



## STANDBY

**1000 e kW 1250 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

### EMISSIONS STRATEGY

- Low emissions

### UL 2200

- UL 2200 Listed configuration available

### FULL RANGE OF ATTACHMENTS

- Wide range of bolt-on system expansion attachments, factory designed and tested

### WORLDWIDE PRODUCT SUPPORT

- Caterpillar® dealers provide extensive post sale support including maintenance and repair agreements
- Caterpillar dealers fill 99.7% of parts orders within 24 hours
- Caterpillar dealers have over 1,844 dealer branch stores operating in 166 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 3508B TA DIESEL ENGINE

- 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
- UL 2200 Listed packages are available. Certain restrictions may apply. Consult with your Caterpillar dealer.

### CAT SR4B GENERATOR

- Matched to the performance and output characteristics of Caterpillar engines
- Optimum winding pitch for minimum total harmonic distortion and maximum efficiency
- Single point access to accessory connections
- UL 1446 recognized Class H insulation

### CAT EMCP3 CONTROL PANELS

- Controls designed to meet individual customer needs:
- EMCP3 provides the option for full-featured power metering and protective relaying
- UL 508A Listed

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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 &amp; heavy duty air cleaners (with pre-cleaners)</li> <li>• Air inlet adapters &amp; shutoff</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>• Low coolant level &amp; high temperature alarm or shutdown</li> <li>• Radiator duct flange</li> </ul> <p>* Not included with packages without radiators</p>	<ul style="list-style-type: none"> <li>• Radiator with 27°C and 50°C ambient capability</li> <li>• Radiator option for 57°C ambient with treated water</li> <li>• Radiator removal</li> <li>• Heavy duty, harsh environment radiator at 43°C and 50°C</li> <li>• Heat exchanger and expansion tank</li> <li>• Coolant level switch gauge</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>• Mufflers &amp; Silencers</li> <li>• Stainless steel exhaust flex fittings</li> <li>• Elbows, flanges, expanders &amp; Y adapters</li> </ul>
Fuel	<ul style="list-style-type: none"> <li>• Secondary fuel filters</li> <li>• Fuel priming pump</li> <li>• Flexible fuel lines</li> <li>• Fuel cooler*</li> </ul> <p>*Not included with packages without radiators</p>	<ul style="list-style-type: none"> <li>• Water separator</li> <li>• Duplex fuel filter</li> </ul>
Generators	<ul style="list-style-type: none"> <li>• Permanent magnet excited</li> <li>• Class H insulation</li> <li>• Class F temperature (105°C prime/130°C standby)</li> <li>• Winding temperature detectors</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>• Top and bottom cable entry</li> </ul>	<ul style="list-style-type: none"> <li>• Circuit breakers, UL listed, 3 pole with shunt trip, 80% or 100% rated, choice of trip units, manual or electrically operated (low voltage only)</li> <li>• Circuit Breakers, IEC compliant, 3 or 4 pole iwth shunt trip (low voltage only), choice of trip units,manual or electrically operated</li> <li>• Shroud cover for bottom cable entry</li> <li>• Power terminiations can be located on the left and/or rear as an option. Also, multiple circuit breakers can be ordered (up to 3)</li> </ul>
Governor	<ul style="list-style-type: none"> <li>• ADEM™ III</li> </ul>	<ul style="list-style-type: none"> <li>• Load Share Module</li> </ul>
Control Panels	<ul style="list-style-type: none"> <li>• User interface panell (UIP) - rear mount</li> <li>• EMCP3.1 Genset Controller</li> <li>• Voltage and Speed adjust</li> <li>• AC&amp;DC customer wiring area (right side)</li> <li>• CAT digital voltage regulator ( CDVAR) with KVAR/PF control, 3 phase sensing</li> <li>• Reactive droop</li> <li>• Emergency stop push button</li> </ul>	<ul style="list-style-type: none"> <li>• EMCP 3.3</li> <li>• Option for right or left mount UIP</li> <li>• Option for rear or left mount Customer wiring area</li> <li>• Local and remote annunciator modules</li> <li>• Load share modules</li> <li>• Discrete I/O Module</li> <li>• Generator temperature monitoring &amp; portection</li> </ul>
Lube	<ul style="list-style-type: none"> <li>• Lubricating oil and filter</li> <li>• Oil drain valve</li> <li>• Fumes disposal</li> <li>• Gear type lube oil pump</li> </ul>	<ul style="list-style-type: none"> <li>• Oil level regulator</li> <li>• Deep sump oil pan</li> <li>• Electric &amp; air prelube pumps</li> <li>• Manual prelube with sump pump</li> <li>• Duplex oil filter</li> </ul>
Mounting	<ul style="list-style-type: none"> <li>• Structural steel tube</li> <li>• Anti-vibration mounts (shipped loose)</li> </ul>	<ul style="list-style-type: none"> <li>• Isolator removal</li> <li>• Spring-type isolator, zone 4</li> </ul>
Starting/Charging	<ul style="list-style-type: none"> <li>• 24 volt starting motor(s)</li> <li>• 45 amp charging alternator</li> <li>• Batteries with rack and cables</li> <li>• Battery disconnect switch</li> </ul>	<ul style="list-style-type: none"> <li>• Battery chargers (10 Amp)</li> <li>• Oversize batteries</li> <li>• Ether starting aids</li> <li>• Heavy duty starting motors</li> <li>• Barring device (manual)</li> <li>• Air starting motor with control &amp; silencer</li> </ul>
Note	<p>Standard and optional equipment may vary for UL 2200 Listed Packages. UL 2200 Listed packages may have oversized generators with a different temperature rise and motor starting characteristics.</p>	

