



## CONTINUOUS 350 kVA

50 Hz

Caterpillar is leading the power generation marketplace with Power Solutions engineered to deliver unmatched flexibility, expandability, reliability, and cost-effectiveness.

### FEATURES

#### 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

- Worldwide parts availability through the Caterpillar dealer network
- With over 1,200 dealer outlets operating in 166 countries, you're never far from the Caterpillar part you need.
- 99.5% of parts orders filled within 48 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® G3412 TA GAS ENGINE

- Reliable, rugged, durable design
- Field-proven in thousands of applications worldwide
- Low pressure gas



#### CAT SR4B GENERATOR

- Designed to match performance and output characteristics of Caterpillar engines
- Optimum winding pitch for minimum total harmonic distortion and maximum efficiency
- Segregated AC/DC, low voltage accessory box provides single point access to accessory connections



#### CAT CONTROL PANELS

- Two 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

**FACTORY INSTALLED STANDARD & OPTIONAL EQUIPMENT**

System	Standard	Optional
<b>Air Inlet</b>	Single element canister type air cleaner Service indicator	
<b>Cooling</b>	Radiator with guard Coolant drain lines with valves Fan and belt guards Caterpillar Coolant Low coolant level sensors	Jacket water coolant heater with shutoff valves Radiator removal
<b>Exhaust</b>	Stainless steel exhaust flex with weld outlet flange	15 dBA muffler
<b>Fuel</b>	Gas pressure regulator Low pressure fuel system Energize To Run (ETR) gas shutoff valve	
<b>Generator</b>	Self excited Class H insulation Class F temperature rise (105° C continuous/130° C standby) VR6 Voltage Regulator, 3-phase sensing, with reactive droop 2:1 Volts/Hz or 1:1 Volts/Hz Bus bar extension Extension box	Permanent magnet excited Digital Voltage Regulator Digital Voltage Regulator with KVAR/PF control Anti-condensation space heater Oversize & premium generators Circuit breakers, UL, 3 pole with shunt trip Multiple breaker capability
<b>Governor</b>	2301A speed control with EG3P actuator	Electronic load sharing
<b>Ignition</b>	Digital ignition system	
<b>Control Panels</b>	EMCP II	EMCP II+ Customer Communication Module Local alarm & remote annunciator modules
<b>Lube</b>	Lubricating oil and filter Oil drain line with valve Fumes disposal	Manual sump pump
<b>Mounting</b>	Wide base Linear vibration isolators between base and engine-generator	
<b>Starting/Charging</b>	35 amp charging alternator 24 volt starting motor Batteries with rack and cables Battery disconnect switch	Battery chargers, 5 & 10 amp Oversize batteries
<b>General</b>		Automatic Transfer Switches (ATS) Floor standing circuit breakers

**SPECIFICATIONS**

 **CAT SR4B GENERATOR**

Frame..... 592  
 Type ..... Self excited, static regulated, brushless  
 Construction ..... Single bearing, close coupled  
 Three phase ..... 12 lead reconnectable  
 Insulation ..... Class H with tropicalization and antiabrasion  
 IP rating ..... Drip proof 22  
 Alignment..... Pilot shaft  
 Overspeed capability  
     Prototype tested ..... 180%  
     Production tested ..... 150%  
 Wave form..... Less than 5% deviation  
 Paralleling capability..... Standard  
 Voltage regulator ..... 3-phasing sensing with Volts-per-Hertz  
 Voltage regulation ..... Less than ± 1/2% (steady state)  
   Less than ± 1% (no load to full load)  
 Voltage gain ..... Automatic  
 Telephone Influence Factor (TIF)..... Less than 50  
 Harmonic Distortion (THD) ..... Less than 5%

 **CAT ENGINE**


G3412 TA, 4-stroke-cycle, SCAC  
 Bore – mm (in) ..... 137 (5.4)  
 Stroke – mm (in) ..... 152 (6.0)  
 Displacement – L (cu in) ..... 27.0 (1649)  
 Compression ratio ..... 9.7:1  
 Aspiration ..... Turbocharged-Aftercooled  
 Ignition system ..... Digital ignition  
 Governor type ..... Woodward 2301A

 **CAT CONTROL PANEL**

**24 Volt DC Control**  
 NEMA 1, IP22 enclosure  
 Electrically dead front  
 Lockable hinged door  
 Generator instruments meet ANSI C-39-1  
 Terminal box mounted  
 Single location customer connector point

