DIESEL GENERATOR SET





Image shown may not reflect actual package.

PRIME 220 ekW 275 kVA 50 Hz 1500 rpm 400 Volts

Caterpillar is leading the power generation marketplace with Power Solutions engineered to deliver unmatched flexibility, expandability, reliability, and cost-effectiveness.

FEATURES

FUEL/EMISSIONS STRATEGY

• Low Fuel consumption

FULL RANGE OF ATTACHMENTS

- Wide range of bolt-on system expansion attachments, factory designed and tested
- Flexible packaging options for easy and cost effective installation

COMPLETE, READY-TO-RUN SYSTEM

- · Fully configured generator set
- Full range of attachments and options available

ENCLOSURES (Optional)

Weather protective

SINGLE-SOURCE SUPPLIER

 Fully prototype tested with certified torsional vibration analysis available

WORLDWIDE PRODUCT SUPPORT

- Cat dealers provide extensive post sale support including maintenance and repair agreements
- Cat dealers have over 1,800 dealer branch stores operating in 200 countries
- The Cat® S•O•SSM program cost effectively detects internal engine component condition, even the presence of unwanted fluids and combustion by-products

CAT® 3406C TA DIESEL ENGINE

- High efficiency, four-stroke-cycle engine designed for thousands of trouble-free hours of operation
- Field-proven in thousands of applications

CAT GENERATOR

- Matched to the performance and output characteristics of Cat engines
- Load adjustment module provides engine relief upon load impact and improves load acceptance and recovery time
- UL 1446 Recognized Class H insulation

CAT EMCP 4 CONTROL PANELS

- Simple user friendly interface and navigation
- Scalable system to meet a wide range of customer needs
- Integrated Control System and Communications Gateway

50 Hz 1500 rpm 400 Volts



FACTORY INSTALLED STANDARD & OPTIONAL EQUIPMENT

System	Standard	Optional
Air Inlet	Air cleaner	
Cooling	Package mounted radiator	
Exhaust	Exhaust flange outlet	[] Industrial [] Residential [] Critical Mufflers
Fuel	Primary fuel filter with integral water separator Secondary fuel filters Fuel priming pump	
Generator	Matched to the performance and output characteristics of Cat engines Load adjustment module provides engine relief upon load impact and improves laod acceptance and recovery time IP23 protection	[] Oversize and premium generators [] Permanent magnet excitation (PMG) [] Internal excited (IE) [] Anti-condensation space heaters
Power Termination	Bus bar	[] Circuit breakers, UL listed [] Circuit breakers, IEC compliant
Control Panel	EMCP 4 Genset Controller	[] EMCP 4.2 [] EMCP 4.3 [] EMCP 4.4 [] Local and remote annuniciator modules [] Load share module [] Digital I/O module [] Remote monitoring software
Mounting	Rubber vibration isolators	
Starting/Charging	24 volt starting motor Batteries	[] Battery chargers [] Oversize batteries [] Jacket water heater [] Heavy duty starting system [] Charging alternator
General	Paint - Caterpillar Yellow except rails and radiators gloss black	The following options are based on regional and product configuration: [] Seismic Certification per Applicable Building Codes: IBC 2000, IBC 2003, IBC 2006, IBC 2009, CBC 2007 [] UL 2200 package [] EU Certificate of Conformance (CE) [] CSA Certification [] EEC Declaration of Conformity [] Narrow, wide or skid base [] Sound attenuated, weather protective or high ambient weather protective enclosures [] Single or dual wall integral fuel tanks [] Single or dual wall sub-base fuel tanks [] Integral & sub-base UL listed dual wall fuel tanks [] Automatic transfer switches (ATS)

50 Hz 1500 rpm 400 Volts



SPECIFICATIONS

CAT GENERATOR

Frame size	LC5014J
Excitation	Self Excitation
Pitch	0.6666
Number of poles	4
Number of bearings	Single bearing
Number of Leads	012
Insulation UL 1446 Recog	nized Class H with
tropicalization and antiabrasion - Consult your Caterpillar dealer for ava	ilable voltages
IP Rating	IP23
Alignment	Pilot Shaft
Overspeed capability	150
Wave form Deviation (Line to Line)	002.00
Voltage regulatorTh	ree phase sensing
Voltage regulationLess than +/-	1/2% (steady state)
Less than ±/- 1% (no load to full load)	

CAT DIESEL ENGINE

3406C TA, I-6, 4-Stroke Water-cooled Diesel

Bore	137.20 mm (5.4 in)
Stroke	165.10 mm (6.5 in)
Displacement	.14.64 L (893.39 in ³)
Compression Ratio	14.5:1
Aspiration	TA
Fuel System	
Governor Type	. Hydra-mechanical

CAT EMCP 4 SERIES CONTROLS

EMCP 4 controls including:

- Run / Auto / Stop Control
- Speed and Voltage Adjust
- Engine Cycle Crank
- 24-volt DC operation
- Environmental sealed front face
- Text alarm/event descriptions

