



PRIME

**1020 e kW 1275 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/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

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 1,844 dealer branch stores operating in 166 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
- 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"> • 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) • Low profile with (frontal area) • Low Airflow • Coolant drain line with valve • Fan and belt guards • Caterpillar Extended Life Coolant • Low coolant level • Radiator duct flange • Not included with packages without radiators 	<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 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	<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>	

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SPECIFICATIONS

CAT GENERATOR

SR4B Generator

Frame.....	696
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 CONTROL PANELS

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	DM6693	
Package Performance Genset Power rating @ 0.8 pf Genset Power rating with fan	1275 kVA 1020 ekW	
Fuel Consumption 100% load with fan 75% load with fan 50% load with fan	264.6 L/hr 203.2 L/hr 140.8 L/hr	69.9 Gal/hr 53.7 Gal/hr 37.2 Gal/hr
Cooling System 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 1246 m ³ /min 156.8 L 223.3 L 380.1 L	111 ° F 0.48 in. water 44002 cfm 41.4 gal 59.0 gal 100.4 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)	92.0 m ³ /min 449.2 ° C 231.8 m ³ /min 203.2 mm 6.7 kPa	3249.0 cfm 840.6 ° F 8185.9 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	616 kW 1016 kW 159 kW 115 kW 46.9 kW	35032 Btu/min 57780 Btu/min 9042 Btu/min 6540 Btu/min 2667.2 Btu/min
Alternator Motor starting capability @ 30% voltage dip Frame Temperature Rise	2407 skVA 696 105 ° C	221 ° F
Lube System Sump refill with filter	310.4 L	82.0 gal

Ambient capability at 300 m (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.

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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

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

Package Dimensions		
Length	5171.2 mm	203.59 in
Width	2317.8 mm	91.25 in
Height	2545.1 mm	100.2 in
Weight	12 419 kg	27,379 lb

Note: Do not use for installation design.
See general dimension drawings for
detail (Drawing #2001174).

Performance No.: DM6693

Feature Code:: 512DE2B

Source:: U.S. Sourced

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Materials and specifications are subject to change without notice.
The International System of Units (SI) is used in this publication.