



Pure sine wave

PWM dc – ac inverter

voltage regulation + isolation

XINv model**600E-24V**

600 VA
600 watts
+/- 24 vdc input
230 vac output

900E-24V

900 VA
900 watts
+/- 24 vdc input
230 vac output

Rack-mountable dc – ac inverter with transformer isolated sine wave

These heavy-duty XINv Series dc – ac inverters are housed in a 2U rack-mountable enclosure. XINv PWM inverters feature a transformer isolated sine wave output. They are designed for all applications requiring continuous pure sine wave power. They produce 230 volts ac from 24 volts dc.

Key XINv benefits

XINv uses high-performance microprocessor and unipolar pulse-width-modulated (PWM) power conversion circuits for high efficiency and low input dc ripple currents. They also feature high dc to ac power conversion efficiency, pure sine wave output and long MTBF. XINv also provides precision automatic voltage regulation of: 230 vac +/-3% and less than 5% THD.

XINv's 2U high construction with optional wall or rack-mounting kits provides maximum flexibility for telecom and industrial users. XINv offers a hardwire terminal block battery connection with a dc circuit breaker for external 24vdc battery banks.

How the XINv works

A rugged, high-performance microprocessor and unipolar pulse-width-modulated (PWM) power conversion circuit takes the dc input and converts it into a pure sine wave. The circuitry automatically adjusts the duty cycle of the output for all loads and inputs. XINv delivers a stable 50 Hz +/-0.5% frequency.

A dc circuit breaker protects all dc circuits, and an overload shutdown feature protects the inverter from overload. When the input dc voltage drops below 21 volts, a DB9 connector in the rear of the inverter sends signals for inverter output failure and low dc input voltage.

A comprehensive array of output current, battery charge levels, and status LED indicators are provided for visual assessment of inverter status. A DB-9 port is provided for communication using RS-232 or dry relay contact signals.



Typical XINv applications

Applications include all waveshape sensitive equipment such as telecommunications systems, industrial, measurement and other mission-critical, harmonic-sensitive electronics.

They are also ideal for use in facilities with 24 vdc rectifier/battery power plants, where the inverter can be used to provide the function of a double-conversion on-line UPS.

Key XINv features

- Pure sine wave inverter output
- Four IEC320-C13 receptacles
- Rack or wall mountable with optional rack/wall-mount kits
- Unipolar PWM inverter
- Ac output is isolated from dc
- +/-3% voltage regulation
- Comprehensive array of status LEDs/bargraphs
- SNMP compatible via RS-232 port with optional SNMP adapter
- Both RS-232 and relay contact signals are provided
- Very low audible noise
- Rugged construction supports mobile and portable applications
- Two year limited warranty parts and labor

*Power with a
precision attitude™*



TSi Power Corporation
1103 West Pierce Ave
Antigo, WI 54409 USA
800 874 3160 (USA only)
Phone +1 715 623 0636
Fax +1 715 623 2426
sales@tsipower.com
www.tsipower.com
Copyright © 2008 TSi

XINv



Rack-mountable heavy-duty PWM dc to ac inverter

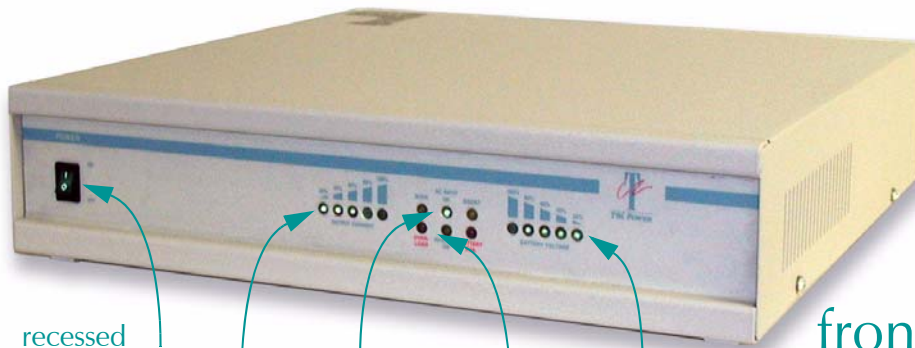
Power with a precision attitude™

TSi's ongoing product improvement process makes specifications subject to change. Other companies product names herein are for identification purposes only, and may be trademarks of their respective companies.



