C15 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	365 kVA
Maximum Rating	550 kVA
Voltage	208 to 600 Volts
Frequency	50 Hz
Speed	1500 RPM

Generator Set Configurations	
Emissions/Fuel Strategy	Low Fuel Consumption, U.S. EPA Certified for Stationary Emergency Use Only (Tier 2 or Tier 3 Nonroad Equivalent Emission Standards), EU Stage IIIA Nonroad Emission Standards, China Nonroad III Emission Standards

Engine Specifications		
Engine Model	C15 ATAAC, I-6, 4-Stroke Water-Cooled Diesel	
Bore	137.2 mm	5.4 in
Displacement	15.2 L	927.56 in³
Stroke	171.4 mm	6.75 in
Compression Ratio	16.1:1	
Aspiration	Air to Air Aftercooled	
Governor Type	Adem™A4	
Fuel System	MEUI	

Benefits and Features

Cat Diesel Engine

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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

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

Design Criteria

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

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

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- 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

Mounting

- Rubber vibration isolators

Starting/Charging

- 24 volt starting motor
- Batteries

General

- Paint - Caterpillar Yellow except rails and radiators gloss black

Optional Equipment

Exhaust

- Industrial, Residential, Critical Mufflers

Generator

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

Power Termination

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

Control Panels

- EMCP (4.2) (4.3) (4.4)
- Local & remote annunciator modules
- Load share module
- Digital I/O module
- Remote monitoring software

Starting/Charging

- Battery chargers
- Oversize batteries
- Jacket water heater
- Heavy-duty starting system
- Charging alternator

General

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- 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
- Narrow, Wide or Skid Base
- Sound attenuated, weather protective or high ambient weather protective enclosure
- Single or dual wall integral fuel tanks
- Single or dual wall sub-base fuel tanks
- Integral & sub-base UL listed dual wall fuel tanks
- Automatic transfer switches (ATS)

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.

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ELECTRIC POWER - Technical Spec Sheet
STANDARD

C15 ACERT

500 ekW/ 625 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

C15 ACERT

500 ekW/ 625 kVA

60 Hz/ 1800 rpm/ 480 V

	Metric	English
Package Performance		
Genset Power Rating with Fan @ 0.8 Power Factor	500 ekW	
Genset Power Rating	625 kVA	
Aftercooler (Separate Circuit)	N/A	N/A
Fuel Consumption		
100% Load with Fan	127.2 L/hr	33.6 gal/hr
75% Load with Fan	98.3 L/hr	26.0 gal/hr
50% Load with Fan	69.8 L/hr	18.4 gal/hr
25% Load with Fan	41.7 L/hr	11.0 gal/hr
Cooling System[1]		
Engine Coolant Capacity	N/A	N/A
Inlet Air		
Combustion Air Inlet Flow Rate	37.9 m³/min	1337.4 cfm
Max. Allowable Combustion Air Inlet Temp	47 ° C	117 ° F
Exhaust System		
Exhaust Stack Gas Temperature	510.3 ° C	950.6 ° F
Exhaust Gas Flow Rate	102.7 m³/min	3627.4 cfm
Exhaust System Backpressure (Maximum Allowable)	N/A	N/A

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Rating Type: STANDBY

Fuel Strategy: LOW FUEL CONSUMPTION

Heat Rejection		
Heat Rejection to Jacket Water	185 kW	10501 Btu/min
Heat Rejection to Exhaust (Total)	477 kW	27109 Btu/min
Heat Rejection to Aftercooler	108 kW	6125 Btu/min
Heat Rejection to Atmosphere from Engine	13 kW	767 Btu/min
Heat Rejection to Atmosphere from Generator	29 kW	1655 Btu/min

Alternator[2]	
Motor Starting Capability @ 30% Voltage Dip	1428 skVA
Current	752 amps
Frame Size	LC6114F
Excitation	SE
Temperature Rise	130 ° C

Emissions (Nominal)[3]		
NOx	3377.5 mg/Nm³	6.6 g/hp-hr
CO	197.8 mg/Nm³	0.4 g/hp-hr
HC	3.0 mg/Nm³	0.0 g/hp-hr
PM	9.0 mg/Nm³	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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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.: DM8165-03

Feature Code: C15DF9F

Generator Arrangement: 3921379

Date: 12/26/2016

Source Country: U.K.

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