



Image shown may not reflect actual package.

STANDBY

**1600 e kW 2000 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

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 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

ENCLOSURES (optional)

- Weather protective and sound attenuated

CAT 3516 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 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 • Coolant drain line with valve • Fan and belt guards • Caterpillar® Extended Life Coolant* • Coolant level sensors • Radiator duct flange <p>*Not included with packages without radiators</p>	<ul style="list-style-type: none"> • Radiator with 27°C and 50°C ambient capability • Radiator option for 57 C ambient with treated water • Radiator removal • Heavy duty, harsh environment radiator at 43°C and 50°C • Heat exchanger and expansion tank • 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 & 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* <p>*Not included with packages without radiators</p>	<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 • 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 with shunt trip, 80% or 100% rated, choice of trip units, manual or electricity 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"> • Woodward 	
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 (rightside) • 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 rear 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 rails • anti-vibration mounts (shipped loose) 	<ul style="list-style-type: none"> • Isolator removal • spring-type, 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& 20 Amp) • 45 amp charging alternator • Oversize batteries • Ether starting aids • Heavy duty starting motors • Barring device (manual) • Air starting motor with control & silencer

SPECIFICATIONS

CAT GENERATOR

SR4B Generator
 Frame size..... 825
 Excitation..... Permanent Magnet
 Pitch..... 0.6667
 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

3516 TA, V-16, 4-stroke-cycle watercooled diesel
 Bore - mm..... 170.00 mm (6.69 in)
 Stroke - mm..... 190.00 mm (7.48 in)
 Displacement - L..... 69.00 L (4210.64 in³)
 Compression ratio..... 13.5:1
 Aspiration..... TA
 Fuel system..... Electronic unit injection
 Governor type..... Woodward

CAT EMCP3 CONTROL PANELS

- 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
- 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 and coolant temperature
 - Coolant temperature and system DC volts
 - System DC volts
 - AC voltage, phase amps, Hz
 - 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
 - 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 - - 1500 rpm/50 Hz/400 Volts	DM7961	
Package Performance Genset Power rating @ 0.8 pf Genset Power rating with fan	2000 kVA 1600 kW	
Fuel Consumption 100% load with fan 75% load with fan 50% load with fan	420.9 L/hr 317.4 L/hr 225.9 L/hr	111.2 Gal/hr 83.8 Gal/hr 59.7 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	38 ° C 0.12 kPa 2200 m ³ /min 233.0 L 16.5 L 249.5 L	100 ° F 0.48 in. water 77692 cfm 61.6 gal 4.4 gal 65.9 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)	125.0 m ³ /min 491.1 ° C 334.6 m ³ /min 203.2 mm 6.7 kPa	4414.3 cfm 916.0 ° F 11816.3 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	1055 kW 1534 kW 237 kW 167 kW 63.2 kW	59998 Btu/min 87238 Btu/min 13478 Btu/min 9497 Btu/min 3594.2 Btu/min
Alternator² Motor starting capability @ 30% voltage dip Frame Temperature Rise	3927 skVA 825 130 ° C	266 ° F
Lube System Sump refill with filter	401.3 L	106.0 gal
Emissions (Nominal)³ NOx mg/nm ³ CO mg/nm ³ HC mg/nm ³ PM mg/nm ³	6731.4 mg/nm ³ 354.8 mg/nm ³ 103.8 mg/nm ³ 34.1 mg/nm ³	

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

³ 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

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	6069.1 mm	238.94 in
Width	2587.6 mm	101.87 in
Height	3015.1 mm	118.7 in
Weight	16 125 kg	35,549 lb

Note: Do not use for installation design.
See general dimension drawings for detail (Drawing #2748724).

Performance No.: DM7961

Feature Code:: 516DE3M

Source:: U.S. Sourced

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