TSi Power Corporation
1103 West Pierce Ave
Antigo, WI 54409 USA
800 874 3160 (USA only)
Phone +1 715 623 0636
Fax +1 715 623 2426
sales@tsipower.com
www.tsipower.com
Copyright © 2008 TSi

Specification	XINv-600E-24V	XINv-900E-24V
Electrical		
Capacity in VA (watts)	600VA (600W)	900VA (900W)
Inverter type	Pulsed-width-modulated (PWM) with isolation transformer.	
Input		
Nominal voltage	-24 volts dc / +24 volts dc	
Operating voltage	21–29 volts dc	
Maximum input current	35 amperes	50 amperes
Dc input connector	3 screw terminal block for earth ground, (+), (-) dc Inputs.	
Recommended wire	10mm ² (8 AWG)	15mm ² (6 AWG)
Output		
Ac output voltage	230volts +/-3% ac (factory settable to 200, 220 or 240 vac)	
Frequency stability	50 Hz +/- 0.5%	
Output waveform	Pure sine wave. Less than 5% maximum THD for 0 to 100% loads.	
Load compatibility	All linear and non-linear loads from -0.6 (leading) to +0.6 (lagging) power factor, including new power-factor corrected switchmode power supplies and older non-power-factor corrected power supplies.	
Load crest factor	Up to 3:1 crest factor loads can be powered by the inverter.	
Surge current capability	Up to 300% surge power is available from the inverter to power load equipment with high starting/stopping surge currents for a few ac cycles.	
Overload capability	1 minute @ 120% overcurrent.	
Power efficiency	Greater than 85% under all load and dc input voltage conditions.	
Power on/off switch	Recessed on/off rocker style power switch.	
Communications	Rear-mounted DB-9 female signal port.	
Status indicators	Dc input voltage indicator: 5 green LEDs (20% per each LED). Ac output current: 5 green LEDs (20% per each LED). Inverter On: 1 yellow LED illuminates during normal inverter operation. Overload: 1 red LED illuminates if overload condition exists.	
Ac receptacles	Four standard IEC320-C13 female outlets (receptacles).	
Audible noise	<45dBA @ 1m under all operating conditions.	
Isolation and grounding	100% isolation between input dc and output ac (isolation transformer included). Metal enclosure is bonded to dc input terminal block Earth Ground input.	
Physical		
Dimensions	406mm (16") wide x 381 mm (15") deep x 89mm (3.5") high (2U high)	
Weight	12 kg (26 lbs)	18 kg (38 lbs)
Rack or wall mounting kits (optional), 23/24" also available	19 inch front rack-mount kit: MK-5019A 19 inch center rack-mount kit: MK-5019F Wall or floor mount kit: MK-5000C	
Safety		
Agency approvals	Designed to meet IEC 60950 safety standards.	
Dc breaker	Protection against shorts or misapplication of inverter current.	
Low voltage disconnect	Inverter turns off automatically if input dc voltage drops below 21 vdc.	
Overload shutdown	Inverter turns off automatically if overload is >120% for over 1 minute.	
Environmental		
Ambient temperature	-20° to +40°C (-4° to +104°F). 10 to 95% relative humidity (non-condensing). Storage temp. -20° to +60°C (-4° to +140°F).	
Cooling method	Forced air (internal hot air exhaust fan is included).	
Elevation	0 to 4,000 meters (0 to 12,400 feet) above sea level.	
Warranty		
Warranty	Two year limited depot warranty, parts and labor.	



