

# GPU-409

## GROUND POWER UNIT 90 KVA



### ELECTRONIC CONTROL with DIGITAL DISPLAY

The **GPU-409** Ground Power Unit features a compact design with full-size performance which allows for easier handling and better mobility near aircraft. It features a brushless, high efficiency generator running at an optimized 1846 RPM providing improved fuel efficiency and reduced sound level while ensuring rapid transient response and exceptional frequency regulation.

Powder-coated aluminum and fiberglass panels surrounding a rugged galvanized steel chassis provide the longest lasting finish. Mobility is enhanced by a rubber torsion axle, tight radius 5<sup>th</sup> wheel steering, simple direct-acting brakes, and a safe no-drop towbar. The unit can meet U.S. Tier 4i. Other engines are available for all emissions-regulated locations.

### GENERATOR SPECIFICATIONS

400 Hz 115/200 volts, +/- 15% adjustable, 3 phase, 4 wire wye-connected, grounded neutral, revolving field, brushless, self-cooling, single bearing, directly connected to the engine.

### GENERATOR CONTROLS

Digital generator control module (GCM) features voltage regulation, fault protection, and an operating parameter display. The GCM monitors 400 Hz output when 400 Hz is in use and 28.5 VDC output when optional 28.5 VDC transformer rectifier is in use. The voltage regulator provides line drop compensation on 400 Hz and 28.5 VDC as well as DC current limiting. The GCM displays voltage, current, and frequency digitally on a backlit LCD. The GCM provides the following fault protection:

- **Over frequency:** 420 Hz in 5 seconds
- **Under frequency:** 380 Hz in 7 seconds
- **Over voltage:** 130 volts in 2 seconds
- **Under voltage:** 100 volts in 7 seconds
- **Overload:** 125% of rated load for 5 minutes

The GCM displays and latches the fault if any of these occur.

### ENGINE SPECIFICATIONS

- 24 volt starting motor
- Heavy-duty spark arrestor / silencer
- Full-flow oil and fuel filters
- Dry-type air cleaner
- (2) 12-volt batteries
- Pusher type fan
- Low coolant shutdown

### ENGINE CONTROLS

Electronic engine governors provide precise frequency regulation and fast transient response. Engine protection such as low oil pressure and high coolant temperature are programmed into the ECM. An engine diagnostic connector is provided for communicating with the engine. Engine operating parameters are displayed via SAE J1939 CANBUS:

- **Engine speed, voltage, and hours**
- **Oil pressure and coolant temperature**
- **Real time % load**
- **Active and stored service codes**
- **Various languages, US and Metric units**

A separate analog fuel gage is provided. An automatic cool down cycle and emergency shutdown are standard features.

### ELECTRICAL CHARACTERISTICS

- **Meets MIL-STD-704F**
- **Voltage regulation:** +/- 1% over full load range
- **Voltage transient:** +/- 13.8% no load to full load
- **Voltage transient recovery time:** +/- 1% of nominal voltage within 100 milliseconds
- **Voltage modulation:** 0.5% at steady state.
- **Phase balance:** <1% at balanced 3 phase load. <4% at 1/3 load on 1 phase and no-load on 2 phases
- **Harmonic content:** THD <2%. Any 1 phase harmonic <1.5% at 0.8 PF linear load
- **Creft factor:** 1.414 +/- 0.07
- **Frequency regulation:** +/-0.1% no-load to full-load and overload.

Tolerances of data: +/- 5%.

Some views may show optional equipment. Specifications may be altered due to a constant effort to improve performance.

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- **Frequency transient:** +/- 2.5% no-load to full load
- **Frequency transient recovery time:** +/- 0.5% of nominal frequency within 1.5 seconds
- **Overload rating:** 125% for 5 minutes
- **Line drop compensation:** Increases up to 10 VAC L-N to compensate for aircraft cable voltage drop

### CHASSIS CHARACTERISTICS

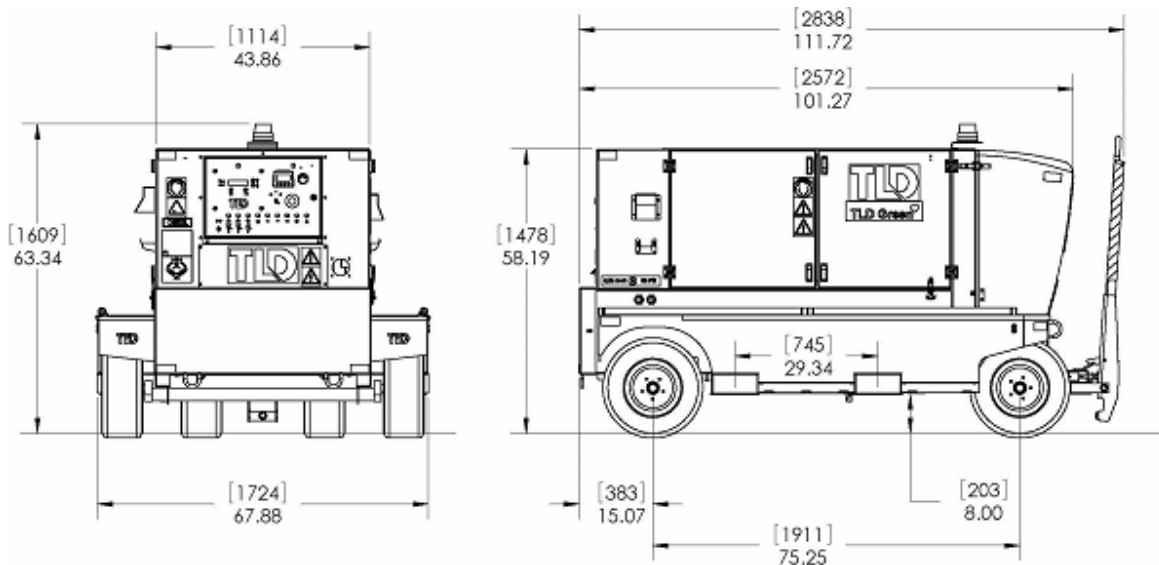
- **Easy access** to all components
- **Side mounted cable trays** with integral rollers
- **Fuel tank** – 46 gallons for over 8 hrs of run time
- **5<sup>th</sup> wheel steering** with no-drop towbar brake
- **Forklift pockets and tie down rings**
- **Cable plug holders**

### OPTIONAL EQUIPMENT

- **Second 400 Hz output**
- **Transformer rectifier:** 28.5 VDC with current limiting, 800 amps continuous, 2000 amps peak. Can be field installed.
- **Beacon:** Amber or red, flashing or rotating
- **Low fuel warning, shutdown, or rampdown**
- **Engine block heater**
- **Fuel filter/water separator with heater**
- **Hush kit**
- **Rub rails**
- **High efficiency fan clutch**

**Our GPU's are available in several engine configurations.  
Each version meets at least your latest local emissions regulation**

MODEL	KVA	P.F.	KW	RATED AMPS
GPU-409	90	0.8	72	260



LOCAL SUPPORT, TOTAL COMMITMENT

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