



Image shown may not reflect actual package.

STANDBY

520 kW 650 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

EU Stage II Emissions Compliant
Suitable for Mobile Applications
in the European Community

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® C18 ATAAC DIESEL ENGINE

- Utilizes ACERT™ Technology
- 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
- Electronic controlled governor

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 3 SERIES 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	• Light Duty Air Filter • Service indicator	☐ Single element air filter ☐ Dual element air filter ☐ Heavy-duty dual element air filter with precleaner ☐ Air inlet shut-off
Cooling	• Radiator package mounted • Coolant level sight gauge • Coolant drain line with valve • Fan and belt guards • Cat® Extended Life Coolant	☐ Radiator duct flange ☐ Low coolant level sensor
Exhaust	• Dry exhaust manifold • Stainless steel exhaust flex fittings with split-cuff • Exhaust flange outlet	☐ Industrial ☐ Residential ☐ Critical Mufflers ☐ Manifold and turbocharger guards ☐ Elbows and through-wall kits
Fuel	• Primary fuel filter with integral water separator • Secondary fuel filters • Fuel priming pump • Fuel cooler • Flexible fuel lines	☐ Integral single wall listed fuel tank base ☐ Manual transfer pump ☐ Fuel level switch
Generator	• Class H insulation • Class H temperature rise • VR6 voltage regulator with 3-phase sensing with load adjustment • IP23 Protection	☐ Oversize generators ☐ Internal excited (IE) ☐ Permanent Magnet (PMG) ☐ Digital voltage regulator (CDVR) with kVAR/PF control ☐ Anti-condensation space heaters ☐ Coastal Insulation Protection (CIP) ☐ Reactive droop
Power Termination	• Power Center houses EMCP controller and power/control terminations (rear mounted) • Circuit breaker, UL listed, 3 pole (80% & 100% Rated) • Circuit breaker, IEC compliant, 3-4 pole (100% Rated) • Segregated low voltage wiring termination panel • IP22 protection • Bottom cable entry	☐ Power Center mounting option (right side) ☐ Multiple circuit breakers ☐ C.B. Shunt trips ☐ C.B. Auxiliary contacts
Governor	• ADEM™ A4	☐ Load Share Module
Control Panels	• EMCP 3.1 (mounted in Power Center) • Speed adjustment • Voltage adjustment • Emergency stop pushbutton	☐ EMCP 3.2 ... ☐ EMCP 3.3 ☐ Right-hand mounted Power Center ☐ Local annunciator module (NFPA 99/110) ☐ Remote annunciator module (NFPA 99/110) ☐ Discrete I/O module
Lube	• Lubricating oil • Oil drain line with valves • Oil filter and dipstick • Fumes disposal • Lube oil level indicator • Oil cooler	☐ Oil temperature sensor ☐ Manual sump pump
Mounting	• Formed steel narrow base frame • Linear vibration isolation-seismic zone 4	☐ Oil skid base ☐ Formed steel wide base frame
Starting/Charging	• 24 volt starting motor • 24 volt, 45 amp charging alternator	☐ Jacket water heater with shut-off valves ☐ Engine block heater ☐ Ether starting aid ☐ Battery disconnect switch ☐ Battery charger(5 or 10 amp) ☐ Oversize batteries ☐ Batteries with rack and cables
General	• Paint - Caterpillar yellow except rails and radiators gloss black • Flywheel housing - SAE No. 0	☐ EU or CE Certificate of Conformance ☐ Weather protective enclosure ☐ Sound attenuated protective enclosure

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SPECIFICATIONS

CAT GENERATOR

Frame size.....LC7024F
Excitation..... Internal Excited
Pitch..... 0.6667
Number of poles..... 4
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..... 125% of rated
Wave form deviation (Line to Line)..... 2%
Paralleling kit droop transformer..... Standard
Voltage Regulator.....Three phase sensing
Voltage Regulation.....Less than +/- 1/2% (steady state)
Less than +/- 1/2% (w/ 3% speed change)
Telephone Influence Factor..... Less than 50
Harmonic distortion..... Less than 5%

