



Image shown may not reflect actual package.

PRIME 220 e kW 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 and sound attenuated

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

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FACTORY INSTALLED STANDARD & OPTIONAL EQUIPMENT

System	Standard	Optional
Air Inlet	<ul style="list-style-type: none"> • Light duty air cleaner 	<input type="checkbox"/> Regular duty canister style, single stage with service indicator <input type="checkbox"/> Dual element <input type="checkbox"/> Heavy-duty and Muffler <input type="checkbox"/> Air Inlet Shut-off
Cooling	<ul style="list-style-type: none"> • Coolant drain line with valve • Fan and belt guards • Radiator with guard • Coolant drain line with valve • Fan and belt guards • Cat® Extended Life Coolant* • Coolant level sight gauge 	<input type="checkbox"/> Low coolant level shutdown <input type="checkbox"/> Duct flange
Exhaust	<ul style="list-style-type: none"> • Stainless steel exhaust flex • ANSI style outlet flange, gasket, bolts and mating weld flange; shipped loose 	<input type="checkbox"/> 10 DBA Industrial muffler <input type="checkbox"/> 25 DBA Residential muffler <input type="checkbox"/> Critical muffler <input type="checkbox"/> Flexible fitting <input type="checkbox"/> Elbow kit <input type="checkbox"/> Throughwall Installation kit <input type="checkbox"/> Manifold and Turbo Guard
Fuel	<ul style="list-style-type: none"> • Fuel priming pump • Fuel pressure gauge • Primary and secondary fuel filters • Flexible fuel lines 	<input type="checkbox"/> Water separator <input type="checkbox"/> Fuel level switch <input type="checkbox"/> Flexible fuel lines <input type="checkbox"/> Manual or auto fuel pumps <input type="checkbox"/> Single wall tank bases
Generator	<ul style="list-style-type: none"> • Three phase sensing • Class H insulation • VR6 3-phase sensing voltage regulator with load adjustment module • IP23 Protection • Circuit Breaker IEC, 3-pole • Segregated L.V. (AC/DC) wiring panel 	<input type="checkbox"/> Anti-condensation heater <input type="checkbox"/> Permanent Magnet excitation <input type="checkbox"/> RFI Filter <input type="checkbox"/> Coastal Protection <input type="checkbox"/> Terminal strip connection <input type="checkbox"/> Oversize generator <input type="checkbox"/> Circuit breaker, UL and IEC Listed, 3 & 4-pole with shunt trip <input type="checkbox"/> Multiple breaker capability <input type="checkbox"/> Digital Voltage Regulator
Governor	<ul style="list-style-type: none"> • Hydra-mechanical (3% speed regulation) 	<input type="checkbox"/> Electronic isochronous governor <input type="checkbox"/> Load sharing module
Control Panels	<ul style="list-style-type: none"> • EMCP 4.1 • User Interface panel (UIP) - rear mount (standard) • Emergency Stop Pushbutton 	<input type="checkbox"/> EMCP 4.2 <input type="checkbox"/> Local & remote annunciator modules <input type="checkbox"/> Load share module <input type="checkbox"/> Discrete I/O module <input type="checkbox"/> Generator temperature monitoring & protection
Lube	<ul style="list-style-type: none"> • Lubricating oil and filter • Oil drain line with valve piped to edge of base • Fumes disposal piped to front of radiator 	<input type="checkbox"/> Manual sump pump <input type="checkbox"/> Oil temperature sensor
Mounting	<ul style="list-style-type: none"> • Narrow integral fuel tank base (950L) • Linear vibration isolators between base and engine-generator 	<input type="checkbox"/> Narrow base <input type="checkbox"/> Wide Base <input type="checkbox"/> Lifting arch <input type="checkbox"/> Oil field skid base
Starting/Charging	<ul style="list-style-type: none"> • 45 amp charging alternator • 24 volt starting motor • Batteries with rack and cables • Safety shutoff protection 	<input type="checkbox"/> Battery chargers (5 or 10 amp) <input type="checkbox"/> Oversize batteries <input type="checkbox"/> Battery disconnect switch <input type="checkbox"/> Ether starting aid <input type="checkbox"/> Jacket water heater
General		<input type="checkbox"/> Enclosures - sound attenuated, weather protective <input type="checkbox"/> EU Certificate of Conformance (CE)

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SPECIFICATIONS

CAT GENERATOR

Frame size.....LC5014J
Excitation..... Self Excitation
Pitch..... 0.6667
Number of poles..... 4
Number of bearings..... Single bearing
Number of Leads..... 012
Insulation..... UL 1446 Recognized Class H with tropicalization and antiabrasion
- Consult your Caterpillar dealer for available voltages
IP Rating..... IP23
Alignment..... Pilot Shaft
Overspeed capability..... 150
Wave form Deviation (Line to Line)..... 002.00
Voltage regulator..... Three phase sensing
Voltage regulation..... Less than +/- 1/2% (steady state)
Less than +/- 1% (no load to full load)
Telephone influence factor..... Less than 50
Harmonic Distortion..... Less than 5%

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 in³)
Compression Ratio..... 14.5:1
Aspiration..... TA
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)
- kW, 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

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TECHNICAL DATA

Open Generator Set - - 1500 rpm/50 Hz/400 Volts	DM7525	
Low Fuel Consumption		
Generator Set Package Performance Genset Power rating @ 0.8 pf Genset Power rating with fan	275 kVA 220 kW	
Fuel Consumption 100% load with fan 75% load with fan 50% load with fan	64.2 L/hr 49.9 L/hr 36.0 L/hr	17.0 Gal/hr 13.2 Gal/hr 9.5 Gal/hr
Cooling System¹ Air flow restriction (system) Air flow (max @ rated speed for radiator arrangement) Engine Coolant capacity with radiator/exp. tank Engine coolant capacity Radiator coolant capacity	0.12 kPa 522 m ³ /min 57.8 L 20.8 L 37.0 L	0.48 in. water 18434 cfm 15.3 gal 5.5 gal 9.8 gal
Inlet Air Combustion air inlet flow rate	16.5 m ³ /min	582.7 cfm
Exhaust System Exhaust stack gas temperature Exhaust gas flow rate Exhaust flange size (internal diameter) Exhaust system backpressure (maximum allowable)	564.7 °C 48.5 m ³ /min 152.4 mm 6.7 kPa	1048.5 °F 1712.8 cfm 6.0 in 26.9 in. water
Heat rejection Heat rejection to atmosphere from generator	16.3 kW	927.0 Btu/min
Alternator² Motor starting capability @ 30% voltage dip Frame Temperature Rise	585 skVA LC5014J 125 °C	225 °F
Lube System Sump refill with filter	38.0 L	10.0 gal

¹ 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

Meets or Exceeds International Specifications: AS1359, CSA, IEC60034-1, ISO3046, ISO8528, NEMA MG 1-22, NEMA MG 1-33, UL508A, 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. Prime power in accordance with ISO3046. Prime ambients shown indicate ambient temperature at 100% load which results in a coolant top tank temperature just below the alarm temperature.

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 (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, contact your Cat representative for details. For information regarding Low Sulfur fuel and Biodiesel capability, please consult your Cat dealer.

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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
Weight	3454 kg	7,615 lb

NOTE: For reference only - do not use for installation design. Please contact your local dealer for exact weight and dimensions. (General Dimension Drawing #3202728).

Performance No.: DM7525

Feature Code: 406DEU1

Gen. Arr. Number: 2377184

Source: U.S. Sourced

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