

# GPU-4000

GROUND POWER UNIT  
90 KVA TO 180 KVA



## ELECTRONIC CONTROL with DIGITAL DISPLAY

The **GPU-4000 Series 400 Hz** Ground Power Unit features a brushless revolving field generator, rubber torsion axle-mounted chassis of rugged galvanized steel construction with fifth wheel steering and powder-coated sheet metal panels. The unit can meet U.S. and EUROS latest emission standards.

## GENERATOR SPECIFICATIONS

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

## ENGINE SPECIFICATIONS

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

## GENERATOR CONTROLS

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

- **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 the above should occur.

## ENGINE CONTROLS

On electronic diesel engine versions, the electronic engine governors provide precise frequency regulation and fast transient response. Engine protection such as low oil pressure, high coolant temperature, and over speed protection are programmed into the engine electronic control module. An engine diagnostic connector is provided for communicating with the engine. Engine operating parameters are displayed with electronic gages via SAE J1939 Controller Area Network, which include:

- **Engine hours**
- **Engine RPM**
- **System Voltage**
- **Oil Pressure**
- **Coolant temperature**
- **% Engine load at the current RPM**
- **Active and stored service codes**
- **View engine configuration parameters**

A separate analog fuel gage is provided. Automatic engine cool down and emergency shutdown are standard engine controls.

## ELECTRICAL CHARACTERISTICS

- **Voltage regulation:** +/- 1% maximum over full range of generator loading.
- **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:** Not to exceed 1% at balanced 3-phase load. Not to exceed 4% at 1/3 load on 1 phase and no-load on the other 2 phases.
- **Harmonic content:** Total harmonic distortion not to exceed 2%. Any single phase harmonic not to exceed 1.5% at 0.8 P.F. linear load.
- **Crest 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.

# GPU-4000

## GROUND POWER UNIT 90 KVA TO 180 KVA



- **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:** Provides a voltage increase of 10 volts, line to neutral, to compensate for voltage drop in the aircraft cable assembly.

### CHASSIS CHARACTERISTICS

- **Easy access** to all components
- **Control panel** – rear mounted
- **Cable storage tray**
- **Fuel tank** – 77 gallons for over 8 hrs of running time
- **Mechanical brake** – towbar operated
- **Fifth wheel steering**

### OPTIONAL EQUIPMENT

- **Second 400 Hz output** (90 KVA only-otherwise standard)
- **Transformer rectifier:** 28.5 VDC with current limiting - 1000 amps continuous, 2500 amps peak. Can be field installed.
- **Beacon:** Amber or red, flashing or rotating
- **Low fuel warning**
- **Low fuel warning with shutdown or idle**
- **Engine block heater**
- **Fuel filter/water separator with heater**
- **Hush kit**
- **Rub rails**

### High Efficiency GPU Option (90 KVA only)

- 4 Cylinder Engine, operating at 1846 RPM
- High Efficiency 1846 generator
- Variable Speed Fan Clutch
- High Efficiency Radiator Fan

**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	LENGTH TOWBAR UP	WIDTH	HEIGHT*	WEIGHT
GPU-4090	90	0.8	72	260	156" 3962 mm	60" 1524 mm	68" 1727 mm	5740 LBS 2609 KG
GPU-4120	120	0.8	96	346				
GPU-4140	140	0.8	112	404				
GPU-4180	180	0.8	144	520	168" 4267 mm	60" 1524 mm	71" 1803 mm	7460 LBS 3391 KG

\* Add 5" (127 mm) for optional beacon.



### AERO Specialties Sales and Service headquarters:

11175 West Emerald, Boise, Idaho, 83713 USA

Phone: 208-378-9888

Email: sales@aerospecialties.com

Website: www.aerospecialties.com

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