recessed on/off switch

output current level: 20% per LED

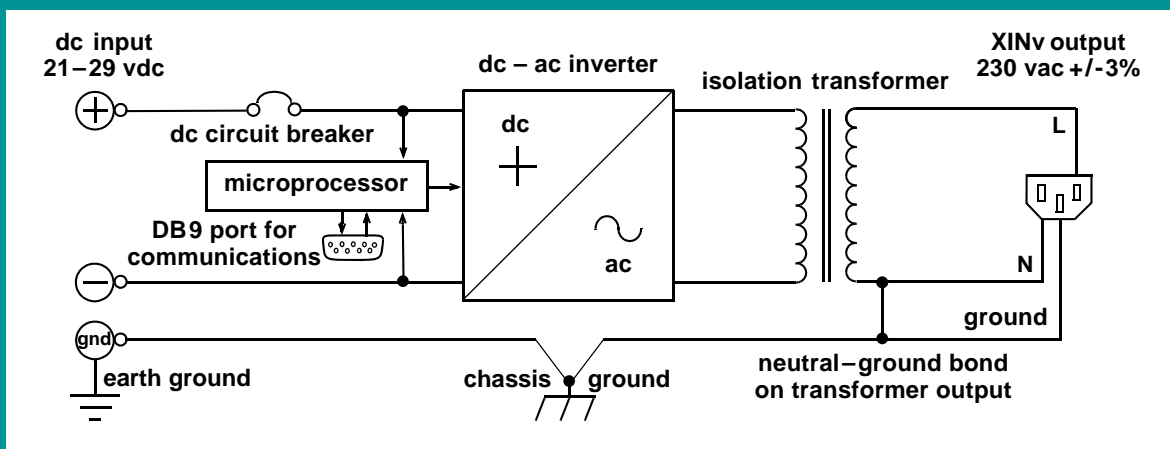
inverter On

overload condition

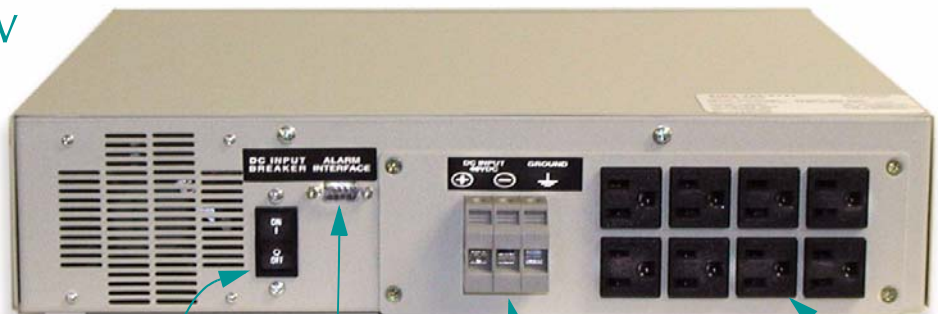
dc input voltage level: 20% per LED

front-right view

XINv-600E/900E-24V system architecture



rear view



dc input circuit breaker

dc input terminal block connector

output ac via four standard IEC320-C13 female outlets (receptacles) (115V NEMA 5-15R receptacles shown)

DB-9 communication port provides both RS-232 and relay alarm contact signals (or SNMP using optional SNMP adapter)



TSi Power Corporation
 1103 West Pierce Ave
 Antigo, WI 54409 USA
 800 874 3160 (USA only)
 Phone +1 715 623 0636
 Fax +1 715 623 2426
 sales@tsipower.com
 www.tsipower.com
 Copyright © 2008 TSi



Rack-mountable heavy-duty PWM dc to ac inverter

Specification	Connector pin	Switching condition
DB9 port function (Please note: relay contact is rated for 48vac/vdc, 1 A maximum).		
Remote shutdown	1 For remote shutdown	A +5 vdc to +12 vdc signal sent to pin#1 for three full seconds will shut down the inverter remotely. Note: this operation requires manual restart.
Transmit data	2 TXD RS-232 signal	RS-232 signal line
Receive data	3 RXD RS-232 signal	RS-232 signal line
Custom or future use	4 Unused	For future use.
Ground	5 Ground	Logic ground for pins 1 through 4.
Inverter On	6 + 7 Inverter on/off (Relay Contact)	Closed when inverter is on, Open when inverter is off.
Low battery alarm	8 + 9 Low battery alarm (relay contact)	Open when dc is okay. Closed when input source (battery voltage) drops below 21.5 vdc.
RS-232C serial communication for inverter status communication compatible with MEGATEC Communication Protocol, Part 1		
Baud rate	2400 bps	
Data length	8 bits	
Stop bit	1 bit	
Parity	None	
SNMP interface (optional)		
SNMP interface for inverter monitoring and automatic shutdown configuration (optional)	Using an external SNMP adapter, the RS-232 signals (from the DB-9 female connector) from the inverter can be converted to 10M/100M fast Ethernet signals (and RJ-45 connection) for external inverter monitoring/configuration capability using Telnet, web browsers, or NMS (most such external devices support TCP/IP, UDP, SNMP, Telnet, SNTP, PPP, HTTP & SMTP protocols).	

XINv-600E/900E-24V at a glance

Rack or wall-mountable heavy-duty PWM dc – ac inverter with isolation transformer and +/- 3% voltage regulation

- High performance microprocessor-controlled PWM sine wave output 24 vdc – 230 vac inverter
- Pure sine wave output
- Isolation transformer
- Rack-mountable 2U high metal cabinet allows for rack or wall mounting using optional mounting kits
- 230 vac +/-3% standard output can be set to a 200, 220 or 240 vac output at the factory
- Four IEC320-C13 female outlets
- +/-24vdc terminal block connection with dc circuit breaker
- DB-9 signal port with RS-232 and relay contact signals
- SNMP compatible with optional SNMP adapter

Power with a precision attitude™



TSi Power Corporation
1103 West Pierce Ave
Antigo, WI 54409 USA
800 874 3160 (USA only)
Phone +1 715 623 0636
Fax +1 715 623 2426
sales@tsipower.com
www.tsipower.com
Copyright © 2008 TSi