## SPECIFICATIONS

### CAT GENERATOR

SR4B Generator

Frame size.....	692
Excitation.....	Permanent Magnet
Pitch.....	0.7143
Number of poles.....	4
Number of bearings.....	002
Insulation.....	UL 1446 Recognized Class H with tropicalization and antiabrasion
IP rating.....	Drip Proof IP22
Alignment.....	Closed Coupled
Overspeed capability - % of rated.....	150
Wave form.....	003.00
Paralleling kit/Droop transformer.....	Standard
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

3508B TA, 4-stroke-cycle watercooled diesel

Bore - mm.....	170.00 mm (6.69 in)
Stroke - mm.....	190.00 mm (7.48 in)
Displacement - L.....	34.53 L (2107.15 in <sup>3</sup> )
Compression ratio.....	14.0:1
Aspiration.....	TA
Fuel system.....	Electronic unit injection

### CAT CONTROL PANELS

### CAT EMCP3 CONTROLS

- EMCP 3.1 (Standard)  
EMCP 3.3 (optional)
- Single location for customer connector
  - IP 23 enclosure
  - 24 Volt DC Control
  - UL/CSA/CE
  - Electronically dead front
  - Lockable hinged door
  - Run/Auto/Stop control
  - True RMS metering, 3-phase
  - Voltage Adjust (Optional on 3.1)
  - Digital indications for:
    - RPM
    - Operating hours
    - Oil pressure
    - Coolant temperature
    - System DC volts
    - L-L volts, L-N volts, phase amps, Hz
    - kW, kVA, kVAR, kW-hr, %kW, PF
  - Shutdowns with indicating lights for:
    - Low oil pressure
    - High coolant temperature
    - Overspeed
    - Emergency stop
    - Failure to start (overcrank)
  - Programmable protective relaying functions:
    - Under and over voltage
    - Under and over frequency
    - Reverse power
    - Overcurrent
- MODBUS isolated data link (RS-485 half-duplex) supports serial communication at data rate up to 115.2 kbaud (\*)

