

*Exclusively from your Caterpillar® dealer*



## **GEP110 (3-Phase)**

### **50 HZ**

**STANDBY      110 kVA / 88 kW**

**PRIME         100 kVA / 80 kW**

### **60 HZ**

**STANDBY      125 kVA / 100 kW**

**PRIME         113 kVA / 90.4 kW**

## **FEATURES**

### **GENERATING SET**

- Complete system designed and built at ISO9001 certified facility
- Factory tested to design specifications at full load conditions
- Fully engineered with a range of options and accessories

### **ENGINE**

- Industrial water cooled diesel engine
- Governor, mechanical
- Electrical system, 12 VDC
- Cartridge type fuel and oil filters
- Air filter
- Battery(s), rack and cables

### **GENERATOR**

- Self excited brushless generator
- Insulation system, class H
- Drip proof generator air intake (IP23)
- Electrical design in accordance with BS5000 Part 99, IEC60034-1, VDE0530, UTE51100

### **CONTROL SYSTEM**

- 1001 keystart control panel
- Vibration isolated sheet steel enclosure with hinged lockable door

### **MOUNTING ARRANGEMENT**

- Heavy-duty fabricated steel base with lifting points
- Anti-vibration pads to ensure vibration isolation
- Engine coupled to generator with flexible disc coupling
- Baseframe incorporates heavy-duty fabricated steel fuel tank, 8 hours running capacity

### **EXHAUST SYSTEM**

- Heavy duty industrial capacity exhaust silencer (approximately 10 dB reduction) supplied loose

### **COOLING SYSTEM**

- Standard ambient temperatures up to 50° C (122° F)
- Fan, fan drive and charging alternator fully guarded
- Antifreeze protection coolant

### **CIRCUIT BREAKER**

- 3-pole miniature circuit breaker (mcb) < 160 amps and 3-pole molded case circuit breaker (mccb) >= 160 amps
- Vibration isolated sheet steel enclosure with removable cover plate
- Outgoing cable stub-up area directly below circuit breaker

### **AUTOMATIC VOLTAGE REGULATOR**

- Voltage regulation ±0.5 %
- Provides fast recovery from transient load changes

### **EQUIPMENT FINISH**

- All electroplated hardware
- Anticorrosive paint protection
- High gloss polyurethane paint for durability and scuff resistance

### **QUALITY STANDARDS**

- BS4999, BS5000, BS5514, IEC60034, VDE0530

### **DOCUMENTATION**

- Operation and maintenance manuals provided
- Wiring diagrams included

### **WARRANTY**

- 12 months from date of initial start-up or 18 months from shipping, whichever occurs first

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## OPTIONAL EQUIPMENT\*

<b>Engine</b>	Electronic governor (fully adjustable) Lube oil drain Lube oil drain valve Lube oil drain pump High lube oil temperature shutdown
<b>Generator</b>	Anti-condensation heater Quadrature droop upgrade Permanent magnet generator (PMG) AREP Excitation system
<b>Cooling System</b>	Coolant heater Low coolant temperature alarm Low coolant level shutdown Radiator transition flange Coolant drain Coolant drain valve 50% Anti-Freeze (Protection to -36°C)
<b>Fuel System</b>	Extended capacity metal basetank Bunded fuel tank (not available with canopied sets) Manual fuel pump Low fuel level shutdown Low fuel level alarm High fuel level alarm Remote fuel systems Fuel transfer systems Manual Bypass Valve
<b>Silencer System — Open Unit</b>	Level 2 silencer with mounting kit (approximately 25 dB reduction) Level 3 silencer with mounting kit (approximately 35 dB reduction) Overhead mounting kit for level 1 silencer Level 1, 2 and 3 silencer installation kits
<b>Enclosures</b>	Sound attenuated (EC) canopy Super sound attenuated (EC) canopy
<b>Handling/Trailers</b>	Oil field skid Single point lift Fixed height chassis trailer Adjustable height chassis trailer
<b>Controls</b>	Baseframe mounted terminal box instead of control panel 2001 Autostart panel 4001 Autostart panel 4001E Autostart panel 6000 Series digital synchronising control panels Access 1000 modular control panel Access 2000 modular control panel Access 4000 digital control panel Automatic mains failure (AMF) upgrades for 2001, 4001 and 4001E panels Control panel upgrades — gauges, meters, battery chargers, alarms, shutdowns
<b>Remote Annunciators</b>	8- and 16-channel remote annunciator panel for 4001 and 4001E control systems only (supplied loose) Remote annunciator upgrade — normal/run control switch Remote annunciator upgrade — lockdown stop pushbutton
<b>Circuit Breaker</b>	Upgrades from 3-pole to 4-pole breaker
<b>Transfer Switches</b>	TM Series manual load transfer panels TC Series automatic load transfer panels TI Series load transfer panels and bypass switches TX Series load transfer panels
<b>Certification</b>	European CE certification (not available on 60 Hz models)

\*Some options may not be available on all models.  
Not all options are listed.

