C9 Generator Set

Electric Power

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

Specifications

Generator Set Specifications	
Minimum Rating	168 ekW (210 kVA)
Maximum Rating	184 ekW (230 kVA)
Voltage	220-480 Volts
Frequency	50 or 60 Hz
Speed	1500 or 1800 RPM

Generator Set Configurations	
Emissions/Fuel Strategy	EU Stage IIIA, Low Fuel Consumption, U.S. EPA Certified for Stationary Emergency Use only (Tier 3 Nonroad Equivalent Emission Standards)

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 in³
Stroke	149 mm	5.87 in

Benefits And Features

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 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.

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.

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.

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.

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℠ program cost effectively detects internal engine component condition, even the presence of unwanted fluids and combustion by-products.

Optional Equipment

Engine Options

- Air Cleaner: [ ] Single element air cleaners [ ] Dual element air cleaner [ ] Heavy duty air cleaner
- Muffler: [ ] Industrial Grade [ ] Residential Grade [ ] Critical Grade
- Batteries: [ ] Standard [ ] Heavy Duty
- Starting Motors: [ ] Standard [ ] Heavy Duty
- Battery Charger: [ ]
- Starting Aids: [ ] Jacket Water Heater

Control System

- Controller: [ ] EMCP 4.1 [ ] EMCP 4.2 [ ] EMCP 4.3 [ ] EMCP 4.4
- Local annunciator module: [ ] NFPA 110
- Remote annunciator module: [ ] NFPA 110
- Additional Options: [ ] Expansion I/O module [ ] Remote monitoring software

Generators

- Excitation: [ ] Permanent Magnet Excited (PM) [ ] Internally Excited (IE)
- [ ] Anti-condensation heater
- [ ] Oversize generator
- [ ] Coastal protection

Power Termination

- [ ] Bus Bar [ ] Circuit Breaker, IEC compliant [ ] Circuit Breaker, UL Listed

General

- [ ] Seismic Certification per applicable building codes: IBC 2000, IBC 2003, IBC 2006, IBC 2009, CBC 2007
- [ ] Pre-approved by OSHPD and carries an OSP-0321-10 for use in healthcare projects in California
- [ ] UL 2200 package
- [ ] EU Certificate of Conformance (CE)
- [ ] CSA Certification
- [ ] EEC Declaration of Conformity
- Skid Base [ ] Narrow [ ] Wide
- Enclosures [ ] Sound attenuated [ ] weather protective [ ] high ambient weather protective
- Fuel Tanks [ ] Single wall integral [ ] Dual wall integral [ ] Single wall sub-base [ ] Dual wall sub-base
- [ ] Automatic transfer switches (ATS)

Extended Service Contract (ESC)

- Extended Service Contract (ESC): [ ] 2 Year [ ] 3 Year [ ] 4 Year [ ] 5 Year

Note: Option availability is regional dependent, see your Dealer for details.

ELECTRIC POWER - Technical Spec Sheet
STANDARD

C9 ACERT
240 ekW/ 300 kVA/ 50 Hz/ 1500 rpm/ 400 V/ 0.8 Power Factor

Rating Type: STANDBY

Fuel Strategy: LOW FUEL CONSUMPTION

Image shown may not reflect actual configuration

C9 ACERT
240 ekW/ 300 kVA
50 Hz/ 1500 rpm/ 400 V

	Metric	English
Package Performance		
Genset Power Rating with Fan @ 0.8 Power Factor	240 ekW	
Genset Power Rating	300 kVA	
Aftercooler (Separate Circuit)	N/A	N/A
Fuel Consumption		
100% Load with Fan	63.1 L/hr	16.7 gal/hr
75% Load with Fan	47.6 L/hr	12.6 gal/hr
50% Load with Fan	33.9 L/hr	8.9 gal/hr
25% Load with Fan	20.6 L/hr	5.4 gal/hr
Cooling System[1]		
Engine Coolant Capacity	13.9 L	3.7 gal
Inlet Air		
Combustion Air Inlet Flow Rate	16.4 m³/min	578.7 cfm
Max. Allowable Combustion Air Inlet Temp	43 ° C	110 ° F
Exhaust System		
Exhaust Stack Gas Temperature	548.6 ° C	1019.5 ° F
Exhaust Gas Flow Rate	47.6 m³/min	1679.3 cfm
Exhaust System Backpressure (Maximum Allowable)	10.0 kPa	40.0 in. water

Rating Type: STANDBY

Fuel Strategy: LOW FUEL CONSUMPTION

Heat Rejection		
Heat Rejection to Jacket Water	114 kW	6506 Btu/min
Heat Rejection to Exhaust (Total)	213 kW	12090 Btu/min
Heat Rejection to Aftercooler	44 kW	2524 Btu/min
Heat Rejection to Atmosphere from Engine	27 kW	1533 Btu/min
Heat Rejection to Atmosphere from Generator	19 kW	1058 Btu/min

Alternator[2]	
Motor Starting Capability @ 30% Voltage Dip	586 skVA
Current	433 amps
Frame Size	LC5014J
Excitation	SE
Temperature Rise	163 ° C

Emissions (Nominal)[3]		
NOx	3360.7 mg/Nm³	6.9 g/hp-hr
CO	865.5 mg/Nm³	1.8 g/hp-hr
HC	12.0 mg/Nm³	0.0 g/hp-hr
PM	28.9 mg/Nm³	0.1 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.

Rating Type: STANDBY

Fuel Strategy: LOW FUEL CONSUMPTION

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 35º API [16º C (60º F)] gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29º C (85º 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

Performance No.: EM0877-00

Feature Code: C09DE1M

Generator Arrangement: 4692278

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Source Country: U.K.