



# INDUSTRIAL INVERTER

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**Powerline Sine Wave  
Inverters helps you to  
keep the o/p voltage  
with a tolerance of 1%  
& work with efficiency  
more than 90%**

### INDUSTRIAL INVERTER

As a leading manufacturer of electronic industrial products and services, VITRONIC CONTROLS, is driven by a vision to achieve highest standard of quality and customer satisfaction. Manufacturing high quality UPS, Stabilizers, Digital Inverters and Sine Wave Inverters of various ranges, VITRONICS CONTROLS takes care of all your power source problems giving you an uninterrupted and constant power supply enabling you to function efficiently and smoothly.

#### Salient Features

- Cutting Edge Technology
- Environment Friendly
- High, Reliability
- Extremely Flexible
- Versatile Operations

## APPLICATIONS

- Offices
- Hospitals
- Manufacturing units
- Elevators
- Hotels
- Mails
- Educational Institutions
- Residentials etc

## FEATURES & BENEFITS

### DSP BASED DESIGN

DSP design use less components have high efficiency, faster feedback and precise control action. This ensures high reliability of operations.

### SOLID STATE DESIGN

Solid State Design using semiconductors devices. No electromechanical components adds to higher reliable performances.

### PURE SINE WAVE

Pure Sine Wave ensures better life of devices, Suitable to modern age loads of linear type.

### USER FRIENDLY DISPLAY

Combination of LCD-LED display makes it easy for user to understand and handle the device. It provides maximum necessary information to the user about the input supply voltage frequency, output voltage, frequency, battery charging discharging.

### REDUNDANCY OPTIONS

Ensures high availability of power during breakdown conditions. Thusmaking Luminous Pro and Pro+ series suitable even in critical applications.

### REMOTE MONITORING

In view of variety of monitoring needs. Luminous offers options of communication through web or management systems through SNMP communication protocol.



### UNBALANCE LOAD HANDLING CAPACITY

In today's variety of application it is a common scenario when load is unbalanced in such scenario the inverters support 100% unbalance load conditions thus making high availability of clean power to load.

### POWER FACTOR CORRECTED IGBT BASED CHARGER

During battery charging high power factor ensures lower KVA demand therefore saving in electricity bills.

### INPUT CURRENT HARMONICS

Latest technology IGBT bases charger design injects <3% current harmonics into the upstream distribution. This reduces harmful effect of heating due to current harmonics and keeps the input switch gears, cables and Transformer cool and avoid harms to other connected load as well.

### WIDE INPUT VOLTAGE AND FREQUENCY RANGE

Ensures minimum use of batteries thus enhancing the battery life and hence delay in investment for battery replacement

# TECHNICAL SPECIFICATIONS - NAKSH 1

Parameters	5KVA	7.5KVA	10KVA	15KVA	20KVA
Topology	DSP controlled IGBT based, with transformer				
DC Voltage	72VDC/180VDC	180VDC	180VDC	240VDC	360VDC
<b>Output</b>					
PF	0.8				
Configuration	3P+N+E (3Phase, 4 Wires + Earth)				
Output voltage setting	400/380VPhase-Phase(230/220V P-N) on Battery				
Output voltage regulation on battery	(±2%)				
Output frequency on battery	50Hz±0.5Hz				
Output voltage in mains mode	Same as input				
Output frequency in mains mode	Same as input				
THD (Resistive load)	<3% linear load		<7% non-linear load		
Overload	110% for 5min	50 for 15 sec	200% for 7 sec	300% for 3 sec	
Efficiency	≥88% inverter mode		≥98% (exclusive charging)		≥95% (including charging)
Transfer time	Mains to inverter 1sec/0.5sec(user selectable) Inverter to mains, no break <2msec				
Transient response	±5%				
Recovery time	<60msec to +2% Of nominal voltage				
O/p vtg regulation on 100% unbalanced load	±5%				
Crest factor	3:1				
<b>Input</b>					
Nominal input voltage	415V, 50Hz, 3 phase +neutral				
Voltage range	150-280V/180-270V/190-60V(Single phase) 280-485V/312-468V/329-450V(Three phase)				
Frequency range	50Hz±6Hz				
PF	0.85 to 0.92				
Current distortion	<15% charge mode				
<b>Battery charger</b>					
Type	Float-boost CVCC type				
Battery selection	SMF/Flat/Tubular				
No. of batteries	6/15	15	15	20	30
Charging current even at lowest range	10A/ 15A/ 20A (Selectable)				
Back up time	Battery dependant				
Ambient temperature	45 degree Celsius				
<b>Environment</b>					
Humidity	95% RH-humidity				
Noise level	55 db				
<b>Dimension</b>					
Dimension (W X H X D in mm)	320X625X530	320X625X530	320X625X530	400X755X680	400X755X680
Weight (in Kg)	77.5	77.5	89.6	125	130
<b>IP protection</b>					
Class	Ip20				
<b>Ventilation</b>					
Cooling	Forced air cooled				
<b>Protection</b>					
	Input Breaker Input phase reversal Mains Low/ High Cut		Battery Breaker DC Low/ Over Voltage Reverse Battery		Deadshort circuit High Temperature Short circuit
<b>Display</b>					
	LCD Disply + LED				
<b>Indications</b>					
LED indication	Battery charging/ charged Battery low		Inverter ON Phase reversal		Overload/ short circuit
LED display	DSP Sine Wave Input Voltage Input Frequency	Output Voltage Output Load in % Output Frequency	Battery Voltage Boost Voltage Float Voltage Charging Current Battery Type	Mains Low Cut Mains High Cut Inverter Switch ON	
<b>Selection Switches</b>					
User selection Switches	Inverter ON Manual bypass LCD display parameters scroll/hold Input window selection(Narrow/Medium/Wide)		Battery type selection (SMF/Flat/Tubular) Charging current selection(Low/Medium/High) Output voltage selection 220V/230V Battery type selection (SMF/Flat/Tubular)		
<b>Optional</b>					
Automatic phase reversal correction	Yes				
Operation on two phases	In the event of any one phase failure the single phase load will keep running on two healthy phases in mains mode				
Redundancy options	100% hot standby				
Temprature compensated charging	Yes				
Monitoring	Web monitoring event logging, remote indication panel, sms-mail generation				
DC control	Dg control from inverter				
Due to continuous product improvement, the specifications are subject to change without prior notice					

