



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	455 ekW (569 kVA)
Maximum Rating	500 ekW (625 kVA)
Voltage	480 Volts
Frequency	60 Hz
Speed	1800 RPM

Generator Set Configurations

Emissions/Fuel Strategy	U.S. EPA Tier 4 Final Nonroad Genset Emission Standards
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Engine Specifications

Engine Model	C18 ATAAC, I-6, 4-Stroke Water-Cooled Diesel
Bore	145 mm (5.71 in)
Displacement	18.13 L (1106.36 in3)
Stroke	183 mm (7.2 in)
Compression Ratio	14.5:1
Aspiration	Air to Air Aftercooled
Governor Type	Adem™ A4
Fuel System	Electronic unit injection

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. EMCP 4 is a scalable control platform designed to ensure reliable generator set operation, providing extensive information about power output and engine operation. EMCP 4 systems can be further customized to meet your needs through programming and expansion modules.

Cat Integrated Voltage Regulation

The Cat IVR has three phase sensing with adjustable volts-per-hertz regulation. It Provides precise control, excellent block loading, and constant voltage in the normal operating range.

Cat Clean Emissions Module (CEM)

Aftertreatment module consists of Cat Regeneration System (CRS), Diesel Oxidation Catalyst (DOC), Diesel Particulate Filter (DPF), and Selective Catalytic Reduction (SCR).

Diesel Exhaust Fluid (DEF) System

The DEF system consists of a 25 gallon tank with an on-tank fill, integrated pump, a level sensor and heating elements. This incorporates electrically heated DEF lines from the DEF tank to the CEM. The system is equipped with low and critically low level alarms and a critically low shutdown

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

Optional Equipment

Engine Options

- Air Cleaner: ☐ Disposable air cleaner ☐ Single element air cleaner ☐ Heavy duty air cleaner
- Batteries: ☐ Standard
- Starting Motors: ☐ Standard
- Battery Charger: ☐ 10 Amp UL Listed
- Starting Aids: ☐ Jacket Water Heater UL Listed

Control System

- Controller: ☐ EMCP 4.2 ☐ EMCP 4.4
- Local annunciator module: ☐ NFPA 110
- Remote annunciator Module: ☐ NFPA 110
- Additional Options: ☐ Expansion I/O module ☐ Remote monitoring software

Generator

- Excitation: ☐ Internally Excited (IE)
- Anti-condensation heater
- Oversize and premium generators
- Coastal protection

Power Termination

- Circuit breakers, UL listed

General

- Certifications: ☐ UL 2200 package
- Skid Base: ☐ Wide
- Fuel Tanks: ☐ Dual wall sub-base ☐ 5 Gallon spill containment with pipe extending to within 6" from bottom
☐ 5 Gallon spill containment with Overfill prevention valve
- Enclosures: ☐ Sound attenuated
- Automatic transfer switches (ATS)

Extended Service Contract (ESC)

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

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C18 ACERT

500 ekW/ 625 kVA/ 60 Hz/ 1800 rpm/ 480 V/ 0.8 Power Factor

Rating Type: STANDBY

Emissions: U.S. EPA Tier 4 Final Nonroad Genset
Emission Standards

Image shown may not reflect actual configuration

C18 ACERT500 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	140.1 L/hr	37.0 gal/hr
75% Load with Fan	106.7 L/hr	28.2 gal/hr
50% Load with Fan	75.9 L/hr	20.1 gal/hr
25% Load with Fan	47.0 L/hr	12.4 gal/hr

Cooling System¹

Engine Coolant Capacity	26.9 L	7.1 gal
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Inlet Air

Combustion Air Inlet Flow Rate	37.9 m ³ /min	1340.0 cfm
Max. Allowable Combustion Air Inlet Temp	50 ° C	122 ° F

Exhaust System

Exhaust Stack Gas Temperature	447.1 ° C	836.8 ° F
Exhaust Gas Flow Rate	69.8 m ³ /min	2465.3 cfm
Exhaust System Backpressure (Maximum Allowable)	10.0 kPa	40.0 in. water

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Heat Rejection

Heat Rejection to Jacket Water	283 kW	16110 Btu/min
Heat Rejection to Exhaust (Total)	514 kW	29204 Btu/min
Heat Rejection to Aftercooler	113 kW	6454 Btu/min
Heat Rejection to Atmosphere from Engine	28 kW	1603 Btu/min
Heat Rejection to Atmosphere from Generator	29 kW	1621 Btu/min

Alternator²

Motor Starting Capability @ 30% Voltage Dip	1729 skVA
Current	752 amps
Frame Size	LC6124G
Excitation	AR
Temperature Rise	105 ° C

Emissions (Nominal)³

NOx	100.5 mg/Nm ³	0.2 g/hp-hr
CO	N/A	N/A
HC	4.9 mg/Nm ³	0.0 g/hp-hr
PM	2.2 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.

C18 ACERT
500 ekW/ 625 kVA/ 60 Hz/ 1800 rpm/ 480 V/ 0.8 Power Factor

**Emissions: U.S. EPA Tier 4 Final Nonroad Genset
Emission Standards**

Rating Type: STANDBY

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

Performance No.: EM1017-02

Feature Code: C18DE9D

Generator Arrangement: 4183885

Date: 03/09/2017

Source Country: U.S.

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