

# OLYMPIAN™



## GEP110-4

***Diesel Generator Set  
Exclusively from your Cat® dealer***

EU Stage II Emissions Compliant

Output Ratings		
Generating Set Model	Prime*	Standby*
380-415V, 50Hz	100.0 kVA 80.0 kW	110.0 kVA 88.0 kW
480V, 60 Hz	113.0 kVA 90.4 kW	125.0 kVA 100.0 kW

\* Refer to ratings definitions on page 4.  
Ratings at 0.8 power factor.

Technical Data		
Engine Make & Model:	Perkins 1104C-44TAG2	
Alternator Model:	LL3014B	
Base Frame Type:	Fbc2 - (08Hr)	
Circuit Breaker Type:	3 Pole MCCB	
Frequency:	50 Hz	60 Hz
Engine Speed: RPM	1500	1800
Fuel Tank Capacity: litres (US gal)	250 (66.0)	
Fuel Consumption, Prime: l/hr (US gal/hr)	21.9 (5.8)	26.3 (6.9)
Fuel Consumption, Standby : l/hr (US gal/hr)	24.1 (6.4)	29.3 (7.7)

Engine Technical Data

Physical Data	
Manufacturer:	Perkins
Model:	1104C-44TAG2
No. of Cylinders/Alignment:	4 / In Line
Cycle:	4 Stroke
Induction:	Turbocharged Air To Air Charge Cooled
Cooling Method:	Water
Governing Type:	Electronic
Governing Class:	ISO 8528 G2
Compression Ratio:	18.3:1
Displacement: l (cu.in)	4.4 (268.5)
Bore/Stroke: mm (in)	105.0 (4.1)/127.0 (5.0)
Moment of Inertia: kg m <sup>2</sup> (lb. in <sup>2</sup> )	1.51 (5160)
Engine Electrical System:	
-Voltage/Ground:	12/Negative
-Battery Charger Amps:	65
Weight: kg (lb) - Dry:	500 (1102)
- Wet:	520 (1146)

Air System	50 Hz	60 Hz
Air Filter Type:	Replaceable Element	
Combustion Air Flow:		
m <sup>3</sup> /min (cfm)	-Standby: 6.3 (221)	7.8 (275)
	-Prime: 6.0 (212)	7.8 (274)
Max. Combustion Air Intake		
Restriction: kPa (in H <sub>2</sub> O)	8.0 (32.1)	8.0 (32.1)
Radiator Cooling Air Flow:		
m <sup>3</sup> /min (cfm)	187.8 (6632)	244.2 (8624)
External Restriction to		
Cooling Air Flow: Pa (in H <sub>2</sub> O)	125 (0.5)	125 (0.5)

Cooling System	50 Hz	60 Hz
Cooling System Capacity:		
l (US gal)	17.5 (4.6)	17.5 (4.6)
Water Pump Type:	Centrifugal	
Heat Rejected to Water & Lube Oil: kW (Btu/min)		
	-Standby: 50.7 (2883)	64.0 (3640)
	-Prime: 46.1 (2622)	57.7 (3281)
Heat Radiation to Room:		
kW (Btu/min)	-Standby: 7.5 (427)	9.4 (535)
	-Prime: 6.8 (387)	8.5 (483)
Radiator Fan Load: kW (hp)	2.8 (3.8)	4.8 (6.4)
Cooling system designed to operate in ambient conditions up to 50°C (122°F). Contact your local Olympian dealer for power ratings at specific site conditions.		

Lubrication system	
Oil Filter Type:	Spin-On, Full Flow
Total Oil Capacity l (US gal):	8.0 (2.1)
Oil Pan l (US gal):	7.0 (1.8)
Oil Type:	API CC/SE
Cooling Method:	Water

Performance	50 Hz	60 Hz
Engine Speed: RPM	1500	1800
Gross Engine Power: kW (hp)		
-Standby:	103.0 (138.0)	117.5 (158.0)
-Prime:	93.6 (126.0)	106.8 (143.0)
BMEP: kPa (psi)		
-Standby:	1873.0 (271.7)	1781.0 (258.3)
-Prime:	1702.0 (246.9)	1619.0 (234.8)
Regenerative Power: kW	8.2	13.8

Fuel System				
Fuel Filter Type:	Replaceable Element			
Recommended Fuel:	Class A2 Diesel			
Fuel Consumption: l/hr (US gal/hr)				
	110% Load	100% Load	75% Load	50% Load
Prime				
50 Hz	24.1 (6.4)	21.9 (5.8)	16.6 (4.4)	11.7 (3.1)
60 Hz	29.3 (7.7)	26.3 (6.9)	19.9 (5.3)	14.2 (3.8)
Standby				
50 Hz		24.1 (6.4)	18.2 (4.8)	12.6 (3.3)
60 Hz		29.3 (7.7)	21.9 (5.8)	15.4 (4.1)
(based on diesel fuel with a specific gravity of 0.84 and conforming to BS2869, Class A2)				

Exhaust System	50 Hz	60 Hz
Silencer Type:	Industrial	
Silencer Noise Reduction	SD50 (1)	
Pressure Drop Across		
Silencer System: kPa (in Hg)	2.10 (0.620)	3.56 (1.051)
Silencer Noise Reduction		
Level: dB	22	17
Max. Allowable Back		
Pressure: kPa (in. Hg)	18.0 (5.3)	15.0 (4.4)
Exhaust Gas Flow:		
m <sup>3</sup> /min (cfm)	-Standby: 16.3 (576)	20.4 (720)
	-Prime: 15.2 (537)	18.4 (650)
Exhaust Gas Temperature: °C (°F)		
m <sup>3</sup> /min (cfm)	-Standby: 543 (1009)	574 (1065)
	-Prime: 514 (957)	517 (963)

