PRINCETON POWER SYSTEMS

Princeton Power Systems
Clean power made simple.

Demand Response Inverter DRI-10

Grid-tied, Controllable 4-Terminal Power Conditioner

Princeton Power DRI

About Princeton Power

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

General Specifications	
Power Rating	10 kW
Inverter Technology	4-port PWM with central DC link
Size and Weight	19.7 Wx15.8 Dx74.8 H; 440lbs
Power Terminals	Four (4): 2x DC, 2x AC
DC Power Terminal Specifications (x2)	
Voltage Range (Battery)	250-600 VDC
Voltage Range (PV)	254-600VDC Max Power on and off-grid 36-254 VDC Power-Limited On-grid operation (power curve available)
PV MPPT Range	260 — 590 VDC
Power	10kW
PV Array Configuration	Negative Grounded
Max. Current	40 A
Control Functions	Battery charge/discharge/bulk/float for lead-acid, lithium-ion, and lead-carbon and PV array control
AC Grid Power Terminal Specifications	
Voltage	120/240 VAC +10%/-12% (Split Phase), 120/208 VAC (Two Phase)
Maximum Current	46 ARMS
Power Factor	0.80 (lag) – 1 – 0.80 (lead) at rated power
Line Frequency	60Hz (57.0 – 63.0Hz)
Harmonics	<5% THD IEEE 1547 Compliant
AC Load Power Terminal Specifications	
Voltage Range	120/240 VAC +10%/-12% (Split Phase), 120/208 VAC (Two Phase)
Maximum Current	46 ARMS
Overload Capability	150% for 10 seconds, 10-minute duty cycle
Frequency Range	60Hz (59.3 – 60.0Hz) compliant with UL 1741
Control Functions	Parallel operation and generator coordination for intelligent load shedding and generator start.
Environmental Specifications	
Temperature	Operating: 0 to 40°C Storage: -20 to 60°C
Humidity	5 – 95% (non-condensing)
Cooling	Natural Convection/Fanless
Rated Max Elevation	3,000 feet (full power) 5,000 feet (de-rated power)
Enclosure	NEMA 3R
Safety Features	
Faults	Over/Under Voltage/Frequency/Current/Temperature
Standards Compliance	IEEE 1547, CEC, UL 1741
Safety Features	Anti-islanding, fused ground fault detection and interrupter, UL-compliant trip points (factory adjustable), Password protected parameters and Battery over/under-charge protection
User Interface Features	
Front-Panel Interface	Touch screen viewable in and protected from sunlight
Communications	MODBUS over RS485 or RS232
Performance Monitoring	Local performance data storage, downloadable Web-based historical performance data hosting options
Analog & Digital I/Os	(2) inputs 0-24V, (3) output relays
Efficiency	
Peak Efficiency	98.0% (PV or Battery to Grid)
CEC Efficiency	96.5% (PV or Battery to Grid)
Energy-Saving Features	Smart load-shedding and Smart Relays

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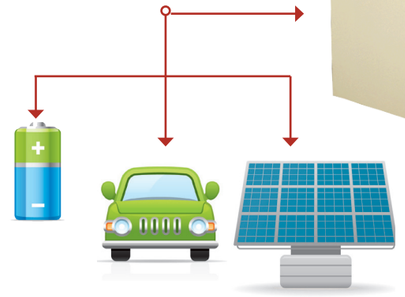
Pre-configured Power Solution

The multi-terminal DRI is a 10kW inverter uniquely flexible to be more reliable, more efficient, and more cost-effective than currently available inverters. The DRI's distinctive E-Quad design combined with its split-phase electrical connections make it ideal for residential applications including residential off-grid systems, electric vehicle charging, and small-commercial applications.

Efficient | Maximize energy.
Maximize energy and minimize cost.
Improves energy conversion efficiency. Programmable power curves and charge profiles also provide enhanced control for generators, AC loads, and batteries.

Applications | Energy Storage
Pre-installed energy management applications.
Optimize local energy usage and costs with pre-programmed applications including **peak-shaving, backup power, time-shifting, and frequency regulation.**

Flexible | Integrate quickly and easily.
Highly programmable and easily integrated.
E-Quad Technology allows power routing to the grid, DC energy storage, and dynamic AC loads. Multiple AC and DC terminals are ideal for microgrid and off-grid systems.



E-QUAD™ Power Flow Control Technology

Dynamic control of four bi-directional loads/sources through a central high-frequency link

Features & Options

- Ground fault detection and interruption (GFDI optional)
- Manual AC and DC disconnects and combiner box (optional)
- Utility interface communication modules for Modbus over RS485
- Level I/II EV Charging (with separate car charge station)

For more options please see our website →

www.princetonpower.com