



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

### Specifications

Generator Set Specifications		
Height - Maximum	1867 mm	73.5 in
Length - Maximum	3988 mm	157 in
Width - Maximum	1207 mm	47.5 in
Minimum Rating	180 ekW	
Maximum Rating	300 ekW	
Voltage	220-480 Volts	
Frequency	60 Hz	
Speed	1800 RPM	

Generator Set Configurations	
Emissions/Fuel Strategy	EU Stage IIIA, Low Fuel Consumption

Engine Specifications		
Engine Model	C9 ATAAC, I-6, 4-Stroke Water-Cooled Diesel	
Compression Ratio	16.1:1	
Aspiration	Air to Air Aftercooled	
Governor Type	Adem™ A4	
Fuel System	Hydraulic electronic unit injection	
Bore	112 mm	4.41 in
Displacement	8.8 l	537.01 in <sup>3</sup>
Stroke	149 mm	5.87 in

### Benefits and Features

#### Design Criteria

The generator set meets transient response and block loading steps as per ISO 8528-5.

### Cat Diesel Engines

The four cycle Cat diesel engine combines consistent performance with excellent fuel economy and transient response that meets or exceeds ISO 8528-5. The engines have been designed and built for a wide range of applications and can be optimized for low fuel consumption or low emissions. The engines feature a reliable, rugged, and durable design that has been field proven in thousands of applications worldwide from emergency standby installations to continuously operating power plants.

### Cat Diesel Engine Features

Reliable, rugged, durable design

Field-proven in thousands of applications worldwide

Four-stroke-cycle diesel engine combines consistent performance and excellent fuel economy with minimum weight

### Generators

The generators used on Cat packages have been designed and tested to work with the Cat engine. The generators are built with robust Class H insulation and provide industry leading motor starting capability. They provide high efficiency in a majority of applications and optional coastal protection for the windings is available for harsh environments.

### Generator Features

Matched to the performance and output characteristics of Cat engines

Industry leading mechanical and electrical design

Industry leading motor starting capabilities

High Efficiency

### Cat Generator Set Packages

Cat® generator set packages have been fully prototype tested, and certified torsional vibration analysis reports are available. The packages are designed to meet the NFPA 110 requirement for loading, and conform to the ISO 8528-5 steady state and transient response requirements.

### Cat EMCP Control Panel

The EMCP controller features the reliability and durability you have come to expect from your Cat equipment. EMCP4 is a scalable control platform designed to ensure reliable generator set operation, providing extensive information about power output and engine operation. EMCP4 systems can be further customized to meet your needs through programming and expansion modules.

### Cooling System

The cooling system has been designed to operate in standard ambient temperatures up to 50°C (122°F) with an air flow restriction of 0.5 in water. The factory installed cooling system has been designed and tested to ensure proper generator set cooling, and includes the radiator, fan, belts, and all guarding installed as standard. Contact your Cat Dealer for specific ambient and altitude capabilities.

### Single-Source Supplier

Fully prototype tested with certified torsional vibration analysis available

### World Wide 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 Caterpillar S•O•S<sup>SM</sup> program cost effectively detects internal engine component condition, even the presence of unwanted fluids and combustion by-products

## Standard Equipment

### Air Inlet System

- Air cleaner, light duty with disposable paper filter
- Turbocharger

### Control Panels

- EMC 4.2

### Cooling System

- Radiator and cooling fan with guard
- Coolant drain line with valve
- Fan drive, battery charging alternator drive
- Caterpillar extended life coolant

### Exhaust System

- Stainless steel exhaust flex, gaskets, rain cap & SAE exhaust flange for customer use; shipped loose

### Fuel System

- Standard open set fuel tank / base supplied
- Base, formed steel with single wall integral 8-hour fuel tank

### Generators and Generator Attachments

- 12 leads
- IP23 protection
- Voltage regulator (single phase sensing)
- Power centre, IP22
- Segregated low voltage (AC/DC) wiring panel
- Mandatory option circuit breaker, IEC, 3 pole mounted in powercentre

### Governing System

- Cat electronic governor (ADEM A4)

### Lube System

- Oil cooler
- Lubricating oil
- Oil drain valves

### Mounting System

- Captive linear vibration isolators between base and engine-generator
- Includes lifting provisions and termination points for coolant and lube oil drain lines

### Starting / Charging System

- 24V battery with rack and cables

### General

- Engine and alternator re-paint, Caterpillar Yellow

## Optional Equipment

### Certifications

- European certificate for conformance

- Global certificate for CIS

### Air inlet system

- Single element air cleaner

### Circuit Breakers

- 4 Pole (IEC-100% rated) circuit breaker upgrades: 400, 630, 800 and 100 amps

### Control Panels

- Oil temperature displays
- Control panel protective devices: Earth fault relay ; Earth leakage ground fault ; overload shutdown via breaker ; Low fuel level shutdown ; Low fuel level alarm ; Fuel level sensor

