PD POWER SYSTEMS

Apex Ground Power Unit 150kWe

Part Number: PD-GPU150

150kW System for Ground Support Mission

PD Power Systems is proud to offer the 150kWe, PD-GPU150, with embedded Smart-Grid Technologies in a modular configurable output options to join our diverse portfolio and aviation ground equipment. The 150kWe GPU leverages a proven modular design approach and control system that has been successfully demonstrated in our multiple ground support equipment offerings.

The Apex comes with multiple-unit parallelling capabilities positioned to support any forseeable future demands. The unit provides the 150kWe output in the combination of 400Hz, 270VDC and 28VDC, and 60Hz outputs, allowing the different outputs to operate simultaneously.

Key Components

The offered unit is designed with selected components approved for use in harsh desert and arctic environments and compliant with MIL-STD-810H and MIL-STD-461F. Attention has been given to using components that are already part of the DoD Logistics footprint to ensure reliance on existing infrastructures to support the missions.

Engine and Generator

The PD-GPU150 is powered with Cummins' QSL9 engine (or equivalent). The QSL9 platform has proven history of relability, is built in the U.S., and is widely used in other military applications.

The generator is a 480V, 60Hz, double-bearing Marathon (PSL430), made in North America. The generator has a critical grade varnish to protect the windings against extreme and harsh weather. The generator comes pre-equipped with a Permanent Magnet Generator (PMG).

- **All the outputs, 400Hz/270VDC/28VDC and 60Hz, can be enabled simultaneously.**
- **Smart Grid built-in capability to set the priority of all outputs to ensure mission critical demaind is given higher priority.**
- **User configurable load-shedding capabilities for each output.**
- **Optional: End-of-mission power useage report.**

400Hz Outputs (6)

1. Main, 3-phase, 150kWe, 115/200VAC at 400Hz
2. Main, 3-phase, 72kWe, 115/200VAC at 400Hz
3. Aux, 3-phase, 150kWe, 115/200VAC at 400Hz
4. Aux, 3-phase, 72kWe, 115/200VAC at 400Hz
5. Parallel-able output, 300kWe (combined), 115/200VAC at 400Hz
6. Aux parallel-able output, 300kWe (conbined), 115/200VAC at 400Hz

270VDC Outputs (3)

1. 150kWe, 270VDC - Single/Double Cable Configuration
2. 150kWe, 270VDC - Double Cable Configuration
3. 72kWe, 270VDC - Single Cable Configuration

28.5VDC Output (1)

- 1.20kWe, 28.5VDC (Capable of 2000A for 30 sec.)

60Hz Outputs (7)

1. 4 x 120/208V, 20A, GFCI Utility Outlets
2. 2 x 120/280V, 40A, Twist Lock Output
3. 1 x 120/280V, 60A, Twist Lock Output
4. 150kWe, 480V, 60Hz Output

Input Configuration Option:

- Diesel (compatible with military fuels) powered
- 480V, 50/60Hz Utility (mains) input

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Established leader in ground support, power generation, and distribution equipment

Design Features

- Powered with Smart-Grid Technologies with an intutive user display to prioritize multiple simultaneous output options with load shedding trigger points for each output
- All-in-one design for engine or utility powered operation
- Power Quality Type II Utility (Class 2A) MIL-STD1332B
- 4-way battery maintenance: solar, utility, 120VAC shore power, and on-board 120A DC alternator
- Power Control Module (PCM): Self-contained, designed to work as stand-alone system with utilities if the engine-generator is removed for maintenanceZ
- Rugged four-wheeled trailer, hand brake system, SAE AS 8090, Type II, Group C
- Fuel: JP-8 (primary), DF1 and 2, JP5, and Jet A
- Cooling system with variable speed fan
- Stainless steel exhaust system
- Rust-free aluminum fuel tanks
- Sound attenuation 78dBA at 7 meters
- Turnkey solution that functions as backup 60Hz/480V generator, ready to connect with an Automatic Transfer Switch (ATS)
- 14 ft. tall detractable Tactical Remote Area Lighting System (TRALS) (85,000 theoretical Lumens) with 150° spread angle
- Daisy chain multiple units to light up the TRALS on remote units by running one engine to avoid wet stacking of engines for ultra low loads
- One (1) unit is capable of replacing five (5) 30kWe AMMPS or 2.5 (two and half) 60kWe AMMPS units at 60Hz operation.

Environmental Specifications

- Temperature, MIL-STD-810H Method 501.4, 502.4
  - Operating -40°F to +131°F (-40°C to +55°C)
  - Storage -50°F to +160°F (-45.5°C to +71°C)
- Humidity, MIL-STD-810H, Method 507.4
- Salt Fog, MIL-STD-810H, Method 509.3
- Blowing Rain, MIL-STD-810H, Method 506.4
- Blowing Sand, MIL-STD-810H, Method 510.4
- Wind, MIL-STD-810H, Method 506.10
- Air Transportability - Compatible to MIL-STD-1791 (4.5G Down, 2G Up, 3G Forward, 1.5G Aft)
- Tie Down, MIL-T-81259B

Compliance

- SAE AS 50881
- SAE A8090
- MIL-STD-704F
- MIL-STD-167-1
- MIL-STD-810H
- MIL-STD-209
- MIL-STD-889
- MIL-STD-1472
- MIL-STD-461F

Size and Weight

145"L x 86"W x 82"H
10,150 lbs. (wet)

Comprehensive logistics life cycle planning, execution & support

Worldwide Comprehensive Logistics Life Cycle Planning, Execution, & Support

- Support at multiple locations of the U.S. military around the globe.
- Commissioning, training, and maintenance support services globally.
- Parts inventory at critical locations and around the world.
- Support for engineering and technical data for all products and services.

Highly Technical, Experienced Workforce with Deep Subject Matter Expertise

PD Power Systems is a full systems integrator, designer, and manufacturer of power generation and distribution equipment.

We offer full-service solutions to government and industry with agile approaches using lean technology.

Our superior leadership, hardware developers, integrators, and on-site engineers provide concept-to-delivery products across engineering, production, system integration, testing, and Integrated Logistics Support (ILS).

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