

DIESEL GENERATOR SET

CATERPILLAR®



Image shown may not reflect actual package.

STANDBY

**1500 e kW 1875 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

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

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 Scheduled Oil Sampling program cost effectively detects internal engine component condition, even the presence of unwanted fluids and combustion by-products

DESIGN CRITERIA

- The generator set accepts rated load in one step

CAT 3512B 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:
- 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 • 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) • Low Profile (frontal area) • Low Airflow • Fan and belt guards • Radiator duct flange • Coolant drain line with valve • Fan and belt guards • Caterpillar Extended Life Coolant* *Not included with packages without radiators 	<ul style="list-style-type: none"> • Radiator with 27°C 50°C ambient capability • Radiator option for 57°C ambient with treated water • Radiator removal • Heat exchanger and expansion tank • Heavy duty, harsh environment radiator at 43°C and 50°C • 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
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 (select models) • Anti-condensation space heaters 	<ul style="list-style-type: none"> • Oversize & premium generators
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 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 terminations can be located on the left and/or rear as an option. Also, multiple circuit breakers can be ordered (up to 3)
Governor	<ul style="list-style-type: none"> • ADEM™ III 	<ul style="list-style-type: none"> • Load share module
Control Panel	<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 DVAR/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"> • 330 mm (13 in) structural steel rails • Spring-type, anti-vibration mounts (shipped loose) 	
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 & 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 size..... 697
 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..... 150
 Wave form..... 003.00
 Paralleling kit/Droop transformer..... Standard
 Voltage regulator.3 Phase sensing with selectible 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

3512B 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 in³)
 Compression ratio..... 13.0:1
 Aspiration..... TA
 Fuel system..... Electronic unit injection

CAT EMCP3 CONTROLS

- EMCP 3.1 (standard)
- EMCP 3.3 (optional)
- Integral to generator terminal box
- IP 23 enclosure
- UL/CSA/CE
- Electronically dead front
- Lockable hinged door (optional)
- Run/Auto/Stop/Control
- Voltage Adjust (Optional on 3.1)
- True RMS metering, 3-phase
- Digital indications for:
 - RPM
 - Operating hours
 - Oil pressure
 - Coolant temperature
 - System DC volts
 - AC volts, phase amps, Hz
 - L-L volts, L-N volts, Phase amps, Hz
 - ekW, kVA, kVAR, kWhr, %kW, PF(*)
- Shutdowns with indicating lights (with optional Annunciator)
 - Low oil pressure
 - High coolant temperature
 - Overspeed
 - Emergency stop
 - Failure to start (over crank)
- 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 1115.2 kbaud (*)



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TECHNICAL DATA

Open Generator Set - - 1800 rpm/60 Hz/480 Volts	DM8202	
Package Performance Genset Power rating with fan Genset Power rating @ 0.8 pf	1500 ekW 1875 kVA	
Low Fuel Consumption Coolant to aftercooler temp max	90 ° C	194 ° F
Fuel Consumption 100% load with fan 75% load with fan 50% load with fan	411.2 L/hr 303.6 L/hr 208.7 L/hr	108.6 Gal/hr 80.2 Gal/hr 55.1 Gal/hr
Cooling System¹ 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	27 ° C 0.12 kPa 1331 m ³ /min 156.8 L 0.0 L 156.8 L	81 ° F 0.48 in. water 47004 cfm 41.4 gal 0.0 gal 41.4 gal
Exhaust System Combustion air inlet flow rate Exhaust stack gas temperature Exhaust gas flow rate Exhaust flange size (internal diameter) Exhaust system backpressure (maximum allowable)	125.7 m ³ /min 503.7 ° C 344.8 m ³ /min 203.2 mm 6.7 kPa	4439.1 cfm 938.7 ° F 12176.5 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	668 kW 1595 kW 351 kW 157 kW 64.1 kW	37989 Btu/min 90707 Btu/min 19961 Btu/min 8929 Btu/min 3645.4 Btu/min
Alternator² Motor starting capability @ 30% voltage dip Frame Temperature Rise	2670 skVA 697 130 ° C	266 ° F
Lube System Sump refill with filter	310.4 L	82.0 gal

¹ Ambient capability at 300 m (984ft) 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 degree C ambient per NEMA MG1-32.



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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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STANDBY 1500 kW 1875 kVA

60 Hz 1800 rpm 480 Volts



DIMENSIONS

Package Dimensions		
Length	5140.7 mm	202.39 in
Width	2286.0 mm	90 in
Height	2331.8 mm	91.8 in
Weight	13 354 kg	29,440 lb

Note: Do not use for installation design.
See general dimension drawings for detail (Drawing #2748716).



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Performance No.: DM8202

Feature Code:: 512DE4V

Source:: U.S. Sourced

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