

Exclusively from your Caterpillar® dealer



GEH250 (3-Phase)

50 HZ

STANDBY 250 kVA / 200 kW

PRIME 230 kVA / 184 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, electronic
- Electrical system, 24 VDC
- Cartridge type fuel and oil filters
- Air filter
- Battery(ies), 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

- 2001 autostart 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 $\pm 0.5\%$
- 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

- All equipment carries full manufacturer's warranty.

*Exclusively from your Caterpillar® dealer***OPTIONAL EQUIPMENT***

Engine	Droop engine control module for synchronising purposes Lube oil drain Lube oil drain pump High lube oil temperature shutdown
Generator	Anti-condensation heater Quadrature droop upgrade Permanent magnet generator (PMG) AREP Excitation system
Cooling System	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)
Fuel System	Extended capacity metal basetank Manual fuel pump Low fuel level shutdown Low fuel level alarm High fuel level alarm Remote fuel systems Fuel transfer systems Manual Bypass Valve
Silencer System — Open Unit	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
Enclosures	Sound attenuated (EC) canopy
Handling/Trailers	Oil field skid
Controls	Baseframe mounted terminal box instead of control panel 4001 Autostart panel 4001E Autostart panel 6000 Series digital synchronising control panels Automatic mains failure (AMF) upgrades for 2001, 4001 and 4001E panels Control panel upgrades — gauges, meters, battery chargers, alarms, shutdowns
Remote Annunciators	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
Circuit Breaker	Upgrades from 3-pole to 4-pole breaker
Transfer Switches	TM Series manual load transfer panels TC Series automatic load transfer panels ATI Series load transfer panels
Certification	European CE certification

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

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SPECIFICATIONS



GENERATOR

Make..... Olympian
 Model..... LL5014H
 Type..... Self-excited, brushless
 Voltage regulation..... ±0.5% at steady state from
 from no load to full load
 Frequency..... ±0.25% for constant load from
 no load to full load
 Waveform distortion..... THD <4%
 Radio interference..... Compliance with EN61000-6
 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

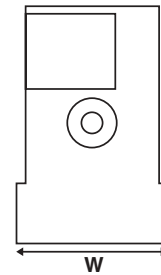
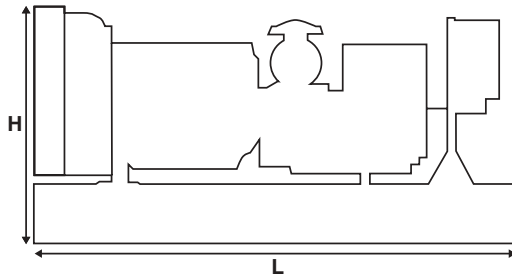


ENGINE

Manufacturer..... Perkins
 Model..... 1306-E87TA300
 Type..... 4-Cycle
 Aspiration..... Turbocharged
 Cylinder configuration..... In-line 6
 Displacement — L (cu in)..... 8.7 (532)
 Bore/stroke — mm (in)..... 117/136 (4.6/5.4)

Compression ratio..... 16.9:1
 Engine speed — rpm
 50 Hz..... 1500
 Piston speed — m/sec (ft/sec)
 50 Hz..... 6.8 (22.3)
 Maximum power at rated rpm — kW (hp)
 Standby
 50 Hz..... 224 (300)
 Prime
 50 Hz..... 206 (276)
 BMEP — kPa (psi)
 Standby
 50 Hz..... 2058 (299)
 Prime
 50 Hz..... 1888 (274)
 Regenerative power — kW (hp)
 50 Hz..... 20.8 (27.9)
 Governor
 Type..... Electronic
 Class..... ISO 8528 G2

GENERATING SET DIMENSIONS AND WEIGHTS



Model	Length mm (in)	Width mm (in)	Height mm (in)	Weight* kg (lb)
GEH250	2960 (117)	1003 (39.5)	1718 (68.0)	2137 (4711)