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## TECHNICAL DATA

Open Generator Set - - 1800 rpm/60 Hz/480 Volts	DM6702	
<b>Package Performance</b> Genset Power rating with fan Genset Power rating @ 0.8 pf	1000 kW 1250 kVA	
<b>Low Emissions</b> Coolant to aftercooler temp max	30 ° C	86 ° F
<b>Fuel Consumption</b> 100% load with fan 75% load with fan 50% load with fan	279.8 L/hr 211.6 L/hr 145.8 L/hr	73.9 Gal/hr 55.9 Gal/hr 38.5 Gal/hr
<b>Cooling System</b> Air flow restriction (system) Engine coolant capacity Radiator coolant capacity Engine Coolant capacity with radiator/exp. tank	0.12 kPa 102.7 L 223.3 L 326.0 L	0.48 in. water 27.1 gal 59.0 gal 86.1 gal
<b>Inlet Air</b> Combustion air inlet flow rate	92.4 m <sup>3</sup> /min	3263.1 cfm
<b>Exhaust System</b> Combustion air inlet flow rate Exhaust stack gas temperature Exhaust gas flow rate Exhaust flange size (internal diameter) Exhaust system backpressure (maximum allowable)	92.4 m <sup>3</sup> /min 408.2 ° C 222.3 m <sup>3</sup> /min 203.2 mm 6.7 kPa	3263.1 cfm 766.8 ° F 7850.5 cfm 8.0 in 26.9 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	454 kW 939 kW 353 kW 115 kW 56.0 kW	25819 Btu/min 53401 Btu/min 20075 Btu/min 6540 Btu/min 3184.7 Btu/min
<b>Alternator</b> Motor starting capability @ 30% voltage dip Frame Temperature Rise	1990 skVA 692 130 ° C	266 ° F
<b>Lube System</b> Sump refill with filter	219.6 L	58.0 gal
<b>Emissions (Nominal)</b> NOx g/hp-hr CO g/hp-hr HC g/hp-hr PM g/hp-hr	4.74 g/hp-hr 0.31 g/hp-hr 0.31 g/hp-hr 0.075 g/hp-hr	

Ambient capability at 300m (984 ft) above sea level. For ambient capability at other altitudes, consult your Caterpillar dealer.

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.

Emissions data measurements are consistent with those described in EPA CFR 40 Part 89, Subpart D & E and ISO8178-1 for measuring HC, CO, PM, NOx. This engine's exhaust emissions are in compliance with the US EPA and California nonroad regulations as identified above. 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.

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## RATING DEFINITIONS AND CONDITIONS

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**Meets or Exceeds International Specifications:** ABGSM TM3, AS1359, AS2789, BS4999, BS5000, BS5514, DIN6271, DIN6280, EGSA101P, IEC34/1, ISO3046/1, ISO8528, JEM1359, NEMA MG 1-22, VDE0530, 89/392/EEC, 89/336/EEC

**Standby** - Output available with varying load for the duration of the interruption of the normal source power. Standby power in accordance with ISO8528. Fuel stop power in accordance with ISO3046/1, AS2789, DIN6271, and BS5514. Standby ambients shown indicate ambient temperature at 100 percent load which results in a coolant top tank temperature just below the shutdown temperature.

**Ratings** are based on SAE J1995 standard conditions. These ratings also apply at ISO3046/1, DIN6271, and BS5514 standard conditions.

**Fuel Rates** are based on fuel oil of 35° API (16° C or 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. Consult your Caterpillar representative for details.

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## DIMENSIONS

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Package Dimensions		
Length	4861.5 mm	191.4 in
Width	2317.8 mm	91.25 in
Height	2545.1 mm	100.2 in
Weight	10 259 kg	22,617 lb

Note: Do not use for installation design.  
See general dimension drawings for detail (Drawing #2001179).

Performance No.: DM6702

Feature Code:: 508DE1K

Source:: U.S. Sourced

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