



Image shown may not reflect actual package.

PRIME

**275 kW 343 kVA
60 Hz 1800 rpm 480 Volts**

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

GeneratorJoe

FEATURES

FUEL/EMISSIONS STRATEGY

- Tier 3

WORLDWIDE PRODUCT SUPPORT

- Caterpillar® dealers provide extensive post sale support including maintenance and repair agreements
- Caterpillar dealers fill 99.7% of parts orders within 24 hours
- Caterpillar dealers have over 1,798 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

UL 2200

- UL 2200 listed packages are available. Certain restrictions may apply. Consult with your Caterpillar dealer network

FULL RANGE OF ATTACHMENTS

- Wide range of bolt-on system expansion attachments, factory designed and tested

SINGLE-SOURCE SUPPLIER

- Fully prototype tested with certified torsional vibration analysis available



CAT® C9 ATAAC DIESEL ENGINE

- Utilizes ACERT™ Technology
- Reliable, rugged, durable design
- Field-proven in thousands of applications worldwide
- Four-stroke diesel engine combines consistent performance and excellent fuel economy with minimum weight
- ADEM™A4 electronic engine control

CAT GENERATOR

- Matched to the performance and output characteristics of Caterpillar engines
- 2/3 pitch minimizes harmonic distortion and facilitates parallel operation
- Load adjustment module provides engine relief upon load impact and improves load acceptance and recovery time
- UL 1446 Recognized Class H Insulation

CAT EMCP 3 CONTROL PANELS

- Controls designed to meet individual customer needs
- Options for power metering and protective relaying are available
- Options to meet UL/CSA/NFPA
- Rear mounted power center provides convenient location for control panel, optional power terminal strips and optional circuit breakers

4016 Quartz Drive
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60 Hz 1800 rpm 480 Volts



FACTORY INSTALLED STANDARD & OPTIONAL EQUIPMENT

System	Standard	Optional
Air Inlet	<ul style="list-style-type: none"> • Light Duty Air filter 	<ul style="list-style-type: none"> • Dual element & heavy duty air cleaners
Cooling	<ul style="list-style-type: none"> • Radiator package mounted(50°C) • Coolant level sight gauge • Coolant drain line with valve • Fan and belt guards • Caterpillar Extended Life Coolant 	<ul style="list-style-type: none"> • Radiator duct flange
Exhaust	<ul style="list-style-type: none"> • Dry exhaust manifold 	<ul style="list-style-type: none"> • Mufflers • Stainless steel exhaust flex with split cuff connectors • Elbows
Fuel	<ul style="list-style-type: none"> • Primary fuel filter with integral water separator • Secondary fuel filters • Fuel cooler • Fuel priming pump • Fuel pressure gauge • Engine fuel transfer pump 	<ul style="list-style-type: none"> • Integral UL listed fuel tank bases • Flex fuel line • Fuel level switch
Generator	<ul style="list-style-type: none"> • Self excited • Class H insulation • Class H Temperature Rise • Random Wound • R448 voltage regulator with load adjustment module • IP23 Protection • Power Center • Single phase sensing 	<ul style="list-style-type: none"> • Permanent magnet excitation • AREP Excitation • Oversize and premium generators • Three phase sensing • Digital voltage regulator with KVAR/PF control • Anti-condensation space heaters • Cable access box • Reactive droop
Power Termination	<ul style="list-style-type: none"> • Bus-bar connection inside generator (NEMA pattern) 	<ul style="list-style-type: none"> • Circuit breakers, UL listed, 3 pole • Circuit breakers, IEC compliant, 3-4 pole • Power terminal strip connections in power center • Shunt trip • Auxiliary contacts
Governor	<ul style="list-style-type: none"> • ADEM™A4 	<ul style="list-style-type: none"> • Load share module
Control Panels	<ul style="list-style-type: none"> • EMCP 3.1 (mounted inside power center) • Rear facing • Speed adjust • Emergency stop pushbutton • Voltage adjustment 	<ul style="list-style-type: none"> • EMCP 3.2 & EMCP 3.3 • Right-hand mounting of control panel • Local annunciator modules (NFPA 99/110) • Remote annunciator modules (NFPA 99/110) • Discrete I/O module
Lube	<ul style="list-style-type: none"> • Lubricating oil and filter • Oil drain line with valves • Fumes disposal • Lube oil level indicator 	<ul style="list-style-type: none"> • Oil temperature sensor • Manual sump pump
Mounting	<ul style="list-style-type: none"> • Formed steel wide base frame • Linear vibration isolation-seismic zone 4 	<ul style="list-style-type: none"> • Oil field skid base • Formed steel wide base frame
Starting/Charging	<ul style="list-style-type: none"> • 24 volt starting motor • 45 amp charging alternator 	<ul style="list-style-type: none"> • Jacket water heater with shut off valves • Block heater • Ether starting aids • Battery disconnect switch • Battery charger(5A,10A) • Oversize batteries • Batteries with rack and cables
General	<ul style="list-style-type: none"> • Paint - Caterpillar yellow except rails and radiators gloss black • Flywheel and flywheel housing - SAE No.1 	<ul style="list-style-type: none"> • UL 2200 packages



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SPECIFICATIONS

CAT GENERATOR

Frame size.....LC5014J
 Excitation.....Self Excited
 Pitch.....0.6667
 Number of poles.....4
 Number of bearings.....1
 Number of leads.....12
 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.....125% of rated
 Wave form deviation (Line to Line).....2%
 Voltage regulator.....Single 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