# TECHNICAL SPECIFICATIONS - **NAKSH 3**

Parameters	10KVA	15KVA	20KVA	30KVA	40KVA	50KVA	60KVA	70KVA	80KVA	100KVA	120KVA	150KVA	200KVA
Topology	DSP controlled IGBT based, with transformer												
DC Voltage	240VDC			360VDC				480VDC					
<b>Output</b>													
PF	0.8												
Configuration	3P+N+E (3Phase, 4 Wires + Earth)												
Output voltage setting	400/380VPhase-Phase(230/220V P-N) on Battery												
Output voltage regulation on battery	( $\pm 1\%$ )												
Output frequency on battery	50Hz $\pm 0.5$ Hz												
Output voltage in mains mode	Same as input												
Output frequency in mains mode	Same as input												
THD (Resistive load)	<1% linear load						<3% non-linear load						
Overload	125% for 10min						150% for 1min						
Efficiency	Upto 90%			Upto 92%			Upto 93%			Upto 94%			
Transfer time	<7msec												
Transient response	$\pm 5\%$												
Recovery time	Within one cycle to 98% of nominal voltage												
O/p Vtg regulation on 100% unbalanced load	$\pm 1\%$												
Short Circuit Protection	Yes												
Crest factor	3:1												
<b>Input</b>													
Nominal input voltage	415V, 50Hz, 3 phase +neutral												
Voltage range	+15%												
Frequency range	50Hz $\pm 6$ Hz												
PF	> 0.99												
Current distortion	THD<3%												
<b>Battery charger</b>													
Type	Float-boost CVCC type												
Battery selection	SMF/Flat/Tubular												
No. of batteries	20			30				40					
Charging current even at lowest range	10A	15A	20A	30A	40A	45A	55A	60A	70A	85A	105A	140A	
Back up time	Battery dependant												
<b>Environment</b>													
Humidity	95% RH-humidity												
Noise level	60 dBA												
Ambient temperature	0-40 degree celsius												
<b>Dimension</b>													
Dimension (W X H X D in mm)	500X800X1100			600X800X1200				800X800X1750					
Weight (in Kg)	225	275	315	380	405	445	475	550	625	775	810	885	
<b>IP protection</b>													
Class	Ip20												
<b>Ventilation</b>													
Cooling	Forced air cooled												
<b>Protection</b>													
	Mains Low/ High Cut				Short circuit				Deadshort circuit				
	DC Low Voltage				Mains Input Breaker				High Temperature				
	DC high voltage				Battery Switch				Phase reversal input				
<b>Display</b>													
	LCD Disply + LED												
<b>Indications</b>													
LED indication	Battery on float						Mains switch ON						
	Battery on boost						Inverter switch ON						
	Battery low						Load ON						
	Battery charging/discharging						Inverter ON						
LED display	Battery-voltage & current						Power (KVA /KW)						
	Mains-voltage, current, frequency						Output load in %						
	Inverter-voltage, current, frequency						Battery Voltage						
	Inverter heat sink temperature						System setting						
<b>Selection Switches</b>													
User selection Switches	Manual bypass						Battery type selection (SMF/Flat/Tubular)						
	LCD display parameters with push button						Charging current selection(Low/Medium/High)						
	Input window selection(Narrow/Medium/Wide)						Output voltage selection 220V/230V						
<b>Optional</b>													
Automatic phase reversal correction	Yes												
Temprature compensated charging	Yes												
Potetial free contacts	2 Isolated digital inputs, 2PFC - NO and NC panel, sms - mail generation												
Monitoring	Web monitoring event logging, remote indi9cation panel, sms-mail generation												
DG control from inverter	Yes												