

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•SSM) program cost effectively detects internal engine component condition, even the presence of unwanted fluids and combustion by-products

STANDBY 450 ekW **CONTINUOUS** 375 ekW

60 Hz

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



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		
Air Inlet	Single element canister type air cleaner Service indicator			
Cooling	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		
Exhaust	Stainless steel exhaust flex with weld outlet flange	15 dBA muffler		
Fuel	Gas pressure regulator Low pressure fuel system Energize To Run (ETR) gas shutoff valve			
Generator	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 termination 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		
Governor	2301A speed control with EG3P actuator	Electronic load sharing		
Ignition	Digital ignition system			
Control Panels	EMCP II	EMCP II+ Customer Communication Module Local alarm & remote annunciator modules		
Lube	Lubricating oil and filter Oil drain line with valve Fumes disposal	Manual sump pump		
Mounting	Wide base Linear vibration isolators between base and engine-generator			
Starting/Charging	35 amp charging alternator 24 volt starting motor Batteries with rack and cables Battery disconnect switch	Battery chargers, 5 & 10 amp Oversize batteries		
General		Automatic Transfer Switches (ATS) Floor standing circuit breakers		

SPECIFICATIONS



CAT SR4B GENERATOR

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Frame
, , ,
ConstructionSingle bearing, close coupled
Three phase
Insulation Class H with tropicalization and antiabrasion
IP rating
AlignmentPilot shaft
Overspeed capability
Prototype tested
Production tested
Wave form Less than 5% deviation
Paralleling capabilityStandard
Voltage regulator 3-phasing sensing with Volts-per-Hertz
Voltage regulation Less than \pm 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)	
Stroke – mm (in)	
Displacement – L (cu in)	27.0 (1649)
Compression ratio	9.7:1
AspirationTur	bocharged-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

Open Generator Set —			Standby		Continuous	
1800 rpm/60 Hz/480 Volts			DM5445		DM5446	
Package Performance Power rating Power rating @ 0.8 PF Aftercooler temperature	ekW		450		375	
	kVA		563		469	
	Deg C Deg F		54 130		54 130	
Fuel Consumption 100% load with fan 75% load with fan 50% load with fan	N•m³/hr	scf/hr	148	5507	120	4472
	N•m³/hr	scf/hr	116	4360	96	3576
	N•m³/hr	scf/hr	86	3200	72	2702
Cooling System Ambient air temperature* Air flow restriction (system) Air flow (maximum @ rated speed for standard radiator arrangement) Engine coolant capacity with radiator Jacket water outlet temperature	Deg C	Deg F	40	105	40	105
	kPa	in water	0.12	0.5	0.12	0.5
	m³/min	cfm	1430	50,491	1430	50,491
	L	Gal	140	37	140	37
	Deg C	Deg F	99	210	99	210
Exhaust System Combustion air inlet flow rate Exhaust gas stack temperature Exhaust gas flow rate Exhaust flange size (internal diameter) Exhaust system backpressure (maximum allowable)	N•m³/min Deg C N•m³/min mm kPa	scfm Deg F cfm in	29 502 30 203	1062 936 3124 8	24 478 25 203	872 892 2476 8
Heat Rejection Low Heat Value (LHV) fuel input Heat rejection to jacket water (includes oil cooler) Total heat rejection to exhaust (LHV to 25° C) Heat rejection to exhaust (LHV to 120° C) Heat rejection to A/C Heat rejection to atmosphere from engine Heat rejection to atmosphere from generator	kW kW kW kW kW	Btu/min Btu/min Btu/min Btu/min Btu/min Btu/min Btu/min	1484 514 359 284 37 59 29	84,410 29,213 20,431 13,741 2127 3376 1660	1205 437 283 218 15 48 29	68,547 24,869 16,067 10,412 866 2742 1660
Generator Motor starting capability @ 30% voltage dip** Frame Temperature rise			928 592 130		928 592 105	
© Emissions*** NOx CO HC (total) HC (non-methane) Exhaust O ₂ (dry)	g/bhp-hr		21.7		21.3	
	g/bhp-hr		1.5		1.5	
	g/bhp-hr		1.4		1.9	
	g/bhp-hr		0.21		0.29	
	%		4.0		4.0	

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

RATING DEFINITIONS AND CONDITIONS

Standby — Output available with varying load for the duration of the interruption of the normal source power.

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

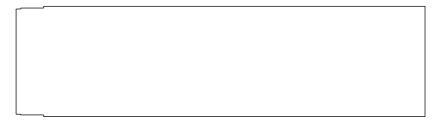
Ratings are based on ISO3046/1 standard reference conditions of 25° C (77° F) and 100 kPa (29.61 in Hg).

Ratings are based on pipeline natural gas having a LHV (low heat value) of 36.2 mJ/N•m³ (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.

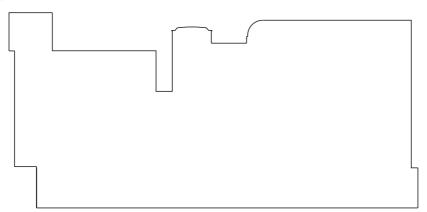
^{**}Assumes synchronous driver

^{***}Emissions data measurement is consistent with those described in EPA CFR 40 PART 89 SUBPART D and ISO 8178-1 for measuring HC, CO, CO₂ 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.

STANDBY/CONTINUOUS POWER GENERATOR SET PACKAGE — TOP VIEW



STANDBY/CONTINUOUS POWER GENERATOR SET PACKAGE — SIDE VIEW



Package Dimensions						
Length	4543.1 mm	178.86 in				
Width	2235.8 mm	88.02 in				
Height	2685.5 mm	105.73 in				
Shipping Weight	6356 kg	14,000 lb				

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

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