



Image shown may not reflect actual package.

PRIME **320 ekW 400 kVA** **60 Hz 1800 rpm 480 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® C13 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

FACTORY INSTALLED STANDARD & OPTIONAL EQUIPMENT

System	Standard	Optional
Air Inlet	• Disposable Air filter • Service indicator	Canister type Air Filter: ☐ Single element ☐ Dual element
Cooling	• Radiator package mounted • Coolant level sight gauge • Low coolant level sensor • Coolant drain line with valve • Fan and belt guards • Cat® Extended Life Coolant	☐ Radiator duct flange ☐ Stone Guard ☐ Low coolant temperature alarm
Exhaust	• Dry exhaust manifold • Stainless steel flex fittings • Exhaust flange outlet	☐ Industrial ☐ Residential ☐ Critical Mufflers ☐ Manifold and turbocharger guards ☐ Elbows and flange kits
Fuel	• Integral narrow single wall fuel tank base • Primary fuel filter with integral water separator • Secondary fuel filters • Fuel priming pump • Engine fuel transfer pump • Fuel cooler integral with cooling system • Flexible fuel lines	☐ Fuel level switch ☐ Manual fuel transfer pump
Generator	• Class H insulation • Self excited (SE) • Class H temperature rise • IP23 protection • R450 voltage regulator with single phase sensing and load adjustment module	☐ Oversize generators ☐ Permanent magnet excitation (PMG) ☐ Internal excited (IE) ☐ Cat digital voltage regulator (Cat DVR) with kVAR/PF ☐ Anti-condensation space heaters ☐ Coastal Insulation Protection (CIP) ☐ Reactive droop ☐ Three phase sensing
Power Termination	• Power Center houses EMCP controller and power/control terminations (rear mounted) • Circuit breaker, IEC compliant, 3-4 pole (100% Rated) • Segregated low voltage wiring termination panel • IP22 protection • Bottom cable entry	☐ C.B. Shunt trips ☐ C.B. Auxiliary contacts
Governor	• ADEM™A4	
Control Panel	• EMCP 4.1 (Rear-mounted in Power Center) • Emergency stop pushbutton • AC Voltmeter, Ammeter & Frequency • Engine Speed (rev/min) • Lube Oil pressure	☐ EMCP 4.2 ☐ Local annunciator module (NFPA 99/110) ☐ Remote annunciator module (NFPA 99/110) ☐ Digital I/O module ☐ Speed adjustment ☐ Voltage adjustment
Lube	• Lubricating oil • Oil drain line with valves • Oil filter and dipstick • Fumes disposal • Oil cooler	☐ Oil temperature sensor ☐ Manual sump pump
Mounting	• Integral Narrow 8hr tank base • Linear vibration isolation	☐ Narrow skid base ☐ Integral Dual Wall 8hr tank base* *Available only with enclosed units
Starting/Charging	• 24 volt starting motor • 24 volt, 45 amp charging alternator • Batteries with rack and cables	☐ Jacket water heater ☐ Battery disconnect switch ☐ Battery charger – 5 amp
General	• Paint – Caterpillar Yellow except rails and radiators gloss black (Powder Coated) • Flywheel housing – SAE No.1/2	☐ EU Certificate of Conformance ☐ Sound attenuated protective enclosure with integral lifting frame ☐ High Ambient enclosure with integral lifting frame

SPECIFICATIONS

STANDARD CAT GENERATOR	
Frame size	LC6114B
Excitation	Self excitation
Pitch	0.6667
Number of poles	4
Number of bearings	Single bearing
Number of leads	12
Insulation	Class H
IP Rating	IP23
Alignment	Pilot Shaft
Overspeed capability (%)	125
Wave form deviation (%)	2
Voltage regulator	Single phase sensing (Optional three phase sensing)
Voltage regulation	+/- 0.5% (steady state)
– Consult your Cat dealer for other available voltages	
CAT DIESEL ENGINE	
C13 ATAAC, I-6 4-stroke water-cooled diesel	
Bore	130.00 mm (5.12 in)
Stroke	157.00 mm (6.18 in)
Displacement	12.50 L (762.80 in ³)
Compression ratio	16.3:1
Aspiration	Air-to-air aftercooled
Fuel system	MEUI
Governor type	ADEM™ A4 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 – 1800 rpm/60 Hz/480 Volts		EM0433	
Low BSFC			
Generator Set Package Performance Genset power rating @ 0.8 pf Genset power rating with fan		400 kVA 320 ekW	
Fuel Consumption 100% load with fan 75% load with fan 50% load with fan		84.1 L/hr 64 L/hr 45.4 L/hr	22.2 gal/hr 16.9 gal/hr 12.0 gal/hr
Cooling System¹ Air Flow Restriction Air Flow (max @ rated speed for radiator arrangement) Engine Coolant Capacity Radiator Capacity Engine Coolant Capacity w/ Rad		0.12 kPa 538 m³/min 14.2 L 31 L 45.2 L	0.48 in. water 18999 cfm 3.8 gal 8.2 gal 11.9 gal
Inlet Air Combustion air inlet flow rate		25.9 m³/min	914.7 cfm
Exhaust System Exhaust stack gas temperature Exhaust gas flow rate Exhaust flange size Exhaust system back pressure		610.9°C 68.9 m³/min 127 mm 10 kPa	1132°F 2433.2 cfm 5 in 40 in. water
Heat Rejection Heat rejection to coolant Heat rejection to exhaust Heat rejection from aftercooler Heat rejection to atmosphere from engine Heat rejection to atmosphere generator		131 kW 306 kW 58.8 kW 30 kW 21.9 kW	7450 Btu/min 17402 Btu/min 3344 Btu/min 1706.1 Btu/min 1245.4 Btu/min
Alternator² Motor starting capability @ 30% voltage dip Frame Temperature rise		880 skVA LC6114B 105°C	189°F
Lubrication System Sump refill with filter		36.0 L	9.5 gal
Emissions (Nominal)³ NO _x CO HC Part matter		3149.7 mg/nm³ 465.2 mg/nm³ 9.3 mg/nm³ 0.0 mg/nm³	

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

²Generator 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.

³Emissions data measurement procedures are consistent with those described in EPA CF40 Part 89, Subpart D & E and ISO8178-1 for measuring HC, CO, PM, NO_x. 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

Applicable Codes and Standards:

IEC60034-1, IEC60034-22, ISO3046, ISO8528, NEMA MG 1-32, NEMA MG 1-33, 2004/108/EC, 2006/42/EC, 2006/95/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	3800.0 mm	149.61 in
Width	1130.6 mm	44.51 in
Height	2156.0 mm	84.88 in

NOTE: For reference only – do not use for installation design. Please contact your local dealer for exact weight and dimensions. (General Dimension Drawing #4242079).

Performance No.: EM0433

www.Cat-ElectricPower.com

Feature Code: C13DE07

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Materials and specifications are subject to change without notice.
The International System of Units (SI) is used in this publication.

Source: European Sourced

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