



Image shown may not reflect actual package.

## STANDBY

**800 kW 1000 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 Emissions

### DESIGN CRITERIA

- The generator set accepts 100% rated load in one step and meets ISO 8528-5 transient response.

### 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

- Caterpillar® dealers provide extensive post sale support including maintenance and repair agreements
- Caterpillar dealers have over 1,600 dealer branch stores operating in 200 countries
- The Cat® S•O•S<sup>SM</sup> program cost effectively detects internal engine component condition, even the presence of unwanted fluids and combustion by-products

### CAT C32 ATAAC DIESEL ENGINE

- Utilizes ACERT™ Technology
- Reliable, rugged, durable design
- Four-cycle diesel engine combines consistent performance and excellent fuel economy with minimum weight
- Electronic engine control

### CAT GENERATOR

- Designed to match the performance and output characteristics of Caterpillar diesel engines
- Single point access to accessory connections
- 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	<ul style="list-style-type: none"> <li>• Single element canister type air cleaner</li> <li>• Service indicator</li> </ul>	<ul style="list-style-type: none"> <li>• Dual element air cleaners</li> <li>• Air inlet adapters</li> </ul>
Cooling	<ul style="list-style-type: none"> <li>• Radiator with guard (43°C)</li> <li>• Low profile (frontal area)</li> <li>• Low airflow</li> <li>• Coolant drain line with valve</li> <li>• Fan and belt guards</li> <li>• Caterpillar Extended Life Coolant</li> <li>• Coolant level sensors</li> <li>• Radiator duct flange</li> </ul>	<ul style="list-style-type: none"> <li>• Radiator with 27°C ambient capability</li> <li>• Jacket water heater</li> </ul>
Exhaust	<ul style="list-style-type: none"> <li>• Dry exhaust manifold</li> <li>• Flanged faced outlets</li> </ul>	<ul style="list-style-type: none"> <li>• Stainless steel exhaust flex fittings</li> <li>• Elbows, flanges, expanders &amp; Y adapters</li> </ul>
Fuel	<ul style="list-style-type: none"> <li>• Primary fuel filter with water separator</li> <li>• Secondary fuel filter</li> <li>• Fuel priming pump</li> <li>• Flexible fuel lines</li> <li>• Fuel cooler</li> </ul>	
Generators	<ul style="list-style-type: none"> <li>• Class H insulation</li> <li>• Class F temperature (105°C prime/130°C standby)</li> <li>• Winding temperature detectors (select models)</li> <li>• Anti-condensation space heaters</li> </ul>	<ul style="list-style-type: none"> <li>• Oversize &amp; premium generators</li> </ul>
Power Termination	<ul style="list-style-type: none"> <li>• Bus bar (NEMA and IEC mechanical lug holes) -right side standard</li> <li>• Bottom cable entry</li> </ul>	<ul style="list-style-type: none"> <li>• Circuit breakers, UL listed, 3 pole with shunt trip, 100% rated, choice of trip units, manual or electrically operated (low voltage only)</li> <li>• Circuit breakers, IEC compliant, 3 or 4 pole with shunt trip (low voltage only), choice of trip units, manual or electrically operated</li> <li>• Shroud cover for bottom cable entry</li> <li>• Power terminations can be located on the left and/or rear as an option. Also, multiple circuit breakers can be ordered (up to 2)</li> <li>• Top cable entry</li> </ul>
Governor	<ul style="list-style-type: none"> <li>• ADEM™ A4</li> </ul>	<ul style="list-style-type: none"> <li>• Load Share Module</li> </ul>
Control Panels	<ul style="list-style-type: none"> <li>• EMCP 3.1</li> <li>• User Interface panel (UIP) - rear mount</li> <li>• Emergency Stop Push button</li> </ul>	<ul style="list-style-type: none"> <li>• EMCP 3.2 and EMCP 3.3</li> <li>• Right or left mount UIP</li> <li>• Local &amp; remote annunciator modules</li> <li>• Discrete I/O Module</li> <li>• Generator temperature monitoring &amp; protection</li> <li>• Load share module</li> </ul>
Lube	<ul style="list-style-type: none"> <li>• Lubricating oil and filter</li> <li>• Oil drain line with valves</li> <li>• Fumes disposal</li> <li>• Gear type lube oil pump</li> </ul>	<ul style="list-style-type: none"> <li>• Deep sump oil pan</li> </ul>
Mounting	<ul style="list-style-type: none"> <li>• Formed steel welded base</li> <li>• Anti-vibration mounts (shipped loose)</li> </ul>	
Starting/Charging	<ul style="list-style-type: none"> <li>• 24 volt starting motor(s)</li> <li>• Batteries with rack and cables</li> <li>• Battery disconnect</li> </ul>	<ul style="list-style-type: none"> <li>• Battery chargers (10 Amp)</li> <li>• 45 amp charging alternator</li> <li>• Oversize batteries</li> <li>• Ether starting aid</li> </ul>
General	<ul style="list-style-type: none"> <li>• Right-hand service</li> <li>• Paint - Caterpillar Yellow (except rails and radiators that are gloss black)</li> <li>• SAE standard rotation</li> <li>• Flywheel and Flywheel housing - SAE No. 0</li> </ul>	<ul style="list-style-type: none"> <li>• UL 2200</li> <li>• CSA certification</li> <li>• EU Declaration of Incorporation</li> <li>• EEC Declaration of Conformity</li> </ul>

