



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	680 ekW
Maximum Rating	800 ekW
Voltage	208 to 600
Frequency	60 Hz
Speed	1800 RPM

Generator Set Configurations	
Emissions/Fuel Strategy	Low Fuel Consumption, U.S. EPA Certified for Stationary Emergency Use Only (Tier 2 Nonroad Equivalent Emission Standards)

Engine Specifications		
Engine Model	C27 ATAAC, V-12, 4-Stroke, Water-Cooled Diesel	
Compression Ratio	16.5:1	
Aspiration	TA	
Governor Type	Adem™ A4	
Fuel System	MEUI	
Bore	137.2 mm	5.4 in
Displacement	27.03 L	1649.47 in ³
Stroke	152.4 mm	6 in

Benefits And Features

Cat Diesel Engine

- 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

Generator

- Matched to the performance and output characteristics of Cat engines
- Industry leading mechanical and electrical design
- Industry leading motor starting capabilities
- High Efficiency

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.

Seismic Certification

- Seismic Certification available.
- Anchoring details are site specific, and are dependent on many factors such as generator set size, weight, and concrete strength.
- IBC Certification requires that the anchoring system used is reviewed and approved by a Professional Engineer
- Seismic Certification per Applicable Building Codes: IBC 2000, IBC 2003, IBC 2006, IBC 2009, CBC 2007, CBC 2010
- Pre-approved by OSHPD and carries an OSP-0321-10 for use in healthcare projects in California

Design Criteria

The generator set accepts 100% rated load in one step per NFPA 110 and meets ISO 8528-5 transient response.

UL 2200 / CSA - Optional

- UL 2200 listed packages
- CSA Certified
- Certain restrictions may apply.
- Consult with your Cat® Dealer.

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

Standard Equipment

Air Inlet

- Air Cleaner

Cooling

- Package mounted radiator

Exhaust

- Exhaust flange outlet

Fuel

- Primary fuel filter with integral water separator
- Secondary fuel filter
- 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 load acceptance and recovery time
- IP23 Protection

Power Termination

- Bus Bar

Control Panel

- EMCP 4 Genset Controller

General

- Paint - Caterpillar Yellow except rails and radiators gloss black

Optional Equipment

Exhaust

- Exhaust mufflers

Generator

- Anti-condensation heater
- Excitation: [] Permanent Magnet Excited (PM) [] Internally Excited (IE)
- Oversize and premium generators

Power Termination

- Circuit breakers, UL listed
- Circuit breakers, IEC compliant

Control Panels

- EMCP (4.2) (4.3) (4.4)
- Generator temperature monitoring & protection
- Load share module
- Digital I/O module
- Remote monitoring software

Mounting

- Rubber anti-vibration mounts
- Spring-type vibration isolator
- IBC isolators

Starting/Charging

- Battery chargers
- Oversize batteries
- Jacket water heater
- Heavy-duty starting system
- Charging alternator
- Air starting motor with control and silencer

General

- 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
- Enclosures: sound attenuated, weather protective
- Automatic transfer switches (ATS)
- Integral & sub-base fuel tanks
- Integral & sub-base UL listed dual wall fuel tanks

C27 ACERT
800 ekW/ 1000 kVA/ 60 Hz/ 1800 rpm/ 240 V/ 0.8 Power Factor

Rating Type: MISSION CRITICAL STANDBY

Emissions: U.S. EPA Stationary Emergency Use Only



C27 ACERT
800 ekW/ 1000 kVA
60 Hz/ 1800 rpm/ 240 V

Image shown may not reflect actual configuration

Metric English

Package Performance		
Genset Power Rating with Fan @ 0.8 Power Factor	800 ekW	
Genset Power Rating	1000 kVA	
Aftercooler (Separate Circuit)	N/A	N/A

Fuel Consumption		
100% Load with Fan	216.9 L/hr	57.3 gal/hr
75% Load with Fan	171.7 L/hr	45.4 gal/hr
50% Load with Fan	122.3 L/hr	32.3 gal/hr
25% Load with Fan	73.9 L/hr	19.5 gal/hr

Cooling System¹		
Engine Coolant Capacity	55.0 L	14.5 gal

Inlet Air		
Combustion Air Inlet Flow Rate	62.8 m ³ /min	2216.4 cfm
Max. Allowable Combustion Air Inlet Temp	49 ° C	121 ° F

Exhaust System		
Exhaust Stack Gas Temperature	511.4 ° C	952.5 ° F
Exhaust Gas Flow Rate	170.3 m ³ /min	6011.7 cfm
Exhaust System Backpressure (Maximum Allowable)	10.0 kPa	40.0 in. water



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Heat Rejection		
Heat Rejection to Jacket Water	330 kW	18785 Btu/min
Heat Rejection to Exhaust (Total)	796 kW	45257 Btu/min
Heat Rejection to Aftercooler	162 kW	9235 Btu/min
Heat Rejection to Atmosphere from Engine	110 kW	6240 Btu/min
Heat Rejection to Atmosphere from Generator	46 kW	2599 Btu/min

Alternator²	
Motor Starting Capability @ 30% Voltage Dip	529 skVA
Current	2406 amps
Frame Size	598
Excitation	SE
Temperature Rise	105 ° C

Emissions (Nominal)³		
NOx	2580.0 mg/Nm ³	5.2 g/hp-hr
CO	115.1 mg/Nm ³	0.2 g/hp-hr
HC	12.5 mg/Nm ³	0.0 g/hp-hr
PM	9.7 mg/Nm ³	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.

MISSION CRITICAL STANDBY:Output available with varying load for the duration of the interruption of the normal source power. Average power output is 85% of the standby power rating. Typical peak demand up to 100% of standby rated ekW for 5% of the operating time. 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

Performance No.: EM0451-00

Feature Code: C27DR56

Generator Arrangement: 3870794

Date: 04/12/2016

Source Country: U.S.

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