CAT ENGINE

C18 ATAAC, I-6, 4-stroke watercooled diesel
Bore - mm..... 145.00 mm (5.71 in)
Stroke - mm..... 183.00 mm (7.2 in)
Displacement - L..... 18.13 L (1106.36 in³)
Compression ratio..... 14.5:1
Aspiration..... Air-to-Air Aftercooled
Fuel system..... Electronic unit injection
Governor type..... Caterpillar ADEM control system

CAT EMCP 3 SERIES CONTROLS

- EMCP 3.1 (Standard)
- EMCP 3.2 / EMCP 3.3 (Option)
- Single location customer connector point
- True RMS metering, 3-phase
- Controls
 - Run / Auto / Stop control
 - Speed Adjust
 - Voltage Adjust
 - Emergency Stop Pushbutton
 - Engine cycle crank
- Digital Indication for:
 - RPM
 - Operating hours
 - Oil Pressure
 - Coolant temperature
 - System DC volts
 - L-L volts, L-N volts, phase amps, Hz
 - ekW, kVA, kVAR, kW-hr, %kW, PF (EMCP 3.2 / 3.3)
- Shutdowns with common indicating light for:
 - Low oil pressure
 - High coolant temperature
 - Low coolant level
 - Overspeed
 - Emergency stop
 - Failure to start (overcrank)
- Programmable protective relaying functions: (EMCP 3.2 & 3.3)
 - Under and over voltage
 - Under and over frequency
 - Overcurrent (time and inverse time)
 - Reverse power (EMCP 3.3)
- MODBUS isolated data link, RS-485 half-duplex (EMCP 3.2 & 3.3)
- Options
 - Vandal door
 - Local annunciator module
 - Remote annunciator module
 - Input / Output module
 - RTD / Thermocouple Modules
 - Monitoring software



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TECHNICAL DATA

Open Generator Set - - 1500 rpm/50 Hz/400 Volts	DM9630	
EU Stage II		
Generator Set Package Performance Genset Power rating @ 0.8 pf Genset Power rating with fan	650 kVA 520 ekW	
Coolant to aftercooler Coolant to aftercooler temp max	49 ° C	120 ° F
Fuel Consumption 100% load with fan 75% load with fan 50% load with fan	134.9 L/hr 102.1 L/hr 70.4 L/hr	35.6 Gal/hr 27.0 Gal/hr 18.6 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 645 m ³ /min 81.8 L 20.8 L 61.0 L	0.48 in. water 22778 cfm 21.6 gal 5.5 gal 16.1 gal
Inlet Air Combustion air inlet flow rate	38.3 m ³ /min	1352.6 cfm
Exhaust System Exhaust stack gas temperature Exhaust gas flow rate Exhaust flange size (internal diameter) Exhaust system backpressure (maximum allowable)	550.1 ° C 111.6 m ³ /min 203 mm 10.0 kPa	1022.2 ° F 3941.1 cfm 8 in 40.2 in. water
Heat Rejection Heat rejection to coolant (total) Heat rejection to exhaust (total) Heat rejection to aftercooler Heat rejection to atmosphere from engine Heat rejection to atmosphere from generator	162 kW 510 kW 113 kW 87 kW 38.5 kW	9213 Btu/min 29004 Btu/min 6426 Btu/min 4948 Btu/min 2189.5 Btu/min
Alternator² Motor starting capability @ 30% voltage dip Frame Temperature Rise	1376 skVA LC7024F 163 ° C	293 ° F
Lube System Sump refill with filter	38.0 L	10.0 gal
Emissions (Nominal)³ NOx mg/nm ³ CO mg/nm ³ HC mg/nm ³ PM mg/nm ³	2079.3 mg/nm ³ 368.4 mg/nm ³ 16.3 mg/nm ³ 21.2 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.

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. Standby power in accordance with ISO8528. Fuel stop power in accordance with ISO3046. Standby ambients shown indicate ambient temperature at 100% load which results in a coolant top tank temperature just below the shutdown temperature.

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.



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DIMENSIONS

Package Dimensions		
Length	3833.5 mm	150.92 in
Width	1536.0 mm	60.47 in
Height	2138.0 mm	84.17 in
Weight	4853 kg	10,699 lb

NOTE: For reference only - do not use for installation design. Please contact your local dealer for exact weight and dimensions. (General Dimension Drawing #3077558).

Performance No.: DM9630

Feature Code: C18DE1V

Gen. Arr. Number: 2476127

Source: European Sourced

January 10 2011

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product identity use



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