



## Grid-tied Inverter and Battery Controller (GTIB)

100 kW Grid-Tied Inverter for Energy Storage  
with Built-in Smart Functions

### Grid-Interactive Functions

The GTIB 480-100 is a 100kW grid-tied inverter that offers high efficiency, proven reliability, and unprecedented flexibility. This highly-configurable GTIB can condition power from alternative energy sources, as well as Energy Storage, various AC loads, and AC Microgrids.

### Efficient

*Maximize power and minimize cost.*

With 96.5% efficiency, the GTIB has built-in MPPT for solar arrays and high round-trip efficiency for battery charging.

### Advanced Functions

*Built-in Smart Grid Functions*

Demand Response, Peak Shaving, Island Mode, Demand Dispatch, Frequency Regulation and other functions are built-in and easily configurable.

### Flexible

*Configurable for Various Applications*

The GTIB is compatible with advanced communication protocols including IEC 61850. The GTIB offers a wide input voltage range and EV Fast-Charging options.



Batteries



Solar Array



AC Loads

## Features & Options

- Microgrid "off-grid" and back-up power capable
- Web-based remote performance monitoring, control, fault clearing, firmware upgrade
- AC and DC disconnects and combiner box
- Ethernet Compatible and Web UI access
- Frequency Regulation

For more options please see  
our website 



## Grid-tied Inverter and Battery Controller (GTIB)

100 kW Grid-Tied Inverter for Energy Storage with Built-in Smart Functions



Princeton Power GTIB 480-100



Lead-Acid



Lithium-ion



Lead-Carbon

### About Princeton Power

Princeton Power Systems designs and manufactures high-performance power electronic converters and systems for commercial, industrial, and military distributed generation applications.

Specifications subject to change without notice, contact manufacturer for updated information.  
 Copyright © 2013 Princeton Power Systems, Inc.  
 All rights reserved. Printed in the USA

#### GENERAL SPECIFICATIONS

Inverter Technology	High-frequency PWM
Size Inches	36 W x 18 D x 75 H

#### INPUT SPECIFICATIONS

DC Voltage	280-600 vdc standard 36-600 vdc optional
------------	---

#### INPUT SPECIFICATION - BATTERY

Max Input Power (Discharge)	105kW
Max Output Power (Charging)	95kW
Battery Management System	Configurable -3-stage profile for lead-acid batteries and 3rd party BMS compatible for advanced batteries.

#### INPUT SPECIFICATIONS - PV

PV MPPT	280-580 VDC
PV Array Configuration	Transformerless: Ungrounded With Optional Isolation Transformer: Monopole positive or negative grounded or bipolar neutral grounded

DC Voltage Ripple	< 1%
-------------------	------

#### GRID CONNECTION PORT SPECIFICATIONS

AC Line Voltage	480 VAC +10%, -12%, 3-phase
AC Line Frequency	60 Hz nominal 57-60.5 Hz range (field adjustable)
Continuous AC Current	133 A RMS
Continuous AC Power	100kW
Power Factor	0-1.00 leading or lagging
Current Harmonics	IEEE 1547 Compliant, <5% THD

#### AC OUTPUT PORT SPECIFICATIONS

AC Output Voltage	480 VAC ± 10%, 3-phase
Voltage Harmonics	IEEE 1547 compliant, <3% THD (Resistive Load)
Maximum Load Power	100kW
Allowable Load Power Factor	1.00 -0.85 (Lagging)
Maximum Load Current	142A
Backup Auto-transfer time	To Backup: 250ms To Line: 250ms

#### ENVIRONMENTAL SPECIFICATIONS

Temperature Operating	0 to 50°C
Storage	-20 to 60°C
Humidity	5-95% (non-condensing)
Cooling	Forced-air cooled
Rated Max Elevation	6,000 Feet
Enclosure	NEMA 1 (Indoor)

#### SAFETY FEATURES

Faults	Over/Under Voltage, Over/Under Frequency, Over Current, Overload, Over-temperature
Standards Compliance	IEEE 1547, CEC, UL 1741 Certified (#72090351.01)
Safety Features	Anti-islanding(gridfaultdetection,isolation&auto-reconnect) UL-compliant trip points (field adjustable)

#### USER INTERFACE FEATURES

Front-Panel Interface	4x20 LCD, Keypad, Fault LED's
Communication	We offer a wider variety of communication Options
Performance Monitoring	Real-time & Historic, web-based performance data
Analog & Digital I/O	Analog: (3) inputs, (1) output; 0-10 V or 4-20mA Digital: (3) inputs 0-24V, (2) output relays

#### EFFICIENCY

Peak Efficiency	96.5%
CEC Efficiency	95.0%
Nighttime TARE Losses	25W
Energy-saving Features	Automatic internal subsystems power-down, Night time transformer auto-disconnect

#### Princeton Power Systems, Inc.

3175 Princeton Pike, Lawrenceville, NJ 08648 USA

Tel: (609) 955-5390 • Fax: (609) 751-9225

info@princetonpower.com • Press Inquiries: press@princetonpower.com • Sales: sales@princetonpower.com

www.princetonpower.com