



Image shown may not reflect actual package.

## STANDBY 1600 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

#### SINGLE-SOURCE SUPPLIER

- Designed and built at Caterpillar ISO certified facilities
- 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 1,844 dealer branch stores operating in 166 countries
- The Cat Scheduled Oil Sampling (S•O•S<sup>SM</sup>) program cost effectively detects internal engine component condition, even the presence of unwanted fluids and combustion by-products

#### 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
- 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 CONTROL PANELS

- Three levels of controls to meet individual customer needs:
  - EMCP II offers digital monitoring, metering, and protection
  - EMCP II+ offers EMCP II features plus full-featured power metering and protective relaying (optional)
  - Switchgear conversions with easy interface for remote switchgear
- UL 508A Listed

## FACTORY INSTALLED STANDARD & OPTIONAL EQUIPMENT

System	Standard	Optional
Air Inlet	<ul style="list-style-type: none"> <li>• Single element canister type air cleaner</li> <li>• Service indicator</li> </ul>	<ul style="list-style-type: none"> <li>• Dual element &amp; heavy duty air cleaners</li> <li>• Air inlet adapters &amp; shutoff</li> </ul>
Cooling	<ul style="list-style-type: none"> <li>• Radiator with guard (43°C)</li> <li>• Coolant drain line with valve</li> <li>• Fan and belt guards</li> <li>• Caterpillar Extended Life Coolant</li> <li>• Low coolant level &amp; high temperature alarm or shutdown</li> </ul>	<ul style="list-style-type: none"> <li>• Radiator with 50°C ambient capability</li> <li>• Radiator removal</li> <li>• Heat exchanger and expansion tank</li> <li>• Radiator duct flange</li> <li>• Coolant level switch gauge</li> <li>• Jacket water heater</li> </ul>
Exhaust	<ul style="list-style-type: none"> <li>• Stainless steel exhaust flex and ANSI outlet flange</li> </ul>	<ul style="list-style-type: none"> <li>• Mufflers (10, 25, &amp; 35 dba)</li> <li>• Elbow kit and through-wall installation kit</li> </ul>
Fuel	<ul style="list-style-type: none"> <li>• Primary &amp; secondary fuel filters</li> <li>• Fuel priming pump</li> <li>• Flexible fuel lines</li> </ul>	<ul style="list-style-type: none"> <li>• Fuel cooler</li> <li>• Water separator</li> </ul>
Generators	<ul style="list-style-type: none"> <li>• Permanent magnet excited</li> <li>• Class H insulation</li> <li>• Class F temperature (105°C prime/130°C standby)</li> <li>• Reactive droop</li> <li>• Digital Voltage Regulator, 3-phase sensing</li> <li>• Bus bar connections</li> <li>• Winding temperature detectors</li> <li>• Anti-condensation space heaters</li> </ul>	<ul style="list-style-type: none"> <li>• Digital Voltage Regulator with KVAR/PF control</li> <li>• Bearing temperature detectors</li> <li>• Oversize &amp; premium generators</li> <li>• Cable access box</li> <li>• Neutral grounding connection</li> <li>• Circuit breakers, IEC compliant, 3 &amp; 4 pole with shunt trip</li> </ul>
Governing	<ul style="list-style-type: none"> <li>• Woodward 2301A isochronous</li> </ul>	<ul style="list-style-type: none"> <li>• Electronic load sharing</li> </ul>
Control Panels	<ul style="list-style-type: none"> <li>• EMCP II</li> </ul>	<ul style="list-style-type: none"> <li>• EMCP II+</li> <li>• EMCP II+ with Auto-Paralleling</li> <li>• Switchgear conversion</li> <li>• Customer Communication Module</li> <li>• Local alarm &amp; remote annunciator modules</li> </ul>
Lube	<ul style="list-style-type: none"> <li>• Lubricating oil and filter</li> <li>• Oil drain line with valves</li> <li>• Fumes disposal</li> </ul>	<ul style="list-style-type: none"> <li>• Sump pump (manual)</li> <li>• Sump &amp; prelube pump (manual or electric)</li> <li>• Oil level regulator</li> </ul>
Mounting	<ul style="list-style-type: none"> <li>• 330 mm (13 in) structural steel rails</li> <li>• Spring-type, anti-vibration mounts (shipped loose)</li> </ul>	
Starting/Charging	<ul style="list-style-type: none"> <li>• 24 volt starting motor(s)</li> <li>• 45 amp charging alternator</li> <li>• Batteries with rack and cables</li> <li>• Battery disconnect switch</li> </ul>	<ul style="list-style-type: none"> <li>• Battery chargers (5 or 10 Amp)</li> <li>• Oversize batteries</li> <li>• Ether starting aids</li> <li>• Heavy duty starting motors</li> <li>• Barring device (manual)</li> </ul>
General		<ul style="list-style-type: none"> <li>• Crankcase explosion relief valves</li> <li>• Automatic transfer switches (ATS)</li> <li>• EU Certificate of Conformance</li> </ul>