Digital indication for:

- RPM
- DC volts
- Operating hours
- Oil pressure (psi, kPa or bar)
- Coolant temperature
- Volts (L-L & L-N), frequency (Hz)
- Amps (per phase & average)
- ekW, kVA, kVAR, kW-hr, %kW, PF (4.2 only)

Warning/shutdown with common LED indication of:

- Low oil pressure
- High coolant temperature
- Overspeed
- Emergency stop
- Failure to start (overcrank)
- Low coolant temperature
- Low coolant level

Programmable protective relaying functions:

- Generator phase sequence
- Over/Under voltage (27/59)
- Over/Under Frequency (81 o/u)
- Reverse Power (kW) (32) (4.2 only)
- Reverse reactive power (kVAr) (32RV)
- Overcurrent (50/51)

Communications:

- Four digital inputs (4.1)
- Six digital inputs (4.2 only)
- Four relay outputs (Form A)
- Two relay outputs (Form C)
- Two digital outputs
- Customer data link (Modbus RTU) (4.2 only)
- Accessory module data link (4.2 only)
- Serial annunciator module data link (4.2 only)
- Emergency stop pushbutton

Compatible with the following:

- Digital I/O module
- Local Annunciator
- Remote CAN annunciator
- Remote serial annunciator

50 Hz 1500 rpm 400 Volts



TECHNICAL DATA

Open Generator Set 1500 rpm/50 Hz/400 Volts	DM7524		
Low Fuel Consumption			
Generator Set Package Performance			
Genset Power rating @ 0.8 pf	275 kVA		
Genset Power rating with fan	220 ekW		
Coolant to aftercooler	220 0111		
Coolant to aftercooler temp max	50 ° C	122 ° F	
Fuel Consumption			
100% load with fan	64.2 L/hr	17.0 Gal/hr	
75% load with fan	49.9 L/hr	13.2 Gal/hr	
50% load with fan	36.0 L/hr	9.5 Gal/hr	
Cooling System ¹			
Air flow restriction (system)	0.12 kPa	0.48 in. water	
Air flow (max @ rated speed for radiator arrangement)	522 m³/min	18434 cfm	
Engine Coolant capacity with radiator/exp. tank	57.8 L	15.3 gal	
Engine coolant capacity	20.8 L	5.5 gal	
Radiator coolant capacity	37.0 L	9.8 gal	
Inlet Air			
Combustion air inlet flow rate	16.5 m³/min	582.7 cfm	
Exhaust System			
Exhaust stack gas temperature	563.6 ° C	1046.5 ° F	
Exhaust gas flow rate	48.3 m³/min	1705.7 cfm	
Exhaust flange size (internal diameter)	152.4 mm	6.0 in	
Exhaust system backpressure (maximum allowable)	6.7 kPa	26.9 in. water	
Heat rejection			
Heat rejection to atmosphere from generator	16.3 kW	927.0 Btu/min	
Alternator ²			
Motor starting capability @ 30% voltage dip	586 skVA		
Frame	LC5014J		
Temperature Rise	125 ° C	225 ° F	
Lube System			
Sump refill with filter	38.0 L	10.0 gal	

For ambient and altitude capabilities consult your Cat dealer. Air flow restriction (system) is added to existing restriction from factory.

² UL 2200 Listed packages may have oversized generators with a different temperature rise and motor starting characteristics. Generator temperature rise is based on a 40°C ambient per NEMA MG1-32.

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RATING DEFINITIONS AND CONDITIONS

Applicable Codes and Standards: AS1359, CSA C22.2 No 100-04, UL142, UL489, UL601, UL869, UL2200, NFPA 37, NFPA 70, NFPA 99, NFPA 110, IBC, IEC60034-1, ISO3046, ISO8528, NEMA MG 1-22, NEMA MG 1-33, 72/23/EEC, 98/37/EC, 2004/108/EC

Prime - Output available with varying load for an unlimited time. Average power output is 70% of the prime power rating. Typical peak demand is 100% of prime rated ekW with 10% overload capability for emergency use for a maximum of 1 hour in 12. Overload operation cannot exceed 25 hours per year.

Ratings are based on SAE J1349 standard conditions. These ratings also apply at ISO3046 standard conditions. Fuel Rates are based on fuel oil of 35° API (16° C or 60° F) gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29° C (85° F) and weighing 838.9 g/liter (7.001 lbs/U.S. gal.).

Additional Ratings may be available for specific customer requirements. Consult your Cat representative for details.

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DIMENSIONS

Package Dimensions				
Length	4264.3 mm	167.89 in		
Width	1110.0 mm	43.7 in		
Height	2150.0 mm	84.65 in		

NOTE: For reference only - do not use for installation design. Please contact your local dealer for exact weight and dimensions. (General Dimension Drawing #3206987).

Performance No.: DM7524

Feature Code: 406DE2F

Gen. Arr. Number: 2377184

Source: China

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