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## SPECIFICATIONS



### GENERATOR

Make.....	Olympian
Model.....	LL3014B
Type.....	Self-excited, brushless
Voltage regulation.....	±0.5% at steady state from no load to full load
Frequency.....	±0.8% for constant load from no load to full load
Waveform distortion.....	THD <4%
Radio interference.....	Compliance with BS800 and VDE Class G&N
Telephone Interference.....	TIF <50, THF <2%
Overspeed limit.....	2250 rpm
Insulation.....	Class H
Temperature rise.....	Within Class H limits
Deration.....	Consult factory for available outputs

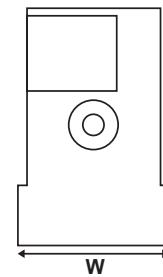
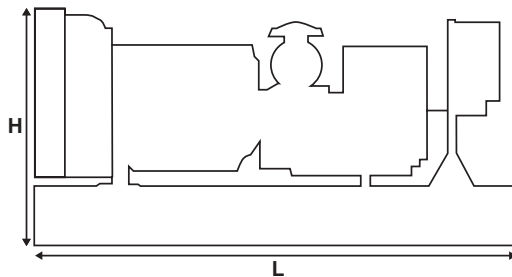


### ENGINE

Manufacturer.....	Perkins
Model.....	1006TG2A
Type.....	4-Cycle
Aspiration.....	Turbocharged
Cylinder configuration.....	In-line 6
Displacement — L (cu in).....	5.99 (365)
Bore/stroke — mm (in).....	100/127 (3.9/5.0)
Compression ratio.....	16.0:1
Engine speed — rpm	
50 Hz.....	1500
60 Hz.....	1800

Piston speed — m/sec (ft/sec)	
50 Hz.....	6.35 (20.8)
60 Hz.....	7.62 (25.0)
Maximum power at rated rpm — kW (hp)	
Standby	
50 Hz.....	104 (139)
60 Hz.....	124 (166)
Prime	
50 Hz.....	94.4 (127)
60 Hz.....	112 (151)
BMEP — kPa (psi)	
Standby	
50 Hz.....	1404 (203)
60 Hz.....	1393 (202)
Prime	
50 Hz.....	1263 (183)
60 Hz.....	1253 (181)
Regenerative power — kW (hp)	
50 Hz.....	12.6 (16.9)
60 Hz.....	16.2 (21.7)
Motor starting capability — kW (hp)	
50 Hz.....	83.0 (111)
60 Hz.....	97.0 (130)
Governor	
Type.....	Mechanical
Class.....	ISO 8528 G2

## GENERATING SET DIMENSIONS AND WEIGHTS



Model	Length mm (in)	Width mm (in)	Height mm (in)	Weight* kg (lb)
GEP110	2481 (97.7)	746 (29.4)	1433 (56.4)	1240 (2734)

Note: General configuration not to be used for installation. See general dimension drawings for detail.

\*Includes oil and coolant

Consult your Olympian representative for more information

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Generator Set Technical Data		50 Hz		60 Hz	
		Standby	Prime	Standby	Prime
<b>Package Performance</b> Power rating	kVA (kW)	110 (88)	100 (80)	125 (100)	113 (90.4)
<b>Lubricating System</b> Type: Oil pump & lubrication sump Oil filter: Spin-on, full flow Oil cooler: Water Oil type required: API CD 15W-40 Total lube system capacity Oil pan capacity	L (U.S. Gal) L (U.S. Gal)	16.1 (4.3) 13.1 (3.5)		16.1 (4.3) 13.1 (3.5)	
<b>Fuel System</b> Fuel Tank Capacity Generator set fuel consumption** 100% load 75% load 50% load	L (U.S. Gal) L/hr (U.S. g/hr) L/hr (U.S. g/hr) L/hr (U.S. g/hr)	230 (60.8) 25.4 (6.7) 18.6 (4.9) 12.8 (3.4)	22.8 (6.0) 16.9 (4.5) 11.9 (3.1)	230 (60.8) 29.2 (7.7) 22.1 (5.8) 15.8 (4.2)	26.4 (7.0) 20.1 (5.3) 14.7 (3.9)
<b>Engine Electrical System</b> Voltage/ground: 12 vDC/negative Battery charging alternator ampere rating	amps	45		45	
<b>Cooling System</b> Water pump type: Centrifugal Cooling system capacity Maximum coolant static head Coolant flow rate Minimum temperature to engine Temperature rise across engine Heat rejected to coolant at rated power Total heat radiated to room at rated power Radiator fan load	L (U.S. Gal) m H <sub>2</sub> O (ft H <sub>2</sub> O) L/hr (U.S. gal/hr) °C (°F) °C (°F) kW (Btu/min) kW (Btu/min) kW (hp)	27.7 (7.3) 11.7 (38.7) 8280 (2188) 70 (158) 8 (14) 68.1 (3874) 44.6 (2537) 2.8 (3.8)	60.9 (3464) 35.4 (2014)	27.7 (7.3) 8.0 (26.5) 10080 (2663) 70 (158) 8 (14) 74.6 (4243) 48.8 (2783) 4.8 (6.4)	66.6 (3788) 38.7 (2203)
<b>Air Requirements</b> Combustion air flow Maximum air cleaner restriction Radiator cooling air Generator cooling air	m <sup>3</sup> /min (cfm) kPa (in H <sub>2</sub> O) m <sup>3</sup> /min (cfm) m <sup>3</sup> /min (cfm)	6.0 (211) 5.0 (20.1) 192 (6780) 22.2 (784)	5.74 (202)	7.79 (275) 5.0 (20.1) 246 (8687) 26.4 (932)	7.38 (260)
<b>Exhaust System</b> Maximum allowable backpressure Exhaust flow at rated power Exhaust temperature at rated power (dry exhaust)	kPa (in Hg) m <sup>3</sup> /min (cfm) °C (°F)	6.0 (1.77) 17.7 (624) 585 (1085)	16.2 (573)	6.0 (1.77) 22.5 (794) 580 (1076)	20.0 (704) 540 (1004)
<b>Generator Set Noise Rating*</b> (without attenuation) at 1 m (3.28 ft)	dBA	95.6		96.6	