Alternator Performance Data

Data Item	50 Hz				60 Hz				
	415/240V	400/230V 230/115V 200/115V	380/220V 220/110V	220/127V	480/277V 240/139V	380/220V 220/110V	240/120V 208/120V	230/115V	440/254V 220/127V
Motor Starting Capability* kVA	187	176	160	208	206	136	160	149	177
Short Circuit Capacity** %	300	300	300	300	300	300	300	300	300
Reactances: Per Unit									
Xd	3.200	3.440	3.810	2.840	3.240	5.080	4.310	4.660	3.850
X'd	0.120	0.130	0.150	0.110	0.130	0.200	0.170	0.180	0.150
X''d	0.074	0.080	0.089	0.066	0.075	0.118	0.100	0.108	0.090

Reactances shown are applicable to standby ratings.  
\* Based on 30% voltage dip at 0.6 power factor.  
\*\* With optional Permanent Magnet generator or AREP excitation.

Alternator Technical Data

Physical Data		Operating Data	
Manufacturer:	OLYMPIAN	Overspeed: RPM	2250
Model:	LL3014B	Voltage Regulation (steady state) (%):	+/- 0.5
No. of Bearings:	1	Wave Form NEMA = TIF:	50
Insulation Class:	H	Wave Form IEC = THF:	2.0%
Winding Pitch - Code:	2/3 - 6	Total Harmonic Content LL/LN:	4.0%
Wires:	12	Radio Interference:	Supression is in line with European Standard EN61000-6
Ingress Protection Rating:	IP23	Radiant Heat: kW (Btu/min)	
Excitation System:	SHUNT		
AVR Model:	R250		
		-50 Hz:	9.0 (512)
		-60 Hz:	11.0 (626)

## Technical Data

### 3 Phase Ratings and Performance at 50 Hz, 1500 RPM

Voltage	Prime		Standby	
	kVA	kW	kVA	kW
415/240V	100.0	80.0	110.0	88.0
400/230V	100.0	80.0	110.0	88.0
380/220V	100.0	80.0	110.0	88.0
230/115V <sup>†</sup>	100.0	80.0	110.0	88.0
220/127V	100.0	80.0	110.0	88.0
220/110V <sup>†</sup>	100.0	80.0	110.0	88.0
200/115V <sup>†</sup>	100.0	80.0	110.0	88.0

<sup>†</sup> Not available from our Chinese facility - Tianjin.

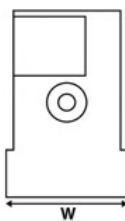
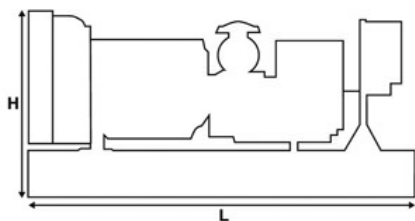
### 3 Phase Ratings and Performance at 60 Hz, 1800 RPM

Voltage	Prime		Standby	
	kVA	kW	kVA	kW
480/277V	113.0	90.4	125.0	100.0
220/127V	113.0	90.4	125.0	100.0
380/220V	111.0	88.8	122.0	97.6
240/120V	113.0	90.4	125.0	100.0
230/115V	113.0	90.4	125.0	100.0
440/254V	113.0	90.4	125.0	100.0
220/110V <sup>†</sup>	111.0	88.8	122.0	97.6
208/120V <sup>†</sup>	113.0	90.4	125.0	100.0
240/139V <sup>†</sup>	113.0	90.4	125.0	100.0

## Weights & Dimensions

Weights: kg (lb)	
Net (+ lube oil)	1182 (2607)
Wet (+ lube oil & coolant)	1200 (2646)
Fuel, lube oil & coolant	1412 (3112)

Dimensions: mm (in)	
Length	2089 (82.2)
Width	1120 (44.1)
Height	1367 (53.8)



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

## Definitions

### Standby Rating

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. The alternator on this model is peak continuous rated (as defined in ISO 8528-3).

### Prime Rating

These ratings are applicable for supplying continuous electrical 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.

### Standard Reference Conditions

Note: Standard reference conditions 25°C (77°F) air inlet temp, 100m (328ft) A.S.L. 30% relative humidity. Fuel consumption data at full load with diesel fuel with specific gravity of 0.85 and conforming to BS2869: 1998, Class A2.

## General Data

### Documents

A full set of operation and maintenance manuals and circuit wiring diagrams.

### Quality Standards

BS4999, BS5000, BSEN60034, BSEN61000, IEC60034.

### Warranty

All equipment carries full manufacturer's warranty.

Information contained in this publication may be considered confidential.

Discretion is recommended when distributing.

Materials and specifications are subject to change without notice.

CAT, CATERPILLAR, their respective logos OLYMPIAN, "Caterpillar Yellow" and the "Power Edge" trade dress, as well as corporate and product identity used herein, are trademarks of Caterpillar and may not be used without permission.

www.OlympianPower.com

©2011 Caterpillar  
All rights reserved.  
Printed in U.S.A.