x (150 A, 200 A, or 400 A) circuit breakers
Battery Shelves	Optional. Depending on configuration, up to 3 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	Bravo inverters: 16 kW or 20 kVA (8 x 2 kW or 2,5 kVA modules), or 8 kW or 10 kVA (4 x 2 kW or 2,5 kVA modules), or Nova inverters: 2,1 kW or 3 kVA (4 x 525 W or 750 VA modules)
Efficiency	Bravo inverters: 96% (EPC, offline), 91% (online) Nova inverters: 93% (EPC, offline), 89% (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	14 A per Nova inverter, 56 A per Bravo inverter (nominal)
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 (door front 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 (inverter <1500 m)
Audible Noise	59dB for R48-3500e3
Ventilation	Forced ventilated (rectifier and/or inverter fans)
SAFETY AND STANDARDS COMPLIANCE	
Electrical	CE EN60950-1 (inverter 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.

OVERVIEW



NetSure 7100 Converged AC & DC Power Cabinet

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

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	BML44068/1	3,5 kW eSure rectifier, high efficiency
TSI BRAVO 48/230	BMS404040/1	2,5 kVA or 2 kW inverter, high efficiency
TSI NOVA 48/230	BMS404060/1	750 VA or 525 W inverter, high efficiency
M830D	BMP903100/2	NetSure control unit (2 x 2 U front)

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