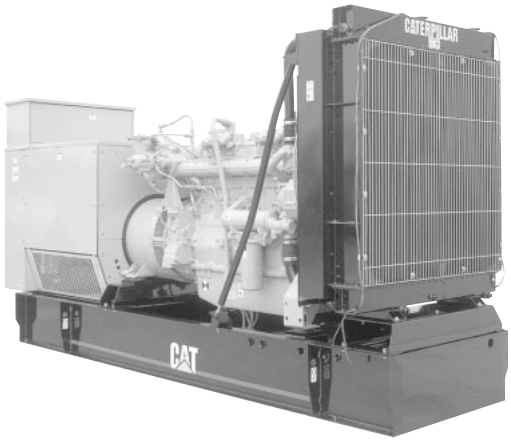
CATERPILLAR®



STANDBY 240 ekW
CONTINUOUS 190 ekW

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

CAT® G3406 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	Flo-Tech 68 speed control	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	Narrow 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

Frame 447
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 150%
  Production tested 125%
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

G3406 TA, 4-stroke-cycle
Bore – mm (in) 137 (5.4)
Stroke – mm (in) 164 (6.5)
Displacement – L (cu in) 14.6 (891)
Compression ratio 10.3:1
Aspiration . . . . . Turbocharged-Aftercooled
Ignition system . . . . . Digital ignition
Governor type . . . . . Woodward Flo-Tech

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.

CATERPILLAR®

TECHNICAL DATA

Open Generator Set — 1800 rpm/60 Hz/480 Volts			Standby DM5439		Continuous DM5440	
Package Performance						
Power rating	ekW		240		190	
Power rating @ 0.8 PF	kVA		300		238	
Aftercooler temperature	Deg C	Deg F	54	130	54	130
Fuel Consumption						
100% load with fan	N•m³/hr	scf/hr	77	2894	64	2398
75% load with fan	N•m³/hr	scf/hr	61	2291	51	1912
50% load with fan	N•m³/hr	scf/hr	45	1682	37	1418
Cooling System						
Ambient air temperature*	Deg C	Deg F	40	105	40	105
Air flow restriction (system)	kPa	in water	0.12	0.5	0.12	0.5
Air flow (maximum @ rated speed for standard radiator arrangement)	m³/min	cfm	679	23,983	836	29,524
Engine coolant capacity with radiator	L	Gal	57	15	57	15
Jacket water outlet temperature	Deg C	Deg F	99	210	99	210
Exhaust System						
Combustion air inlet flow rate	N•m³/min	scfm	16	572	12	466
Exhaust gas stack temperature	Deg C	Deg F	536	997	525	977
Exhaust gas flow rate	N•m³/min	cfm	16	1749	13	1424
Exhaust flange size (internal diameter)	mm	in	127	5	127	5
Exhaust system backpressure (maximum allowable)	kPa	in water	6.7	27	6.7	27
Heat Rejection						
Low Heat Value (LHV) fuel input	kW	Btu/min	780	44,358	647	36,767
Heat rejection to jacket water (includes oil cooler)	kW	Btu/min	234	13,305	210	11,946
Total heat rejection to exhaust (LHV to 25° C)	kW	Btu/min	217	12,319	174	9892
Heat rejection to exhaust (LHV to 120° C)	kW	Btu/min	167	8180	132	6460
Heat rejection to A/C	kW	Btu/min	25	1395	12	694
Heat rejection to atmosphere from engine	kW	Btu/min	31	1774	26	1471
Heat rejection to atmosphere from generator	kW	Btu/min	20	1162	16	897
Generator						
Motor starting capability @ 30% voltage dip**	kVA		649		649	
Frame			447		447	
Temperature rise	Deg C		130		105	
Emissions* **						
NOx	g/bhp-hr		17.8		19.7	
CO	g/bhp-hr		1.1		1	
HC (total)	g/bhp-hr		3.9		4.2	
HC (non-methane)	g/bhp-hr		0.59		0.63	
Exhaust O_2 (dry)	%		4.0		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_2 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

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.

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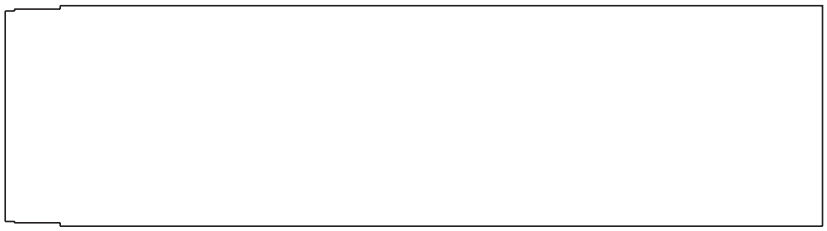
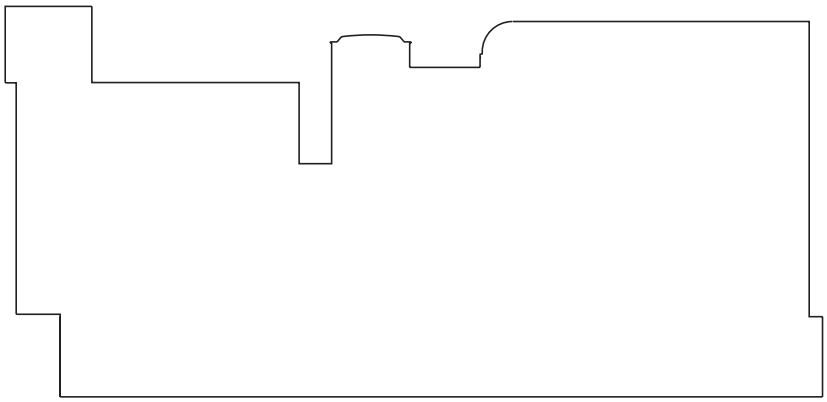
STANDBY/CONTINUOUS POWER GENERATOR SET PACKAGE — TOP VIEW



STANDBY/CONTINUOUS POWER GENERATOR SET PACKAGE — SIDE VIEW



Package Dimensions		
Length	4074 mm	160.39 in
Width	1398.4 mm	55.05 in
Height	2138.6 mm	84.20 in
Shipping Weight	4318 kg	9500 lb

Note: Do not use for installation design. See general dimension drawings for detail (Drawing #207-4501).

www.CAT-ElectricPower.com

TMI Reference No.: DM5439, DM5440

U.S. sourced

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