

Series Spec Sheet

B3NV

EMERGENCY LIGHTING INVERTERS THREE PHASE

B3NV Series Emergency Lighting AC 3-Phase Inverters are among the most reliable systems available for emergency lighting and other demanding critical applications.

They are Dual Conversion, On-line, three-phase, intelligent systems for centralized power protection. These continuous on-line Emergency Lighting AC Inverters are available in models from 8 kW up to 48 kW.

They provide reliable and constant protection for mission critical emergency lighting, and infrastructure applications such as airports, hospitals, and financial companies.

FEATURES AND BENEFITS

- **Three Phase Inverter**

The B3NV provide full-time self-diagnostics as well as two levels of audible alarms when the unit is operating in battery mode. A manual test switch has been incorporated into the input/test breakers that make testing a simple procedure. The internal bypass switch allows maintenance on the B3NV to be performed without interruption of power to the load.

The communications port, in conjunction with multi-platform monitoring and control software, enables the unit to be connected to a local or networked computer system. Detailed operating information including voltages, currents, and alarm status is available to the monitoring system.

- **Full Galvanic Isolation**

Provides a completely isolated and re-referenced output. This isolation protection provides a proven solution to problems created by induced voltages affecting the critical loads. Since the output circuit to the load is completely isolated and no noise induced on the neutral can permeate to the loads, systems operate in a more reliable fashion.

- **Fully Digital**

DSP (Digital Signal Processor), flash memory, and multi-contact strategy are the technology corner stones of the new age of power quality and reliability. Extremely flexible: The B3NV offers tailor-made power protection to comply with your individual installation requirements. Options include a 12-pulse rectifier and distribution panels.

- **IMBS**

An Internal Maintenance Bypass Switch (IMBS) is standard with all B3NV inverter units.

- **EMI suppression**

An EMI filter is added to meet the international EMC limits to ensure that no noise will affect or interfere with other equipment connected to the same AC source.



FEATURES AND BENEFITS CONTINUED

- **High frequency design**

The three-phase B3NV design incorporates a full bridge three-phase inverter. This design makes the B3NV perform better than other Emergency Lighting AC Inverters in the market when an unbalanced load is connected.

- **Cold start function**

The B3NV can be started without the utility AC supply being activated, or present at the input terminal strip because our system is designed with current limiting circuitry, which allows the startup of the B3NV on battery DC power.

- **Intelligent charger**

The B3NV will perform an automatic monthly recharge (boost charge) of the batteries as well as automatically recharge (boost charge) the batteries when the battery voltage level decreases to approximately 2V/Cell. It makes the batteries stay in good condition.

- **Intelligent Battery Test**

The batteries are tested monthly automatically. When an abnormal condition (low charge rating or bad battery) is found, the user will be informed immediately through alarms on the B3NV systems.

- **MTBF of Cooling Fans**

Long cycling fans will operate at variable speeds necessary which is dependent on the load of the inverter systems increasing the life expectancy of the fan motors.

- **SNMP**

Simple Network Management Protocol (SNMP) adapter to remotely control and monitor the unit via a network or the Internet.

OPTIONS

Output Circuit Breakers: Supports normally on or normally off circuit breakers.

Additional Run Times: These can be 30, 60, 90, or 120 minutes, other configurations are available.

EMBP: External Maintenance Bypass. This device allows the load power to be transferred from the inverter output to the AC supply. Thus the inverter can be completely removed or repaired without interruption of power to the load.

RCMP: Remote Control and Monitoring Panel. This option provides remote alarms to indicate the inverter status.

