



Image shown may not reflect actual package.

STANDBY

**1000 e kW 1250 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 STRATEGY

- Low Fuel Consumption

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•SSM 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

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

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FACTORY INSTALLED STANDARD & OPTIONAL EQUIPMENT

System	Standard	Optional
Air Inlet	<ul style="list-style-type: none"> • Single element canister type air cleaner with pre-cleaners (with pre-cleaners) • Service indicator 	<ul style="list-style-type: none"> • Dual element & heavy duty air cleaners (with pre-cleaners) • Air inlet adapters & shutoff
Cooling	<ul style="list-style-type: none"> • Radiator with guard (43°C) • Coolant drain line with valve • Fan and belt guards • Caterpillar Extended Life Coolant* • Coolant level sensors *Not included with packages without radiators 	<ul style="list-style-type: none"> • Radiator with 50°C ambient capability • Radiator removal • Heat exchanger and expansion tank • Radiator duct flange • Coolant level switch gauge • Jacket water heater
Exhaust	<ul style="list-style-type: none"> • Dry exhaust manifold • Flanged faced outlets 	<ul style="list-style-type: none"> • Mufflers and Silencers • Stainless steel exhaust flex fittings • Elbows, flanges, expanders & Y adapters
Fuel	<ul style="list-style-type: none"> • Secondary fuel filters • Fuel priming pump • Flexible fuel lines • Fuel cooler* *Not included with packages without radiators 	<ul style="list-style-type: none"> • Water separator • Duplex fuel filter
Power Termination	<ul style="list-style-type: none"> • Bus bar (NEMA and IEC mechanical lug holes) - right side standard • Top and bottom cable entry 	<ul style="list-style-type: none"> • Circuit breakers, UL listed, 3 pole with shunt trip, 80% or 100% rated, choice of trip units, manual or electrically operated (low voltage only) • Circuit breakers, IEC compliant, 3 or 4 pole with shunt trip (low voltage only), choice of trip units, manual or electrically operated • Shroud cover for bottom cable entry • Power termination can be located on the left and/or rear as an option. Also, multiple circuit breakers can be ordered (up to 3)
Generator	<ul style="list-style-type: none"> • Permanent magnet excited • Class H insulation • Class F temperature (105°C prime/130°C standby) • Winding temperature detectors • Anti-condensation space heaters 	<ul style="list-style-type: none"> • Oversize & premium generators
Governor	<ul style="list-style-type: none"> • Woodward 2301A isochronous 	<ul style="list-style-type: none"> • Load share governor
Control Panels	<ul style="list-style-type: none"> • User Interface panel (UIP) - rear mount • EMCP 3.1 Genset controller • Voltage and speed adjust • AC&DC customer wiring area (right side) • CAT digital voltage regulator (CDVR) with KVAR/PF control, 3-phase sensing • Reactive droop • Emergency stop pushbutton 	<ul style="list-style-type: none"> • EMCP 3.3 • Option for right or left mount UIP • Option for rear or left mount Customer wiring area • Local & remote annunciator modules • Load share module • Discrete I/O Module • Generator temperature monitoring & protection
Lube	<ul style="list-style-type: none"> • Lubricating oil and filter • Oil drain line with valves • Fumes disposal • Gear type lube oil pump 	<ul style="list-style-type: none"> • Oil level regulator • Deep sump oil pan • Electric & air prelube pumps • Manual prelube with sump pump • Duplex oil filter
Mounting	<ul style="list-style-type: none"> • Structural steel tube • Anti-vibration mounts (shipped loose) 	<ul style="list-style-type: none"> • Isolator removal • Spring-type isolator, zone 4
Starting/Charging	<ul style="list-style-type: none"> • 24 volt starting motor(s) • Batteries with rack and cables • Battery disconnect switch 	<ul style="list-style-type: none"> • Battery chargers (10 or 20 Amp) • 45 amp charging alternator • Oversize batteries • Ether starting aids • Heavy duty starting motors • Barring device (manual) • Air starting motor with control & silencer
Note	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.	

SPECIFICATIONS

CAT GENERATOR

SR4B Generator

Frame.....	695
Excitation.....	Permanent Magnet
Pitch.....	0.7333
Number of poles.....	4
Number of bearings.....	Single Bearing
Insulation.....	UL 1446 Recognized Class H with tropicalization and antiabrasion
IP rating.....	Drip Proof IP22
Alignment.....	Pilot Shaft
Overspeed capability - % of rated.....	180
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

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 ³)
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 - - 1500 rpm/50 Hz/400 Volts	DM8218	
Low Fuel Consumption		
Generator Set Package Performance Genset Power rating @ 0.8 pf Genset Power rating with fan	1250 kVA 1000 kW	
Coolant to aftercooler Coolant to aftercooler temp max	82 ° C	180 ° F
Fuel Consumption 100% load with fan 75% load with fan 50% load with fan	259.8 L/hr 199.9 L/hr 138.8 L/hr	68.6 Gal/hr 52.8 Gal/hr 36.7 Gal/hr
Cooling System¹ Ambient air temperature 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	56 ° C 0.12 kPa 1558 m ³ /min 286.8 L 156.8 L 130.0 L	133 ° F 0.48 in. water 55020 cfm 75.8 gal 41.4 gal 34.3 gal
Exhaust System Exhaust stack gas temperature Exhaust gas flow rate Exhaust flange size (internal diameter) Exhaust system backpressure (maximum allowable)	447.7 ° C 227.7 m ³ /min 203.2 mm 6.7 kPa	837.9 ° F 8041.2 cfm 8.0 in 26.9 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	604 kW 995 kW 152 kW 114 kW 51.5 kW	34349 Btu/min 56586 Btu/min 8644 Btu/min 6483 Btu/min 2928.8 Btu/min
Alternator² Motor starting capability @ 30% voltage dip Frame Temperature Rise	2507 skVA 695 130 ° C	266 ° F
Lube System Sump refill with filter	310.4 L	82.0 gal
Emissions (Nominal)³ NOx mg/nm ³ CO mg/nm ³ HC mg/nm ³ PM mg/nm ³	mg/nm ³ mg/nm ³ mg/nm ³ mg/nm ³	

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

² 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.

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: 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

Package Dimensions		
Length	5127.4 mm	201.87 in
Width	2085.0 mm	82.09 in
Height	2331.6 mm	91.8 in
Weight	12 279 kg	27,071 lb

Note: Do not use for installation design.
See general dimension drawings for detail (Drawing #2748715).

Performance No.: DM8218

Feature Code:: 512DE4K

Source:: U.S. Sourced

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