\*dBA levels are for guidance only

\*\*Fuel consumption data at indicated load with diesel fuel with a specific gravity of 0.85 and conforming to BS2869:1998 Class A2.

Generator Technical Data	50 Hz				60 Hz					
	415/240V	400/230V	380/220V	220/127V	480/277V	440/254V	208/120V	230/115V	380/220V	
<b>Motor Starting Capability:</b>										
Self Excited (kVA)	195	180	162	220	216	181	162	149	135	
AREP Excited*** (kVA)	257	238	215	289	283	238	212	197	176	
PM Excited**** (kVA)	257	238	215	289	283	238	212	197	176	
<b>Full Load Efficiency</b>										
Standby %	89.3	89.2	88.8	89.2	90.5	89.9	89.3	88.8	88.4	
Prime %	89.9	89.9	89.5	89.8	90.8	90.2	89.6	89.2	88.4	
<b>Reactances (per unit)</b>	Xd	3.56	3.83	4.24	3.16	3.63	4.31	4.85	5.22	5.65
Saturated	X'd	0.13	0.14	0.16	0.12	0.14	0.16	0.18	0.20	0.21
Reactances are shown	X''d	0.079	0.085	0.094	0.070	0.080	0.095	0.107	0.116	0.125
applicable to the standby rating	X''q	2.14	2.30	2.55	1.90	2.18	2.59	2.91	3.14	3.39
	X''q	0.100	0.108	0.119	0.089	0.102	0.121	0.137	0.147	0.159
	X2	0.089	0.096	0.106	0.079	0.091	0.108	0.121	0.131	0.141
	X0	0.005	0.006	0.006	0.005	0.005	0.006	0.007	0.008	0.008
<b>Time Constants:</b>	t'd	100 ms		t''	10 ms	t'do	2712 ms	ta	15 ms	

\*\*\*With AREP Excited Option AR20A/AR21A

\*\*\*\*With PMG Excited Option AR18A/AR19A

Consult your Olympian representative for more information

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## RATINGS AT AVAILABLE VOLTAGES

50 Hz					
Voltage Code	Voltage	Standby		Prime	
		kVA	kW	kVA	kW
VOPT502	415/240	110	88	100	80
VOPT503	400/230	110	88	100	80
VOPT504	380/220	110	88	100	80
VOPT506	230/115	110	88	100	80
VOPT507	220/127	110	88	100	80
VOPT508	220/110	110	88	100	80
VOPT510	200/115	110	88	100	80

60 Hz					
Voltage Code	Voltage	Standby		Prime	
		kVA	kW	kVA	kW
VOPT601	480/277	125	100	113	90.4
VOPT603	440/254	125	100	113	90.4
VOPT605	380/220	122	97.6	110	88.0
VOPT606	240/120	125	100	113	90.4
VOPT607	230/115	125	100	113	90.4
VOPT608	220/127	125	100	113	90.4
VOPT609	220/110	122	97.6	111	88.0
VOPT610	208/120	125	100	113	90.4
VOPT611	240/139	125	100	113	90.4

Ratings at 27° C (80° F), 152.4 m (500 ft), 60% humidity, 0.8 pf

## RATING DEFINITIONS

### STANDBY

These ratings are applicable for supplying continuous electrical power (at variable load) in the event of a utility power failure. No overload is permitted on these ratings. When used at standby rating the alternator will be peak continuous rated (as defined in ISO8528-3).

### PRIME POWER

These ratings are applicable for supplying continuous power (at variable load) in lieu of commercially purchased power. There is no limitation to the annual hours of operation and this model can supply 10% overload power for 1 hour in 12 hours.

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