



**PRINCETON
POWER SYSTEMS**
Clean Power Made Simple™

Grid-tied Inverter and Battery Controller (GTIB)

The GTIB-100-G1.2 is a 100kW hybrid inverter that offers high efficiency, proven reliability, and unprecedented flexibility. The highly-configurable GTIB can condition power from alternative energy sources as well as Energy Storage and AC Microgrids.

Efficient

With greater than 97% peak efficiency, the GTIB has built-in MPPT for solar arrays and high round-trip efficiency for battery charging.

Advanced Functions

Independent real and reactive power controls allow the inverter to be used for frequency regulation, VAR compensation, demand response, peak shaving, and other advanced grid support functions. Microgrid capabilities allow the inverter to form or join a microgrid.

What's New in G1.2

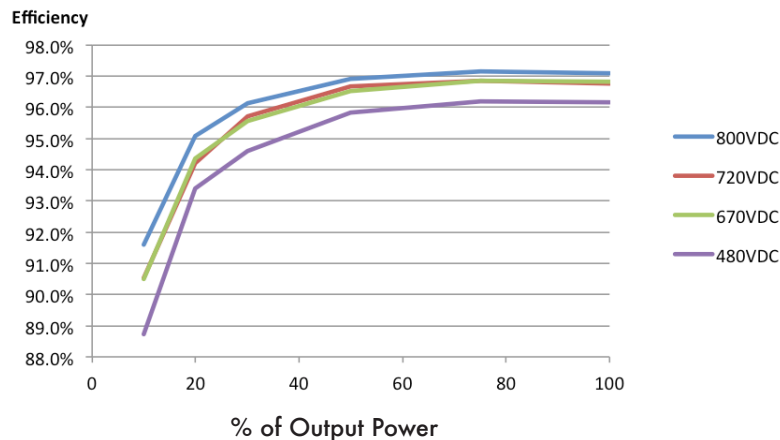
- Expanded DC Voltage Range 290-800 VDC
- Transformerless Operation
- Lower Audible Noise
- Improved Microgrid Controls
- 5% Higher Power - 105 kW



Features

- Microgrid "off-grid" and back-up power capable
- UL 1741 Listed
- Web-based remote performance monitoring, control, fault clearing, firmware upgrade
- Automatic transfer to off-grid with built-in transfer switch
- Over 60 MW Deployed

Efficiency Data



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Grid-Tied Inverter (GTIB-100)

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GTIB-100-G1.2

Power Terminals	1 DC 2 AC*
Power-stage Technology	High Frequency PWM
Size (inches)	36 W x 18 D x 75 H
Weight (Lbs)	1020
Mounting	Floor-standing

DC PORT SPECIFICATIONS - BATTERY

DC Voltage (Full Power)	290-800 VDC (110 kW)
DC Voltage (Dark Start)	254-780 VDC (with extended Dark Start Option)
DC Voltage (Full Range)	36-800 VDC
Max Power	110kW
DC Current Max	380 A
Battery Charge Controller	Integrated configurable 3-stage charge controller for lead-acid batteries
Battery Management System	Using EMOS Battery Device
DC Voltage Ripple	<1%

DC PORT SPECIFICATIONS - PV

PV MPPT (Full Power)	290-800 VDC (110 kW)
PV MPPT (Operating Range)	280-780 VDC
PV Max Open Circuit Voltage	800 VDC
PV Array Configuration	Monopole negative grounded (w/optional transformer)
DC Voltage Ripple	<1%

AC GRID SPECIFICATIONS

AC Line Voltage	480 VAC +10%, -12%, 3-phase 3/(4 wire with transformer option)
AC Line Frequency	60Hz nominal, 57-60.5 Hz range
Continuous AC Current	133 A RMS
Continuous AC Power	105kW
Power Factor	Greater than 0.95
Current Harmonics	IEEE 1547 compliant, <5% THD
Precharge DC from AC	Optional (External)

AC LOAD PORT SPECIFICATIONS

AC Line Voltage	480 VAC +10%, -12%, 3-phase 3/(4 wire with transformer option)
Continuous AC Current	142 A RMS
Continuous AC Power	100kW (117 kVA)
Power Factor	0 to 1.00 (leading-lagging)
Automatic Transfer Switch	Yes (Internal)
On-grid/Off-grid Auto-transfer time	160 ms to Backup/300 ms to Grid

ENVIRONMENTAL SPECIFICATIONS

Temperature Operating	0 to 50°C
Storage	-20°C to 60°C
Humidity	5-95% (non-condensing)
Rated Max Elevation	3,300 feet
Enclosure	NEMA 1 (indoor)

USER INTERFACES

Front-Panel Interface	Industrial LCD Keypad
Accessibility	Web-based Ethernet Interface
Remote Accessibility	via Web interface
Communication	MODBUS Over RS485 or RS232

EFFICIENCY

Peak Efficiency	>97%
CEC Efficiency	96%
Energy-saving Features	Automatic internal subsystems power-down, night time transformer auto-disconnect