



Image shown may not reflect actual package.

## PRIME 1200 ekW 1500 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 fuel consumption

#### SINGLE-SOURCE SUPPLIER

- Complete systems designed and built at Caterpillar ISO certified facilities.
- Fully prototype tested with certified torsional vibration analysis available

#### WORLDWIDE PRODUCT SUPPORT

- Worldwide parts availability through the Caterpillar dealer network
- With over 1844 dealer branch stores operating in 166 countries, you're never far from the Caterpillar part you need
- 99.7% of parts orders filled within 24 hours. The best product support record in the industry
- Caterpillar dealer service technicians are trained to service every aspect of your electric power generation system
- Preventive maintenance agreements
- 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® 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 you Caterpillar dealer



#### CAT SR4B GENERATOR

- Designed to match performance and output characteristics of Caterpillar diesel engines
- Optimum winding pitch for minimum total harmonic distortion and maximum efficiency
- Single point access to accessory connections
- UL 1446 recognized Class H insulation system



#### CAT CONTROL PANELS

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

**FACTORY INSTALLED STANDARD & OPTIONAL EQUIPMENT**

System	Standard	Optional
<b>Air Inlet</b>	<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>
<b>Cooling</b>	<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 shut-down</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>
<b>Exhaust</b>	<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>
<b>Fuel</b>	<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>
<b>Generators</b>	<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>
<b>Governing</b>	<ul style="list-style-type: none"> <li>• ADEM II</li> </ul>	<ul style="list-style-type: none"> <li>• Low emissions conversion</li> </ul>
<b>Control Panels</b>	<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>
<b>Lube</b>	<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>
<b>Mounting</b>	<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>	
<b>Starting/Charging</b>	<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>
<b>General</b>		<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	.824
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 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
Stroke - mm	.190.00
Displacement - L	.51.80
Compression ratio	.14.0 TO 1
Aspiration	.TA
Fuel system	.Direct unit injection

#### **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 volts, phase amps, Hz
- Shutdowns with indicating lights for:
  - Low oil pressure
  - High coolant temperature
  - Overspeed
  - Emergency stop
  - Failure to start (overcrank)

**TECHNICAL DATA**

<b>Open Generator Set - — 1500 rpm/50 Hz/400 Volts</b>	<b>PRIME DM3062</b>	
<b>Package Performance</b> Power rating @ 0.8 pf Power rating	1500 kVA 1200 ekW	
<b>Fuel Consumption</b> 100% load with fan 75% load with fan 50% load with fan	318.1 L/hr 238.8 L/hr 169.7 L/hr	84.0 Gal/hr 63.1 Gal/hr 44.8 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	43 Deg C .18 kPa 861 m <sup>3</sup> /min 156.8 L 282.0 L 438.8 L	109 Deg F 0.72 in. water 30,406 cfm 41.4 Gal 74.5 Gal 115.9 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)	95.6 m <sup>3</sup> /min 492.3 Deg C 258.6 m <sup>3</sup> /min 203.2 mm 6.7 kPa	3,376.1 cfm 918 Deg F 9,132.4 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 atmosphere from engine Heat rejection to atmosphere from generator	539 kW 1149 kW 138 kW 37.08 kW	30,653 Btu/min 65,343 Btu/min 7,848 Btu/min 2,108.74 Btu/min
<b>Alternator**</b> Motor starting capability @ 30% voltage dip Frame Temperature Rise	2551 skVA 824 105 Deg C	

\*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 degree C ambient per NEMA MG1-32.

**PRIME 1200 e k W 1500 k V A**  
**50 H z 1500 r p m 400 V o l t s**



## **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.

Package Dimensions		
<b>Length</b>	5689.9 mm	224.01 in
<b>Width</b>	2150.5 mm	84.67 in
<b>Height</b>	2230.3 mm	87.81 in
<b>Weight</b>	15 081 kg	33,248 lb

Note: Do not use for installation design.  
See general dimension drawings  
for detail (Drawing #1558403).



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PL Reference No.: 512DE07

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