



Image shown may not reflect actual package.

STANDBY

1800 ekW 2250 kVA
50 Hz 1500 rpm 11 000
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 Fuel consumption

DESIGN CRITERIA

- The generator set accepts 100% rated load in one step per NFPA 110 and meets ISO 8528-5 transient response.

FULL RANGE OF ATTACHMENTS

- Wide range of bolt-on system expansion attachments, factory designed and tested
- Flexible packaging options for easy and cost effective installation

SINGLE-SOURCE SUPPLIER

- Fully prototype tested with certified torsional vibration analysis available

WORLDWIDE PRODUCT SUPPORT

- Cat dealers provide extensive post sale support including maintenance and repair agreements
- Cat dealers have over 1,800 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 3516B 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 HV GENERATOR

- Matched to the performance and output characteristics of Cat engines
- Single point access to accessory connections
- UL 1446 Recognized Class F insulation

CAT EMCP 3 SERIES CONTROL PANELS

- Simple user friendly interface and navigation
- Scalable system to meet a wide range of customer needs
- Integrated Control System and Communications Gateway

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FACTORY INSTALLED STANDARD & OPTIONAL EQUIPMENT

System	Standard	Optional
Air Inlet	• Single element canister type air cleaner • Service indicator	☐ Dual element & heavy duty air cleaners ☐ Air inlet adapters & shutoff
Cooling	• Radiator with guard • Coolant drain line with valve • Fan and belt guards • Cat® Extended Life Coolant*	☐ Radiator duct flange ☐ Jacket water heater
Exhaust	• Dry exhaust manifold • Flanged faced outlets	☐ Mufflers and Silencers ☐ Stainless steel exhaust flex fittings ☐ Elbows, flanges, expanders & Y adapters
Fuel	• Secondary fuel filters • Fuel priming pump • Flexible fuel lines • Fuel cooler*	☐ Water separator ☐ Duplex fuel filter
Generator	• Class F insulation • Cat digital voltage regulator (CDVR) with kVAR/PF control, 3-phase sensing • Winding temperature detectors • Anti-condensation space heaters	☐ Oversized generators ☐ Cross current compensation transformer ☐ Bearing temperature detectors
Power Termination	• Bus bar (NEMA mechanical lug holes) • Right hand cable entry • Top or bottom cable entry	☐ Left hand cable entry
Governor	• ADEM™ 3	☐ Load share module
Control Panels	• EMCP 3.1 • User Interface panel (UIP) - wall mounted • AC & DC customer wiring area (right side) • Emergency top pushbutton	☐ EMCP 3.2 ... ☐ EMCP 3.3 ☐ Option for right or left mount UIP ☐ Local & remote annunciator modules ☐ Digital I/O Module ☐ Generator temperature monitoring & protection ☐ Remote monitoring software
Lube	• Lubricating oil and filter • Oil drain line with valves • Fumes disposal • Gear type lube oil pump	☐ Oil level regulator ☐ Deep sump oil pan ☐ Electric & air prelube pumps ☐ Manual prelube with sump pump ☐ Duplex oil filter
Mounting	• Rails - Engine / generator / radiator mounting • Rubber anti-vibration mounts (shipped loose)	☐ Isolator removal ☐ Spring-type vibration isolator (shipped loose) ☐ IBC Isolator
Starting/Charging	• 24 volt starting motor(s) • Batteries with rack and cables • Battery disconnect switch	☐ Battery chargers (10 or 20 amp) ☐ 45 amp charging alternator ☐ Oversize batteries ☐ Ether starting aid ☐ Heavy duty starting motors ☐ Barring device (manual) ☐ Air starting motor with control & silencer
General	• Right-hand service • Paint - Caterpillar Yellow except rails and radiators are gloss black • SAE standard rotation • Flywheel and flywheel housing - SAE No. 00	☐ CSA certification ☐ CE Certificate of Conformance ☐ Seismic Certification per Applicable Building Codes: IBC 2000, IBC 2003, IBC 2006, IBC 2009, CBC 2007 * Not included with packages without radiators

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SPECIFICATIONS

CAT GENERATOR

Caterpillar HV Generator

Frame size.....	2760
Excitation.....	Permanent Magnet
Pitch.....	0.6670
Number of poles.....	4
Number of bearings.....	2
Number of leads.....	006
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%
Insulation.....	Class F with tropicalization and antiabrasion

CAT DIESEL ENGINE

3516B 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 in ³)
Compression ratio.....	14.0:1
Aspiration.....	TA
Fuel system.....	Electronic unit injection
Governor type.....	ADEM3