OVERVIEW

Overview		8 kW	12 kW	16 kW	24 kW	32 kW	40 kW	48 kW	
Overall efficiency		90%							
Maximum heat dissipation (kW)		0.89	1.32	1.76	2.64	3.52	4.4	5.28	
Operating environment	Temperature	0 - 40°C (32 - 104°F)							
	Humidity	0 - 90% (non-condensing)							
	Altitude	<1500 m above sea level							
Protections	Short circuit	Yes							
	Lightning	MOV							
	EMC filter	Input and output							
	Galvanic isolation	Between input and output							
Indications and alarms		LED, LCD, Buzzer							
Dry contact		Yes							
Battery start		Yes							
Data display by LCD		Yes							
Audible noise		<65 dBA (at 1 m)							
Standards		UL924, UL1778, NFPA111, CSA 107.3, CCMC, BMEC, CSA 22.2 60950							
Physical data	Inverter cabinet	Dimension W x D x H	635 mm x 889 mm x 1 803 mm (25" x 35" x 71")						
		Weight	380 kg (838 lbs)	415 kg (915 lbs)	450 kg (992 lbs)	580 kg (1 279 lbs)	650 kg (1 433 lbs)	710 kg (1 565 lbs)	780 kg (1 716 lbs)
	Battery cabinet	Dimension W x D x H	1 321 mm x 864 mm x 1 930 mm (52" x 34" x 76")				2 cabinets: 1 321 mm x 864 mm x 1 930 mm (52" x 34" x 76")		
		Weight	814 kg (1 795 lbs)	1 000 kg (2 205 lbs)	1 204 kg (2 655 lbs)	1 398 kg (3 083 lbs)	1 764 kg (3 890 lbs)	2 cabinets: 1 398 kg (3 083 lbs)	

Data is based upon tests performed in a controlled environment. Actual performance can vary depending on operating conditions. All products are subject to change or may be discontinued any time without notice. Please contact your Stanpro customer service representative to confirm inventory levels at time of order.

TECHNICAL SPECIFICATION TABLES

Rectifier	8 kW	12 kW	16 kW	24 kW	32 kW	40 kW	48 kW
Input voltage	120/208 V, 277/480 V, 347/600 V, 3 phases, 4 wire + ground						
Input range	±15%						
Input frequency	45-65 Hz						
Input power factor	<1						
Normal input current (based on 208 Vac)	31	47	62	93	124	155	186
Maximum input current (based on 208 Vac)	36	54	71	107	142	178	213
THD	6 pulse: 30%						
	12 pulse with filter: 9%						
Power walk-in (adjustable)	0%-100%: 20 seconds						
Efficiency	98%						
Voltage regulation	1%						
Ripple voltage	0.50%						

Battery	8 kW	12 kW	16 kW	24 kW	32 kW	40 kW	48 kW
Battery type	Maintenance free sealed lead acid						
Number of cells	174						
Voltage range	295-410 Vdc						
Maximum charge current (ADC)	5	7.5	10	15	20	25	35
Battery low voltage	320 Vdc						
Battery low stop	295 Vdc						

Inverter	8 kW	12 kW	16 kW	24 kW	32 kW	40 kW	48 kW
DC input range	295-415 Vdc						
Wave form	Sinusoidal						
Output voltage (adjustable)	120/208 V, 277/480 V, 347/600 V, 3 phases, 4 wire + ground						
Crest factor	3:01						
Output power factor	0.8						
Voltage regulation 100% unbalance load	±1%						
Frequency lock range	50 / 60 Hz, ±7%						
Output frequency (free running)	50 / 60 Hz, ±1Hz						
Output voltage frequency	Static	±1%					
	Load step 0%-100%-0%	Recovering to within ±1% in 4 cycles					
THD (linear load)	<2%						
Overload	<110%	Continuous					
	110-125%	15 minutes					
	125-150%	5 minutes					
	150-170%	30 seconds					
	>170%	10 seconds					
Efficiency (100% load)	92%						
Maximum output wattage (kW)	8	12	16	24	32	40	48

Static Switch	8 kW	12 kW	16 kW	24 kW	32 kW	40 kW	48 kW
Voltage range	±20% of input voltage (line to neutral)						
Frequency range	45 - 55 Hz / 55 - 65 Hz						
Efficiency (100% load)	99.50%						
Transfer time	Mains -> Inverter	0 ms					
	Inverter -> Mains	0 ms					
Isolation with output	Yes						

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ORDERING GUIDE

Series runtimes (minutes)	Input voltage (VAC)	Capacity ratings (KW)	Output voltage (VAC)	Monitor	Output distribution	# of breakers	Options
B3NV30 B3NV60 B3NV90 B3NV120	BA - 208/120 KE - 480/277 SH - 600/347	8 12 16 24 32 40 48	BA - 208/120 KE - 480/277 SH - 600/347	1 - SNMP with TCP/IP , BACnet/IP	0 - No cabinet Normally ON 1 - Distribution Cabinet 2 - Distribution Cabinet w/ Normally OFF bus 3 - No cabinet w/ Normally OFF	1 2 3 4 5 6 7 8 9 10 11+ ¹	1 - Modbus TCP

¹Contact supplier for more details.

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