### Cooling System

- Radiator duct flange
- Low coolant temperature alarm

### Enclosures

- Sound attenuated enclosure
- High ambient sound attenuated enclosure

### Exhaust System

- Mufflers - End in / End out; 10 dBA or 25 dBA attenuation
- 5 - 6 inch flange adaptor
- 6 inch flange
- 5 and 6 inch elbow kits

### Fuel System

- Integral dual wall fuel tank base

### Generators and Attachments

- Permanent magnet generator
- Oversize, AREP, CIP generators

### Mounting System

- Narrow skid base

### Starting / Charging System

- 5 Amp single battery charger
- Battery disconnect switch
- Jacket water heater

The International System of Units (SI) is used in this publication. CAT, CATERPILLAR, their respective logos, ADEM, EUI, S•O•S, "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.

C9

275 ekW/ 344 kVA/ 60 Hz/ 1800 rpm/ 480 V/ 0.8 Power Factor

Rating Type: STANDBY

Fuel Strategy: LOW FUEL CONSUMPTION



Image shown may not reflect actual configuration

C9

275 ekW/ 344 kVA  
60 Hz/ 1800 rpm/ 480 V

Metric English

**Package Performance**

Genset Power Rating with Fan @ 0.8 Power Factor	275 ekW	
Genset Power Rating	344 kVA	
Aftercooler (Separate Circuit)	N/A	N/A

**Fuel Consumption**

100% Load with Fan	73.3 L/hr	19.4 gal/hr
75% Load with Fan	55.7 L/hr	14.7 gal/hr
50% Load with Fan	40.0 L/hr	10.6 gal/hr
25% Load with Fan	25.0 L/hr	6.6 gal/hr

**Cooling System<sup>1</sup>**

Engine Coolant Capacity	N/A	N/A
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**Inlet Air**

Combustion Air Inlet Flow Rate	22.6 m <sup>3</sup> /min	797.4 cfm
Max. Allowable Combustion Air Inlet Temp	49 ° C	119 ° F

**Exhaust System**

Exhaust Stack Gas Temperature	442.8 ° C	829.1 ° F
Exhaust Gas Flow Rate	56.0 m <sup>3</sup> /min	1977.4 cfm
Exhaust System Backpressure (Maximum Allowable)	10.0 kPa	40.0 in. water



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Heat Rejection		
Heat Rejection to Jacket Water	126 kW	7156 Btu/min
Heat Rejection to Exhaust (Total)	236 kW	13430 Btu/min
Heat Rejection to Aftercooler	68 kW	3864 Btu/min
Heat Rejection to Atmosphere from Engine	30 kW	1730 Btu/min
Heat Rejection to Atmosphere from Generator	20 kW	1120 Btu/min

Alternator <sup>2</sup>	
Motor Starting Capability @ 30% Voltage Dip	683 skVA
Current	414 amps
Frame Size	LC5014J
Excitation	SE
Temperature Rise	130 ° C

Emissions (Nominal) <sup>3</sup>		
NOx	3239.2 mg/Nm <sup>3</sup>	6.7 g/hp-hr
CO	486.4 mg/Nm <sup>3</sup>	1.0 g/hp-hr
HC	18.1 mg/Nm <sup>3</sup>	0.0 g/hp-hr
PM	17.3 mg/Nm <sup>3</sup>	0.0 g/hp-hr

**DEFINITIONS AND CONDITIONS**

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.
3. Emissions data measurement procedures 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. Emissions data is based on 100% load and thus cannot be used to compare to EPA regulations which use values based on a weighted cycle.

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**Applicable Codes and Standards:**

AS1359, CSA C22.2 No100-04, UL142,UL489, UL869, UL2200,  
NFPA37, NFPA70, NFPA99, NFPA110, IBC, IEC60034-1, ISO3046, ISO8528,  
NEMA MG1-22,NEMA MG1-33, 2006/95/EC, 2006/42/EC, 2004/108/EC.

Note: Codes may not be available in all model configurations. Please consult your local Cat Dealer representative for availability.

**STANDBY:**Output available with varying load for the duration of the interruption of the normal source power. Average power output is 70% of the standby power rating. Typical operation is 200 hours per year, with maximum expected usage of 500 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 (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.

[www.Cat-ElectricPower.com](http://www.Cat-ElectricPower.com)

Performance No.: EM0881-01

Feature Code: C09DE2G

Generator Arrangement: 4692278

Date: 02/21/2018

Source Country: U.K.

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