



Image shown may not reflect actual package.

PRIME

**400 e 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	<ul style="list-style-type: none"> Air cleaner 	
Cooling	<ul style="list-style-type: none"> Package mounted radiator 	
Exhaust	<ul style="list-style-type: none"> Exhaust flange outlet 	<input type="checkbox"/> Industrial <input type="checkbox"/> Residential <input type="checkbox"/> Critical Mufflers
Fuel	<ul style="list-style-type: none"> Primary fuel filter with integral water separator Secondary fuel filters Fuel priming pump 	
Generator	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Bus bar 	<input type="checkbox"/> Circuit breakers, UL listed <input type="checkbox"/> Circuit breakers, IEC compliant
Control Panel	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Rubber vibration isolators 	
Starting/Charging	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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 sizeLC6114F
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 Three 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 (kVAR) (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	DM8494	
Low BSFC		
Generator Set Package Performance		
Genset Power rating @ 0.8 pf	500 kVA	
Genset Power rating with fan	400 ekW	
Fuel Consumption		
100% load with fan	102.0 L/hr	26.9 Gal/hr
75% load with fan	76.2 L/hr	20.1 Gal/hr
50% load with fan	54.0 L/hr	14.3 Gal/hr
Cooling System¹		
Air flow restriction (system)	0.12 kPa	0.48 in. water
Air flow (max @ rated speed for radiator arrangement)	476 m ³ /min	16810 cfm
Engine Coolant capacity with radiator/exp. tank	47.8 L	12.6 gal
Engine coolant capacity	20.8 L	5.5 gal
Radiator coolant capacity	27.0 L	7.1 gal
Inlet Air		
Combustion air inlet flow rate	28.1 m ³ /min	992.3 cfm
Exhaust System		
Exhaust stack gas temperature	511.3 ° C	952.3 ° F
Exhaust gas flow rate	79.2 m ³ /min	2796.9 cfm
Exhaust flange size (internal diameter)	152.4 mm	6.0 in
Exhaust system backpressure (maximum allowable)	10.0 kPa	40.2 in. water
Heat Rejection		
Heat rejection to coolant (total)	149 kW	8474 Btu/min
Heat rejection to exhaust (total)	360 kW	20473 Btu/min
Heat rejection to atmosphere from engine	46 kW	2616 Btu/min
Heat rejection to atmosphere from generator	23.3 kW	1325.1 Btu/min
Alternator²		
Motor starting capability @ 30% voltage dip	1213 skVA	
Frame	LC6114F	
Temperature Rise	125 ° C	225 ° F
Emissions (Nominal)³		
NOx mg/nm ³	3438.4 mg/nm ³	
CO mg/nm ³	170.2 mg/nm ³	
HC mg/nm ³	5.3 mg/nm ³	
PM mg/nm ³	7.9 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

Prime - Output available with varying load for an unlimited time. Average power output is 70% of the prime power rating. Typical peak demand is 100% of prime rated ekW with 10% overload capability for emergency use for a maximum of 1 hour in 12. Overload operation cannot exceed 25 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	Information not available at this time.
Width	
Height	

NOTE: For reference only - do not use for installation design. Please contact your local dealer for exact weight and dimensions. (General Dimension Drawing #3619111).

Performance No.: DM8494

Feature Code: C15DF4L

Gen. Arr. Number: 3921379

Source: China

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www.Cat-ElectricPower.com

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