



Image shown may not reflect actual package.

STANDBY 400 kW 500 kVA 50 Hz 1500 rpm 400 Volts

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

FEATURES

FUEL/EMISSIONS STRATEGY

- Low Fuel consumption

FULL RANGE OF ATTACHMENTS

- Wide range of bolt-on system expansion attachments, factory designed and tested
- Flexible packaging options for easy and cost effective installation

SINGLE-SOURCE SUPPLIER

- Fully prototype tested with certified torsional vibration analysis available

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

CAT® C15 ATAAC DIESEL ENGINE

- Utilizes ACERT™ Technology
- Reliable, rugged, durable design
- Field-proven in thousands of applications worldwide
- Four-stroke diesel engine combines consistent performance and excellent fuel economy with minimum weight
- Electronic engine control

CAT 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
- UL 1446 Recognized Class H insulation

CAT EMCP 4 CONTROL PANELS

- Simple user friendly interface and navigation
- Scalable system to meet a wide range of customer needs
- Integrated Control System and Communications Gateway

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FACTORY INSTALLED STANDARD & OPTIONAL EQUIPMENT

| System | Standard | Optional |
|-------------------|--|---|
| Air Inlet | • Air cleaner | |
| Cooling | • Package mounted radiator | |
| Exhaust | • Exhaust flange outlet | <input type="checkbox"/> Industrial <input type="checkbox"/> Residential <input type="checkbox"/> Critical Mufflers |
| Fuel | • Primary fuel filter with integral water separator • Secondary fuel filters • 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 | <input type="checkbox"/> Oversize and premium generators <input type="checkbox"/> Permanent magnet excitation (PMG) <input type="checkbox"/> Internal excited (IE) <input type="checkbox"/> Anti-condensation space heaters |
| Power Termination | • Bus bar | <input type="checkbox"/> Circuit breakers, UL listed <input type="checkbox"/> Circuit breakers, IEC compliant |
| Control Panel | • EMCP 4 Genset Controller | <input type="checkbox"/> EMCP 4.2 <input type="checkbox"/> EMCP 4.3 <input type="checkbox"/> EMCP 4.4 <input type="checkbox"/> Local and remote annunciator modules <input type="checkbox"/> Load share module <input type="checkbox"/> Digital I/O module <input type="checkbox"/> Remote monitoring software |
| Mounting | • Rubber vibration isolators | |
| Starting/Charging | • 24 volt starting motor • Batteries | <input type="checkbox"/> Battery chargers <input type="checkbox"/> Oversize batteries <input type="checkbox"/> Jacket water heater <input type="checkbox"/> Heavy duty starting system <input type="checkbox"/> Charging alternator |
| General | • Paint - Caterpillar Yellow except rails and radiators gloss black | The following options are based on regional and product configuration: <input type="checkbox"/> Seismic Certification per Applicable Building Codes: IBC 2000, IBC 2003, IBC 2006, IBC 2009, CBC 2007 <input type="checkbox"/> UL 2200 package <input type="checkbox"/> EU Certificate of Conformance (CE) <input type="checkbox"/> CSA Certification <input type="checkbox"/> EEC Declaration of Conformity <input type="checkbox"/> Narrow, wide or skid base <input type="checkbox"/> Sound attenuated, weather protective or high ambient weather protective enclosures <input type="checkbox"/> Single or dual wall integral fuel tanks <input type="checkbox"/> Single or dual wall sub-base fuel tanks <input type="checkbox"/> Integral & sub-base UL listed dual wall fuel tanks <input type="checkbox"/> Automatic transfer switches (ATS) |

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SPECIFICATIONS

CAT GENERATOR

Frame size..... LC6114D
Excitation..... Self Excitation
Pitch..... 0.6667
Number of poles..... 4
Number of bearings..... Single bearing
Number of Leads..... 012
Insulation..... UL 1446 Recognized Class H with tropicalization and antiabrasion
- Consult your Caterpillar dealer for available voltages
IP Rating..... Drip Proof IP23
Alignment..... Pilot Shaft
Overspeed capability..... 150
Wave form Deviation (Line to Line)..... 2%
Voltage regulator..... Single Phase Sensing
Voltage regulation..... Less than +/- 1/2% (steady state)
Less than +/- 1/2% (w/ 3% speed change)

CAT DIESEL ENGINE

C15 ATAAC, I-6, 4-Stroke Water-cooled Diesel
Bore..... 137.20 mm (5.4 in)
Stroke..... 171.40 mm (6.75 in)
Displacement..... 15.20 L (927.56 in³)
Compression Ratio..... 16.1:1
Aspiration..... Air-to-Air Aftercooled
Fuel System..... MEUI
Governor Type..... Caterpillar ADEM control system

CAT EMCP 4 SERIES CONTROLS

EMCP 4 controls including:

- Run / Auto / Stop Control
- Speed and Voltage Adjust
- Engine Cycle Crank
- 24-volt DC operation
- Environmental sealed front face
- Text alarm/event descriptions

Digital indication for:

- RPM
- DC volts
- Operating hours
- Oil pressure (psi, kPa or bar)
- Coolant temperature
- Volts (L-L & L-N), frequency (Hz)
- Amps (per phase & average)
- ekW, kVA, kVAR, kW-hr, %kW, PF (4.2 only)

Warning/shutdown with common LED indication of:

- Low oil pressure
- High coolant temperature
- Overspeed
- Emergency stop
- Failure to start (overcrank)
- Low coolant temperature
- Low coolant level

Programmable protective relaying functions:

- Generator phase sequence
- Over/Under voltage (27/59)
- Over/Under Frequency (81 o/u)
- Reverse Power (kW) (32) (4.2 only)
- Reverse reactive power (kVA) (32RV)
- Overcurrent (50/51)

Communications:

- Four digital inputs (4.1)
- Six digital inputs (4.2 only)
- Four relay outputs (Form A)
- Two relay outputs (Form C)
- Two digital outputs
- Customer data link (Modbus RTU) (4.2 only)
- Accessory module data link (4.2 only)
- Serial annunciator module data link (4.2 only)
- Emergency stop pushbutton

Compatible with the following:

- Digital I/O module
- Local Annunciator
- Remote CAN annunciator
- Remote serial annunciator

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TECHNICAL DATA

| Open Generator Set - - 1500 rpm/50 Hz/400 Volts | DM8491 | |
|--|---|---|
| Low BSFC | | |
| Generator Set Package Performance Genset Power rating @ 0.8 pf Genset Power rating with fan | 500 kVA 400 ekW | |
| Fuel Consumption 100% load with fan 75% load with fan 50% load with fan | 103.7 L/hr 77.9 L/hr 55.3 L/hr | 27.4 Gal/hr 20.6 Gal/hr 14.6 Gal/hr |
| Cooling System¹ Air flow restriction (system) Air flow (max @ rated speed for radiator arrangement) Engine Coolant capacity with radiator/exp. tank Engine coolant capacity Radiator coolant capacity | 0.12 kPa 476 m ³ /min 47.8 L 20.8 L 27.0 L | 0.48 in. water 16810 cfm 12.6 gal 5.5 gal 7.1 gal |
| Inlet Air Combustion air inlet flow rate | 29.3 m ³ /min | 1034.7 cfm |
| Exhaust System Exhaust stack gas temperature Exhaust gas flow rate Exhaust flange size (internal diameter) Exhaust system backpressure (maximum allowable) | 523.6 °C 79.4 m ³ /min 152.4 mm 10.0 kPa | 974.5 °F 2804.0 cfm 6.0 in 40.2 in. water |
| Heat Rejection Heat rejection to coolant (total) Heat rejection to exhaust (total) Heat rejection to atmosphere from engine Heat rejection to atmosphere from generator | 151 kW 377 kW 44 kW 27.8 kW | 8587 Btu/min 21440 Btu/min 2502 Btu/min 1581.0 Btu/min |
| Alternator² Motor starting capability @ 30% voltage dip Frame Temperature Rise | 923 skVA LC6114D 163 °C | 293 °F |
| Emissions (Nominal)³ NOx mg/nm ³ CO mg/nm ³ HC mg/nm ³ PM mg/nm ³ | 3458.8 mg/nm ³ 171.2 mg/nm ³ 5.2 mg/nm ³ 7.8 mg/nm ³ | |

¹ For ambient and altitude capabilities consult your Cat dealer. Air flow restriction (system) is added to existing restriction from factory.

² Generator temperature rise is based on a 40° C (104° F) ambient per NEMA MG1-32. Some packages may have oversized generators with a different temperature rise and motor starting characteristics.

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 DEFINITIONS AND CONDITIONS

Meets or Exceeds International Specifications: AS1359, CSA, IEC60034-1, ISO3046, ISO8528, NEMA MG 1-22, NEMA MG 1-33, UL508A, 72/23/EEC, 98/37/EC, 2004/108/EC

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.

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DIMENSIONS

| Package Dimensions | | |
|--------------------|-----------|-----------|
| Length | 3830.0 mm | 150.79 in |
| Width | 1130.6 mm | 44.51 in |
| Height | 2215.0 mm | 87.2 in |

NOTE: For reference only - do not use for installation design. Please contact your local dealer for exact weight and dimensions. (General Dimension Drawing #3930333).

Performance No.: DM8491

Feature Code: C15DF1X

Gen. Arr. Number: 3921378

Source: European Sourced

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The International System of Units (SI) is used in this publication.

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