**Consult your Caterpillar dealer for available voltages.**

 **TECHNICAL DATA**

<b>Open Generator Set — 1500 rpm/50 Hz/400 Volts</b>		<b>Continuous DM5449</b>
<b>Package Performance</b>		
Power rating @ 0.8 PF	kVA	350
Power rating	ekW	280
Aftercooler temperature	Deg C	54
<b>Fuel Consumption</b>		
100% load with fan	N•m <sup>3</sup> /hr	97
75% load with fan	N•m <sup>3</sup> /hr	78
50% load with fan	N•m <sup>3</sup> /hr	59
<b>Cooling System</b>		
Ambient air temperature*	Deg C	40
Air flow restriction (system)	kPa	0.12
Air flow (maximum @ rated speed for standard radiator arrangement)	m <sup>3</sup> /min	990
Engine coolant capacity with radiator	L	106
Jacket water outlet temperature	Deg C	99
<b>Exhaust System</b>		
Combustion air inlet flow rate	N•m <sup>3</sup> /min	19
Exhaust gas stack temperature	Deg C	454
Exhaust gas flow rate	N•m <sup>3</sup> /min	20
Exhaust flange size (internal diameter)	mm	203
Exhaust system backpressure (maximum allowable)	kPa	6.7
<b>Heat Rejection</b>		
Low Heat Value (LHV) fuel input	kW	976
Heat rejection to jacket water (includes oil cooler)	kW	360
Total heat rejection to exhaust (LHV to 25° C)	kW	214
Heat rejection to exhaust (LHV to 120° C)	kW	161
Heat rejection to A/C	kW	10
Heat rejection to atmosphere from engine	kW	39
Heat rejection to atmosphere from generator	kW	25
<b>Generator</b>		
Motor starting capability @ 30% voltage dip	kVA	724
Frame		592
Temperature rise	Deg C	105
 <b>Emissions**</b>		
NOx	mg/N•m <sup>3</sup> @ 5% O <sub>2</sub>	10 704
CO	mg/N•m <sup>3</sup> @ 5% O <sub>2</sub>	690
HC (total)	mg/N•m <sup>3</sup> @ 5% O <sub>2</sub>	865
HC (non-methane)	mg/N•m <sup>3</sup> @ 5% O <sub>2</sub>	130
Exhaust O <sub>2</sub> (dry)	%	4.0

\*Ambient capability at 200 m (660 ft) above sea level. For ambient capability at other altitudes, consult your Caterpillar dealer.

\*\*Assumes synchronous driver

\*\*\*Emissions data measurement is consistent with those described in EPA CFR 40 PART 89 SUBPART D and ISO 8178-1 for measuring HC, CO, CO<sub>2</sub> and NOx. Data shown is based on steady state engine operating conditions of 77° F, 28.43 inches HG and fuel having a LHV of 920 BTU per cubic foot at 30.00 inches HG absolute and 32° F. Not to exceed emission data shown is subject to instrumentation, measurement, facility and engine fuel system adjustments.

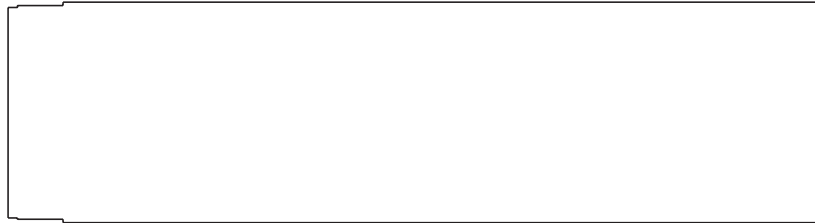
**RATING DEFINITIONS AND CONDITIONS**

**Continuous** — Output available without varying load for an unlimited time.

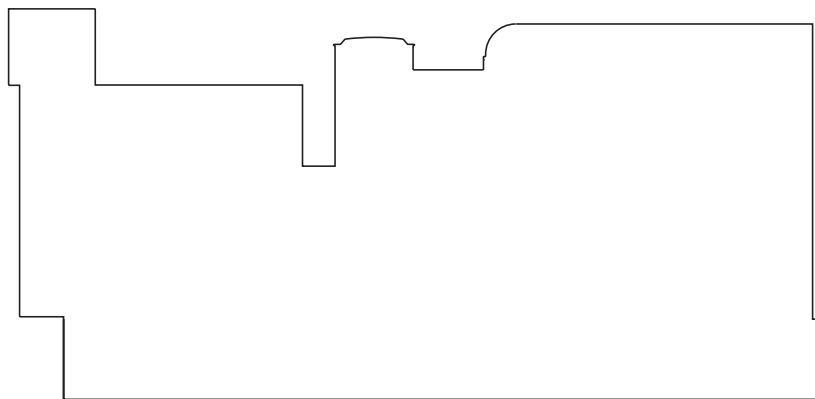
**Ratings** are based on ISO3046/1 standard reference conditions of 25° C (77° F) and 100 kPa (29.61 in Hg).

**Ratings** are based on pipeline natural gas having a LHV (low heat value) of 36.2 mJ/N•m<sup>3</sup> (920 Btu/cu ft). Variations in altitude, temperature, and gas composition from standard conditions or the use of a three way catalyst may require a reduction in engine horsepower.

CONTINUOUS POWER GENERATOR SET PACKAGE — TOP VIEW



CONTINUOUS POWER GENERATOR SET PACKAGE — SIDE VIEW



Package Dimensions		
Length	4543.1 mm	178.86 in
Width	2235.8 mm	88.02 in
Height	2466.4 mm	97.10 in
Shipping Weight	6356 kg	14,000 lb

Note: Do not use for installation design.  
See general dimension drawings  
for detail (Drawing #207-4502).