CAT EMCP CONTROL PANEL

- EMCP 3.1 (Standard)
- EMCP 3.2 / EMCP 3.3 (Option)
- Single location customer connector point
- True RMS AC metering, 3-phase
- Controls
 - Run / Auto / Stop control
 - Speed adjust
 - Voltage Adjust
 - Emergency Stop Pushbutton
 - Engine cycle crank
- Digital Indication for:
 - RPM
 - Operating hours
 - Oil pressure
 - Coolant temperature
 - System DC volts
 - L-L volts, L-N volts, Phase amps, Hz
 - kW, kVA, kVAR, kWh, %kW, PF (EMCP 3.2 / 3.3)
- Shutdowns with common indicating light for:
 - Low oil pressure
 - High coolant temperature
 - Low coolant level
 - Overspeed
 - Emergency stop
 - Failure to start (overcrank)
- Programmable protective relaying functions: (EMCP 3.2 & 3.3)
 - Under and over voltage
 - Under and over frequency
 - Overcurrent (time and inverse time)
 - Reverse power (EMCP 3.3)
- MODBUS isolated data link, RS-485 half-duplex (EMCP 3.2 & 3.3)
- Options
 - Vandal door
 - Local annunciator module
 - Remote annunciator module
 - Input / Output module
 - RTD / Thermocouple modules
 - Monitoring software

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TECHNICAL DATA

Open Generator Set - - 1500 rpm/50 Hz/11 000 Volts	DM7936	
Low Fuel Consumption		
Coolant to aftercooler Coolant to aftercooler temp max	90 ° C	194 ° F
Generator Set Package Performance Genset Power rating @ 0.8 pf Genset Power rating with fan	2250 kVA 1800 kW	
Fuel Consumption 100% load with fan 75% load with fan 50% load with fan	457.5 L/hr 345.5 L/hr 240.5 L/hr	120.9 Gal/hr 91.3 Gal/hr 63.5 Gal/hr
Cooling System ¹ Air flow (max @ rated speed for radiator arrangement) Engine Coolant capacity with radiator/exp. tank Engine coolant capacity Radiator coolant capacity	1543 m ³ /min 382.0 L 233.0 L 149.0 L	54491 cfm 100.9 gal 61.6 gal 39.4 gal
Inlet Air Combustion air inlet flow rate	130.5 m ³ /min	4608.6 cfm
Exhaust System Exhaust stack gas temperature Exhaust gas flow rate Exhaust flange size (internal diameter) Exhaust system backpressure (maximum allowable)	523.6 ° C 366.0 m ³ /min 203.2 mm 6.7 kPa	974.5 ° F 12925.2 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	727 kW 1718 kW 319 kW 160 kW 78.9 kW	41344 Btu/min 97702 Btu/min 18141 Btu/min 9099 Btu/min 4487.0 Btu/min
Alternator ² Motor starting capability @ 30% voltage dip Frame Temperature Rise	4326 skVA 2760 130 ° C	234 ° 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	4384.0 mg/nm ³ 273.7 mg/nm ³ 49.0 mg/nm ³ 20.3 mg/nm ³	

¹ For ambient and altitude capabilities consult your Cat dealer. Air flow restriction (system) is added to existing restriction from factory.

² Generator temperature rise is based on a 40° C (104° F) 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: AS1359, CSA, IEC60034-1, ISO3046, ISO8528, NEMA MG 1-22, NEMA MG 1-33, UL508A, 72/23/EEC, 98/37/EC, 2004/108/EC

Standby - Output available with varying load for the duration of the interruption of the normal source power. Average power output is 70% of the standby power rating. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year. Standby power in accordance with ISO8528. Fuel stop power in accordance with ISO3046. Standby ambients shown indicate ambient temperature at 100% load which results in a coolant top tank temperature just below the shutdown temperature.

Ratings are based on SAE J1349 standard conditions. These ratings also apply at ISO3046 standard conditions. **Fuel rates** are based on fuel oil of 35° API [16° C (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, contact your Cat representative for details. For information regarding Low Sulfur fuel and Biodiesel capability, please consult your Cat dealer.

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DIMENSIONS

Package Dimensions		
Length	6335.0 mm	249.41 in
Width	2286.0 mm	90 in
Height	2342.0 mm	92.2 in
Weight	15 128 kg	33,351 lb

NOTE: For reference only - do not use for installation design. Please contact your local dealer for exact weight and dimensions. (General Dimension Drawing #2748730).

Performance No.: DM7936

Feature Code: 516DE4B

Gen. Arr. Number: 2524238

Source: U.S. Sourced

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