**SPECIFICATIONS**

**CAT GENERATOR**

SR4B Generator

Frame size.....	692
Excitation.....	Permanent Magnet
Pitch.....	0.7143
Number of poles.....	4
Number of bearings.....	2
Number of Leads.....	12
Insulation.....	UL 1446 Recognized Class H with tropicalization and antiabrasion
IP rating.....	Drip Proof IP22
Alignment.....	Close Coupled
Overspeed capability - % of rated.....	180
Wave form.....	003.00
Voltage regulator.....	3 Phase sensing with selectable volts/Hz
Voltage regulation.....	Less than +/- 1/2% (steady state)
	Less than +/- 1% (no load to full load)
Telephone Influence Factor.....	Less than 50
Harmonic distortion.....	Less than 5%

**CAT DIESEL ENGINE**

C32 TA, V-12, 4-stroke watercooled diesel

Bore - mm.....	145.00 mm (5.71 in)
Stroke - mm.....	162.00 mm (6.38 in)
Displacement - L.....	32.10 L (1958.86 in <sup>3</sup> )
Compression ratio.....	15:1
Aspiration.....	TA
Fuel system.....	MEUI
Governor type.....	ADEM™ A4

**CAT EMCP 3 SERIES CONTROLS**

- 12-24 Volt (nominal) DC Control
- Run/Auto/Stop control
- Display Size 24 x 95 mm
- Display Size 33 x 132 (pixels)
- Display available in any of 26 languages with text translation capability
- Temperature operating range -40C to 70C (display to -20C)
- Designed for mounting on generator set package (vibration tested to 4.3G sinusoidal and 15G shock)
- 3-phase, true RMS metering
- Generator metering accuracy (+/- 2%)
- Metering - L-L volts, L-N volts, phase Amps, Hz
- Digital indications for RPM, operating hours, oil pressure, coolant temperature and system DC voltage
- LED indicators for warning/shutdown alarms (low oil pressure, high coolant temperature, low coolant, over-speed, etc)
- Reset all events function
- Voltage adjust when CDVR is on J1939 data-link
- Integrates with Adem engine governor for engine monitoring, alarms and control
- Integrates with Caterpillar Digital Regulator (CDVR) for alarms and control
- Compatible with Caterpillar ET service tool for enhanced serviceability including data capturing from event log, data logging, set point programming and troubleshooting
- Field re-flashable software ensures the customers get the latest updated software
- Programmable switch inputs
- Programmable relay outputs (2A continuous DC)

**TECHNICAL DATA**

Open Generator Set - - 1500 rpm/50 Hz/400 Volts	DM8143	
<b>Low Emissions</b>		
<b>Generator Set Package Performance</b> Genset Power rating @ 0.8 pf Genset Power rating with fan	1000 kVA 800 ekW	
<b>Coolant to aftercooler</b> Coolant to aftercooler temp max	49 ° C	120 ° F
<b>Fuel Consumption</b> 100% load with fan 75% load with fan 50% load with fan	227.9 L/hr 184.3 L/hr 122.6 L/hr	60.2 Gal/hr 48.7 Gal/hr 32.4 Gal/hr
<b>Cooling System<sup>1</sup></b> 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 1037 m <sup>3</sup> /min 190.0 L 55.0 L 135.0 L	0.48 in. water 36621 cfm 50.2 gal 14.5 gal 35.7 gal
<b>Inlet Air</b> Combustion air inlet flow rate	73.2 m <sup>3</sup> /min	2585.0 cfm
<b>Exhaust System</b> Exhaust stack gas temperature Exhaust gas flow rate Exhaust flange size (internal diameter) Exhaust system backpressure (maximum allowable)	489.1 ° C 196.8 m <sup>3</sup> /min 203 mm 10.0 kPa	912.4 ° F 6949.9 cfm 8 in 40.2 in. water
<b>Heat Rejection</b> 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	310 kW 848 kW 218 kW 160 kW 47.5 kW	17630 Btu/min 48226 Btu/min 12398 Btu/min 9099 Btu/min 2701.3 Btu/min
<b>Alternator<sup>2</sup></b> Motor starting capability @ 30% voltage dip Frame Temperature Rise	1694 skVA 692 130 ° C	234 ° F
<b>Lube System</b> Sump refill with filter	68.0 L	18.0 gal
<b>Emissions (Nominal)<sup>3</sup></b> NOx mg/nm <sup>3</sup> CO mg/nm <sup>3</sup> HC mg/nm <sup>3</sup> PM mg/nm <sup>3</sup>	1862.8 mg/nm <sup>3</sup> 106.8 mg/nm <sup>3</sup> 15.0 mg/nm <sup>3</sup> 9.7 mg/nm <sup>3</sup>	

<sup>1</sup> For ambient and altitude capabilities consult your Caterpillar dealer. Air flow restriction (system) is added to existing restriction from factory.

<sup>2</sup> 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.

<sup>3</sup> 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.

## **RATING DEFINITIONS AND CONDITIONS**

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**Meets or Exceeds International Specifications:** AS1359, CSA, IEC60034, ISO 3046, ISO 8528, NEMA MG 1-33, UL508A, 98/37/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 ISO 8528. Fuel stop power in accordance with ISO 3046. 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 ISO 3046 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 Caterpillar representative for details. For information regarding Low Sulfur fuel and Biodiesel capability, please consult your Caterpillar dealer.

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## DIMENSIONS

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Package Dimensions		
Length	4666.9 mm	183.74 in
Width	2044.4 mm	80.49 in
Height	2202.2 mm	86.7 in
Weight	8046 kg	17,738 lb

NOTE: For reference only - do not use for installation design. Please contact your local dealer for exact weight and dimensions. (General Dimension Drawing #2763027).

Performance No.: DM8143

Feature Code: C32DE01

Gen. Arr. Number: 2628092

Source: U.S. Sourced

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