C9 ATAAC, I-6, 4-stroke-cycle watercooled diesel
 Bore - mm.....112.00 mm (4.41 in)
 Stroke - mm.....149.00 mm (5.87 in)
 Displacement - L.....8.80 L (537.01 in³)
 Compression ratio.....16.1:1
 Aspiration.....Turbocharged Air-to-Air Aftercooled
 Fuel system.....HUEI
 Governor type.....Caterpillar ADEM control system

CAT EMCP 3 CONTROL PANELS

- EMCP 3.1 (Standard)
 - 24 Volt DC Control
 - NEMA 1, IP22 enclosure
 - UL/CSA/CE
 - Single location customer connector point
 - Run/Auto/Stop control
 - True RMS metering, 3-phase
 - Speed Adjust
 - Vandal cover (option)
 - Voltage adjust
 - Digital Indication for:
 - RPM
 - Operating hours
 - Oil Pressure
 - Coolant temperature
 - System DC volts
 - L-L volts, L-N volts, phase amps, Hz
 - kW, kVA, kVAR, kW-hr, %kW, PF, (EMCP3.2/3.3)
 - Shutdowns with common indicating light for:
 - Low oil pressure
 - High coolant temperature
 - Low coolant level
 - Overspeed
 - Emergency stop
 - Failure to start (overcrank)
 - Programmable protective relaying functions: (EMCP 3.2 & 3.3)
 - Under and over voltage
 - Under and over frequency
 - Reverse power
 - Overcurrent
 - MODUS isolated data link (RS-485 half-duplex EMCP 3.2 & 3.3)
 - Terminal box mounted
- Consult your Caterpillar dealer for available voltages.



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TECHNICAL DATA

Open Generator Set - - 1800 rpm/60 Hz/480 Volts	DM8500	
Tier 3		
Package Performance Genset Power EKW Genset Power rating with fan	275 kW 275 kW	
Fuel Consumption 100% load with fan 75% load with fan 50% load with fan	80.3 L/hr 64.0 L/hr 50.3 L/hr	21.2 Gal/hr 16.9 Gal/hr 13.3 Gal/hr
Cooling System¹ Ambient air temperature 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	46 ° C 0.12 kPa 497 m ³ /min 22.0 L 22.0 L L	115 ° F 0.48 in. water 17551 cfm 5.8 gal 5.8 gal
Exhaust System Combustion air inlet flow rate Exhaust stack gas temperature Exhaust gas flow rate Exhaust flange size (internal diameter) Exhaust system backpressure (maximum allowable)	24.9 m ³ /min 497.0 ° C 67.2 m ³ /min 170 mm 5.9 kPa	879.3 cfm 926.6 ° F 2373.1 cfm 7 in 23.7 in. water
Heat Rejection Heat rejection to coolant (total) Heat rejection to exhaust (total) Heat rejection to atmosphere from engine Heat rejection to atmosphere from generator	114 kW 295 kW 36 kW 19.7 kW	6483 Btu/min 16777 Btu/min 2047 Btu/min 1120.3 Btu/min
Alternator² Motor starting capability @ 30% voltage dip Frame Temperature Rise	682 skVA LC5014J 125 ° C	257 ° F
Lube System Sump refill with filter	40.0 L	10.6 gal
Emissions (Nominal)³ NOx g/hp-hr CO g/hp-hr HC g/hp-hr PM g/hp-hr	3.72 g/hp-hr .32 g/hp-hr .1 g/hp-hr .151 g/hp-hr	

¹ Ambient capability at 300m (984 ft) above sea level. For ambient capability at other altitudes, consult your Caterpillar dealer. Air flow restriction (system) is added to existing restriction from factory. Generator temperature rise is based on a 40 C (104 F) ambient per NEMA MG1-32

² Generator temperature rise is based on a 40° C (104° F) ambient per NEMA MG1-32.

³ Emissions data measurements are consistent with those described in EPA CFR 40 Part 89, Subpart D & E and ISO8178-1 for measuring HC, CO, PM, NOx. Data shown is based on steady state operating conditions of 77°F, 28.42 in HG and number 2 diesel fuel with 35° API and LHV of 18,390 btu/lb. The nominal emissions data shown is subject to instrumentation, measurement, facility and engine to engine variations.



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RATING DEFINITIONS AND CONDITIONS

Meets or Exceeds International Specifications: AS1359, AS2789, CSA, EGSA101P, IEC60034, ISO3046, ISO8528, NEMA MG 1-32, UL508, 72/23/EEC, 89/336/EEC, 98/37/EEC

Prime - Output available with varying load for an unlimited time. Prime power in accordance with ISO8528. 10% overload power in accordance with ISO3046, AS2789, and available on request. Prime power ambients shown indicate ambient at 100 percent load which results in a coolant top tank temperature just below the alarm temperature.

Ratings are based on SAE J1995 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. Consult your Caterpillar representative for details.



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DIMENSIONS

Package Dimensions		
Length	3132.0 mm	123.31 in
Width	1112.3 mm	43.79 in
Height	1844.5 mm	72.62 in
Weight	2287 kg	5,042 lb

Note: Do not use for installation design.
See general dimension drawings for detail (Drawing #2778059).



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Performance No.: DM8500

Feature Code:: C09DE03

Source:: U.S. Sourced

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