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

*Includes oil and coolant

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GEH250 (3-Phase) 50 Hz

Generator Set Technical Data		Standby	Prime
Package Performance Power rating	kVA (kW)	250 (200)	230 (184)
Lubricating System Type: Wet sump Oil filter: Spin-on, full flow Oil cooler: Water Oil type required: API CG4 15W-40 Total lube system capacity Oil pan capacity	L (U.S. Gal) L (U.S. Gal)	26.4 (7.0) 22.7 (6.0)	26.4 (7.0) 22.7 (6.0)
Fuel System 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)	350 (92.5) 52.6 (13.9) 40.4 (10.7) 28.6 (7.6)	350 (92.5) 48.7 (12.9) 37.6 (9.9) 26.8 (7.1)
Engine Electrical System Voltage/ground: 24 vDC/negative Battery charging alternator ampere rating	amps	45	45
Cooling System 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 ₂ O (ft H ₂ O) L/hr (U.S. gal/hr) °C (°F) °C (°F) kW (Btu/min) kW (Btu/min) kW (hp)	39.8 (10.5) 13.0 (42.9) 293 (77) 79.0 (174) 5.0 (9.0) 101 (5761) 58.5 (3327) 7.0 (9.4)	39.8 (10.5) 13.0 (42.9) 293 (77) 79.0 (174) 5.0 (9.0) 93.8 (5334) 51.0 (2900) 7.0 (9.4)
Air Requirements Combustion air flow Maximum air cleaner restriction Radiator cooling air External restriction to cooling airflow Generator cooling air	m ³ /min (cfm) kPa (in H ₂ O) m ³ /min (cfm) Pa (in H ₂ O) m ³ /min (cfm)	16.9 (597) 6.2 (25.0) 324 (11442) 125 (0.5) 25.8 (912)	17.6 (622) 6.2 (25.0) 324 (11442) 125 (0.5) 25.8 (912)
Exhaust System Maximum allowable backpressure Exhaust flow at rated power Exhaust temperature at rated power (dry exhaust)	kPa (in Hg) m ³ /min (cfm) °C (°F)	10.7 (3.20) 44.5 (1572) 508 (946)	10.7 (3.20) 45.9 (1621) 480 (895)
Generator Set Noise Rating* (without attenuation) at 1 m (3.28 ft)	dBA	98.0	98.0

*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			
	415/240V	400/230V	380/220V	220/127V
Motor Starting Capability:				
Self Excited (kVA)	495	465	425	546
AREP Excited*** (kVA)	595	559	511	657
PM Excited**** (kVA)	595	559	511	657
Full Load Efficiency				
Standby %	92.2	92.1	92.0	92.1
Prime %	92.5	92.5	92.4	92.4
Reactances (per unit)				
Saturated Xd	3.03	3.26	3.61	2.59
X'd	0.15	0.16	0.17	0.12
Reactances X"d	0.087	0.094	0.104	0.074
are shown Xq	1.82	1.96	2.17	1.55
applicable to the X"q	0.107	0.116	0.128	0.092
standby rating X2	0.097	0.104	0.115	0.083
X0	0.005	0.005	0.006	0.004
Time Constants:	t'd	t"	t'do	ta
	100 ms.	10 ms.	2105 ms.	15 ms.

***With AREP Excited Option AR20A/AR21A

****With PMG Excited Option AR18A/AR19A

*Exclusively from your Caterpillar® dealer***RATINGS AT AVAILABLE VOLTAGES**

50 Hz					
Voltage Code	Voltage	Standby		Prime	
		kVA	kW	kVA	kW
VOPT502	415/240	250	200	230	184
VOPT503	400/230	250	200	230	184
VOPT504	380/220	250	200	230	184
VOPT506	230/115	250	200	230	184
VOPT507	220/127	240	192	215	172
VOPT508	220/110	250	200	230	184
VOPT510	200/115	250	200	230	184

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.

50 Hz

STANDBY
PRIME

250 kVA / 200 kW
230 kVA / 184 kW

OLYMPIAN™

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European sourced

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The International System of Units (SI) is used in this publication.