



Image shown may not reflect actual package.

**PRIME**  
**1000 ekW 1250 kVA**  
**60 Hz 1800 rpm 12 470**  
**Volts**

**Caterpillar is leading the power generation marketplace with Power Solutions engineered to deliver unmatched flexibility, expandability, reliability, and cost-effectiveness.**

## FEATURES

### FUEL STRATEGY

- Low Fuel Consumption

### UL 2200

- UL 2200 Listed configuration available

### FULL RANGE OF ATTACHMENTS

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

### DESIGN CRITERIA

- The generator set accepts rated load in one step

### 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 1,798 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 3512 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 CONTROLS

- Controls designed to meet individual customer needs:
- EMCP 3 provides the option for full-featured power metering and protective relaying
- Segregated low voltage, AC/DC accessory box provides single point access to accessory connections



## GeneratorJoe

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**FACTORY INSTALLED STANDARD & OPTIONAL EQUIPMENT**

<b>System</b>	<b>Standard</b>	<b>Optional</b>
Air Inlet	<ul style="list-style-type: none"> <li>• Single element canister type air cleaner with pre-cleaners (with pre-cleaners)</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 with (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>• Low coolant level</li> <li>• Radiator duct flange</li> <li>• Not included with packages without radiators</li> </ul>	<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 and 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> <li>*Not included with packages without radiators</li> </ul>	<ul style="list-style-type: none"> <li>• Water separator</li> <li>• Duplex fuel filter</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 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 termination can be located on the left and/or rear as an option. Also, multiple circuit breakers can be ordered (up to 3)</li> </ul>
Generator	<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>
Governor	<ul style="list-style-type: none"> <li>• Woodward 2301A isochronous</li> </ul>	<ul style="list-style-type: none"> <li>• Load share governor</li> </ul>
Control Panels	<ul style="list-style-type: none"> <li>• User Interface panel (UIP) - rear mount</li> <li>• EMCP 3.1 Genset controller</li> <li>• Voltage and speed adjust</li> <li>• AC&amp;DC customer wiring area (right side)</li> <li>• CAT digital voltage regulator (CDVR) with KVAR/PF control, 3-phase sensing</li> <li>• Reactive droop</li> <li>• Emergency stop pushbutton</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 &amp; remote annunciator modules</li> <li>• Load share module</li> <li>• Discrete I/O Module</li> <li>• Generator temperature monitoring &amp; protection</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>• 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>• Batteries with rack and cables</li> <li>• Battery disconnect switch</li> </ul>	<ul style="list-style-type: none"> <li>• Battery chargers (10 or 20 Amp)</li> <li>• 45 amp charging alternator</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>	

# PRIME 1000 ekW 1250 kVA

60 Hz 1800 rpm 12 470 Volts



## SPECIFICATIONS

### CAT GENERATOR

SR4B Generator

Frame.....	2730
Excitation.....	Permanent Magnet
Pitch.....	0.6670
Number of poles.....	4
Number of bearings.....	002
Insulation.....	Class H with tropicalization and antiabrasion
IP rating.....	Drip Proof IP22
Alignment.....	Closed Coupled
Overspeed capability - % of rated.....	125
Wave form.....	002.00
Paralleling kit/Droop transformer.....	Standard
Voltage regulator.....	3 Phase sensing with 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

3512 TA, 4-stroke-cycle watercooled diesel

Bore - mm.....	170.00 mm (6.69 in)
Stroke - mm.....	190.00 mm (7.48 in)
Displacement - L.....	51.80 L (3161.03 in <sup>3</sup> )
Compression ratio.....	13.5:1
Aspiration.....	TA
Fuel system.....	Direct unit injection
Governor type.....	Woodward

### CAT EMCP3 CONTROLS

- EMCP 3.1 (Standard)
  - EMCP 3.3 (Optional)
  - Integral to generator terminal box
  - Single location for customer connections
  - IP 23 enclosure
  - 24 Volt DC control
  - UL/CSA/CE
  - Electrically dead front
  - Lockable hinged door (option)
  - 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
    - ekW, kVA, kVAR, kWhr, %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
- 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/12 470 Volts	DM8225	
<b>Package Performance</b> Genset Power rating with fan Genset Power rating @ 0.8 pf	1000 eKW 1250 kVA	
<b>Fuel Consumption</b> 100% load with fan 75% load with fan 50% load with fan	271.6 L/hr 210.3 L/hr 151.1 L/hr	71.7 Gal/hr 55.6 Gal/hr 39.9 Gal/hr
<b>Cooling System<sup>1</sup></b> Ambient air temperature Air flow restriction (system) Air flow (max @ rated speed for radiator arrangement) Engine coolant capacity Radiator coolant capacity Engine Coolant capacity with radiator/exp. tank	44 ° C 0.12 kPa 1687 m <sup>3</sup> /min 156.8 L 13.0 L 169.8 L	111 ° F 0.48 in. water 59576 cfm 41.4 gal 3.4 gal 44.9 gal
<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)	93.2 m <sup>3</sup> /min 457.5 ° C 238.1 m <sup>3</sup> /min 203.2 mm 6.7 kPa	3291.3 cfm 855.5 ° F 8408.4 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	647 kW 1038 kW 139 kW 118 kW 58.2 kW	36795 Btu/min 59031 Btu/min 7905 Btu/min 6711 Btu/min 3309.8 Btu/min
<b>Alternator<sup>2</sup></b> Motor starting capability @ 30% voltage dip Frame Temperature Rise	2788 skVA 2730 80 ° C	176 ° F
<b>Lube System</b> Sump refill with filter	310.4 L	82.0 gal

<sup>1</sup> Ambient capability at 300 m (984 ft) above sea level. For ambient capability at other altitudes, consult your Caterpillar dealer.

<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.



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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

**Prime** - Output available with varying load for an unlimited time. Prime power in accordance with ISO8528. 10% overload power in accordance with ISO3046/1, AS2789, DIN6271, and BS5514 available on request. Prime power ambients shown indicate ambient at 100 percent load which results in a coolant top tank temperature just below the alarm 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	5780.9 mm	227.59 in
Width	2073.1 mm	81.62 in
Height	2331.6 mm	91.8 in
Weight	14 415 kg	31,780 lb

Note: Do not use for installation design.  
See general dimension drawings for detail (Drawing #2748719).



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Performance No.: DM8225

Feature Code:: 512DE5J

Source:: U.S. Sourced

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