PRINCETON POWER SYSTEMS

Prepared for: NJ Office of Clean Energy

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WHO IS PRINCETON POWER?

Princeton Power Systems designs and builds high-performance power electronic converters for military and commercial distributed generation applications, and designs and installs complete photovoltaic systems.

Our Distributed Generation Systems, including solar systems, include energy storage, critical load control, backup power, and other advanced features.

Competitive advantages come from patented technologies, and system engineering expertise.

CLEAN POWER, MADE SIMPLE.

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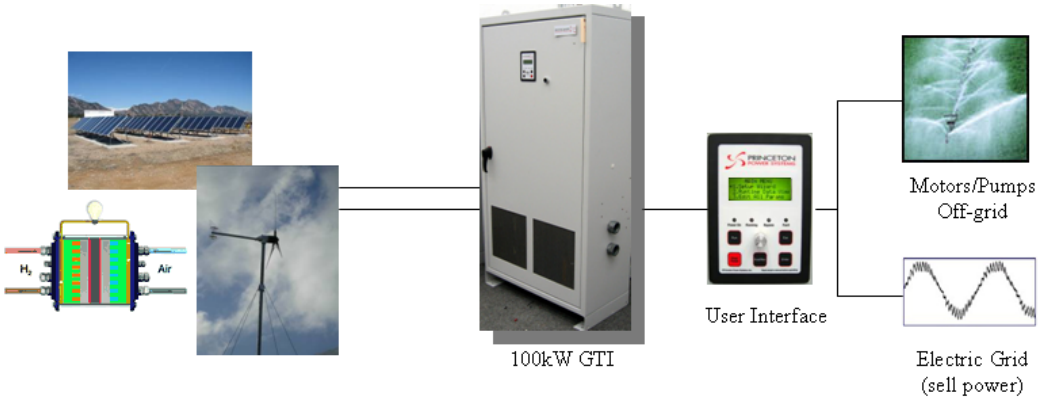
PRINCETON POWER SYSTEMS

COMPANY TIMELINE

- **2001**: Princeton University spin-out
- **2005**: Named NJTC “Early Stage Company of the Year”
- **2007**: PPS installs first photovoltaic array at Princeton University, under a New Jersey Commission on Science and Technology program
- **2008**: Hybrid (wind, solar, battery) systems installed in Bermuda, Virginia, California, New Jersey, awarded BEIP Grant from EDA for job creation
- **2009**: Commercial Inverter UL 1741 listing, “Green Product of the Year” Award, Demand Response Inverter Development begins, $3.3M NJ Clean Energy Manufacturers loan/grant
- **2010**: 18-unit VSD shipment for Gerald Ford Aircraft Carrier via Northrop Grumman, prototype tests completed for Demand Response Inverter, solar systems strategic initiative
- **2011**: Alcatraz Island micro-grid system, Forward Operating Base (FOB) demo on Fort Irwin, Ribbon cutting for 200kW, 164kWh hybrid solar array (PV + batteries)

GTIB 480-100: 100kW GRID-TIED INVERTER

3-phase 100kW DC-AC inverter for grid-tied and backup power applications



98% Peak Efficiency | High-reliability

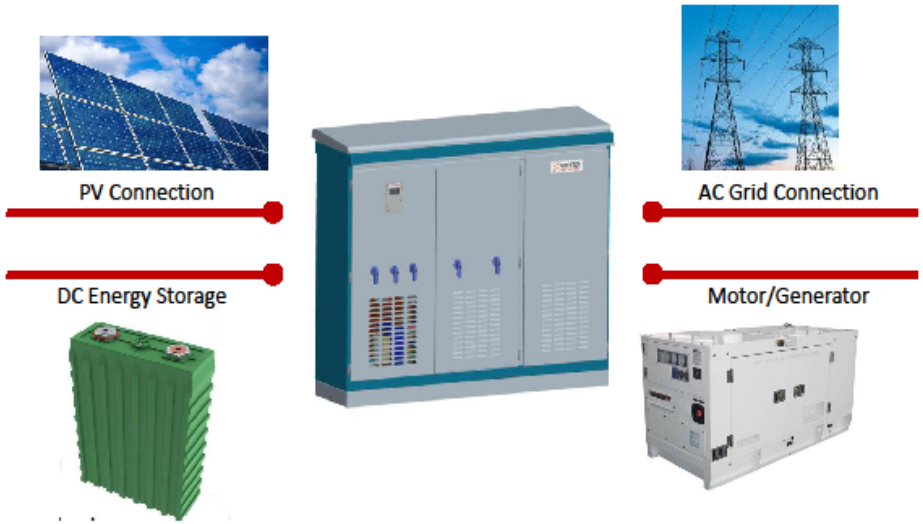
Micro-grid and Backup Power capable

Compatible with:

- Commercial-scale solar arrays, up to 2MW
- Battery banks and energy storage

100kW Demand Response Inverter (DRI)

3-phase, Grid-tied, Controllable, 4-Terminal Conditioner



E-Quad Power Flow Control Technology:

Dynamic Control of four bi-directional loads and sources through a central high-frequency link

- **PV Connection**
- **AC Grid Connection**
- **AC-load Connection**
- **DC Battery Storage**

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Turnkey Energy Storage System

Demand Response Inverter (DRI) and Battery Module

Solar

Facility

Electric Grid

Generator/
Motor

Applications:

•Solar Time-Shifting: Generate predictable, reliable power from intermittent distributed resources, and use it when it is most valuable

•Demand Response: Automatically respond to price signals and electric grid needs by shedding loads and increasing power output

•Backup Power: Hours or days of power backup by combining batteries with off-grid generators (solar, wind, diesel, etc.)

•Micro-grids: Maximize facility security and reliability by disconnecting from the electric grid when needed, while managing multiple loads and generators effectively

•Optimize Generation Sources: Allow all generators to run at optimum efficiency to significantly reduce fuel use (30-50% reduction)

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