**SPECIFICATIONS****CAT GENERATOR**

## SR4B Generator

Frame size.....	825
Excitation.....	Permanent Magnet
Pitch.....	0.6666
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.....	Less than 5% deviation
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.....	69.06 L (4214.04 cu. in)
Compression ratio.....	13.5:1
Aspiration.....	TA
Fuel system.....	Direct unit injection
Governor type.....	Woodward

**CAT CONTROL PANELS**

- EMCP II
- 24 Volt DC Control
- NEMA 1, IP22 enclosure
- Electronically dead front
- Lockable hinged door
- Generator instruments meet ANSI C-39-1
- Terminal box mounted
- Single location for customer connection
- EC compliant - segregated AC/DC connections
- Panel illuminating lights
- Auto start/stop control
- True RMS metering, 3-phase
- Digital indications for:
  - RPM
  - Operating hours
  - Oil pressure
  - Coolant temperature
  - System DC volts
  - AC voltage, phase amps, Hz
- Shutdowns with indicating lights for:
  - Low oil pressure
  - High coolant temperature
  - Overspeed
  - Emergency stop
  - Failure to start (overcrank)

**TECHNICAL DATA**

Open Generator Set - - 1500 rpm/50 Hz/400 Volts	DM3086	
<b>Package Performance</b> Genset Power rating @ 0.8 pf Genset Power rating with fan	2000 kVA 1600 ekW	
<b>Fuel Consumption</b> 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
<b>Cooling System</b> 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	43 Deg C 0.18 kPa 114 m <sup>3</sup> /min 233.0 L 222.0 L 455.0 L	109 Deg F 0.72 in. water 4026 cfm 61.6 Gal 58.6 Gal 120.2 Gal
<b>Exhaust System</b> Combustion air inlet flow rate Exhaust stack gas temperature Exhaust gas flow rate Exhaust flange size (internal diameter) Exhaust system backpressure (maximum allowable)	125 m <sup>3</sup> /min 491.1 Deg C 334.6 m <sup>3</sup> /min 203.2 mm 6.7 kPa	4414 cfm 916 Deg F 11816.3 cfm 8.0 in 26.9 in. water
<b>Heat Rejection</b> 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 63.58 kW	59998 Btu/min 87238 Btu/min 13478 Btu/min 9497 Btu/min 3615.79 Btu/min
<b>Alternator</b> Motor starting capability @ 30% voltage dip Frame Temperature Rise	3446 skVA 825 130 Deg C	266 Deg F

Ambient capability at 200 m (660 ft) above sea level. For ambient capability at other altitudes, consult your Caterpillar dealer.  
Generator temperature rise is based on a 40° C (104° F) ambient per NEMA MG1-32.

## **RATING DEFINITIONS AND CONDITIONS**

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**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.

**DIMENSIONS**

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<b>Package Dimensions</b>		
<b>Length</b>	<b>6274.7 mm</b>	<b>247.03 in</b>
<b>Width</b>	<b>2092.0 mm</b>	<b>82.36 in</b>
<b>Height</b>	<b>2529.7 mm</b>	<b>99.59 in</b>
<b>Weight</b>	<b>17 249 kg</b>	<b>38,027 lb</b>

Note: Do not use for installation design.  
See general dimension drawings for  
detail (Drawing #1558401).



Performance No.: DM3086

Feature Code:: 516DE04

Source:: European Sourced

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