

# Cat® G3512

## Load Management Gas Generator Sets



Image shown may not reflect actual configuration

Bore – mm (in)	170 (6.7)
Stroke – mm (in)	190 (7.5)
Displacement – L (in <sup>3</sup> )	52 (3173)
Compression Ratio	9.7
Aspiration	Turbocharged
Fuel System	Electronic Fuel Control Valve
Governor Type	ADEM™ A4

Continuous – Load Management 60 Hz ekW (kVA)	Emissions Performance
750 (937)	NOx configurable from 0.5 to 2.0 g/bhp-hr

### Standard Features

#### Cat® Engine

- Robust high speed block design provides prolonged life and lower owning and operating costs
- Designed for maximum performance on low pressure gaseous fuel supply
- Simple open chamber combustion system for reliability and fuel flexibility

#### Generator Set Package

- Accepts 100% block load in one step and facilitates compliance with NPFA 110, Type 10 starting and loading requirements
- Conforms to ISO 8528-5 G2 load acceptance criteria
- Reliability verified through torsional vibration, fuel consumption, oil consumption, transient performance, and endurance testing

#### Alternators

- Superior motor starting capability minimizes need for oversizing generator
- Designed to match performance and output characteristics of Cat engines

#### Cooling System

- Cooling systems available to operate in ambient temperatures up to 45°C (113°F)
- Package tested to ensure proper cooling of complete generator set

#### EMCP 4 Control Panels

- User-friendly interface and navigation
- Scalable system to meet a wide range of installation requirements
- Expansion modules and site specific programming for specific customer requirements

#### Warranty

- 24 months/1000-hour warranty for standby ratings
- 12 months/unlimited hour warranty for continuous ratings
- Extended service protection is available to provide extended coverage options

#### Worldwide Product Support

- Cat dealers have over 1,800 dealer branch stores operating in 200 countries
- Your local Cat dealer provides extensive post-sale support, including maintenance and repair agreements

#### Financing

- Caterpillar offers an array of financial products to help you succeed through financial service excellence
- Options include loans, finance lease, operating lease, working capital, and revolving line of credit
- Contact your local Cat dealer for availability in your region

## Optional Equipment

### Engine

#### **Air Cleaner (Single Element)**

- Installed
- Supplied loose

#### **Muffler**

- Industrial grade (15 dB)
- Residential grade (18 dB)
- Critical grade (25 dB)
- Spark arresting

#### **Starting**

- Standard batteries
- Standard electric starter(s)
- Air starter(s)
- Jacket water heater

### Alternator

#### **Output voltage**

- 220V     2400V
- 240V     4160V
- 280V     12470V
- 380V     13200V
- 440V     13800V
- 480V     63000V
- 600V

#### **Temperature Rise (over 40°C ambient)**

- 150°C
- 125°C/130°C
- 105°C
- 80°C

#### **Winding type**

- Random wound
- Form wound

#### **Excitation**

- Permanent magnet (PM)

#### **Attachments**

- Anti-condensation heater
- Stator and bearing temperature monitoring and protection

### Power Termination

#### **Type**

- Bus bar
- Circuit breaker
- 400A     800A
- 1200A     1600A
- 2000A     2500A
- 3200A     4000A
- UL     IEC
- 3-pole     4-pole
- Manually operated
- Electrically operated

#### **Trip Unit**

- LSI     LSI-G
- LSIG-P

### Enclosure

- Weather protective
- Sound attenuated

#### **Attachments**

- Cold weather bundle
- DC lighting package
- AC lighting package
- Motorized louvers

### Fuel System Pressure

- Standard
- Low

### Control System

#### **Controller**

- EMCP 4.2
- EMCP 4.3
- EMCP 4.4

#### **Attachments**

- Local annunciator module
- Remote annunciator module
- Load share module
- Remote monitoring software

### Charging

- Battery charger – 5A
- Battery charger – 10A
- Battery charger – 20A
- Battery charger – 35A
- Battery charger – 50A

### Vibration Isolators

- Rubber
- Spring
- Seismic rated

### Cat Connect

#### **Connectivity**

- Ethernet

### Extended Service Options

#### **Terms**

- 2 year
- 3 year
- 5 year
- 10 year

#### **Coverage**

- Silver
- Gold
- Platinum
- Platinum Plus

### Ancillary Equipment

- Automatic transfer switch (ATS)
- Uninterruptible power supply (UPS)
- Paralleling switchgear
- Paralleling controls

### Certifications

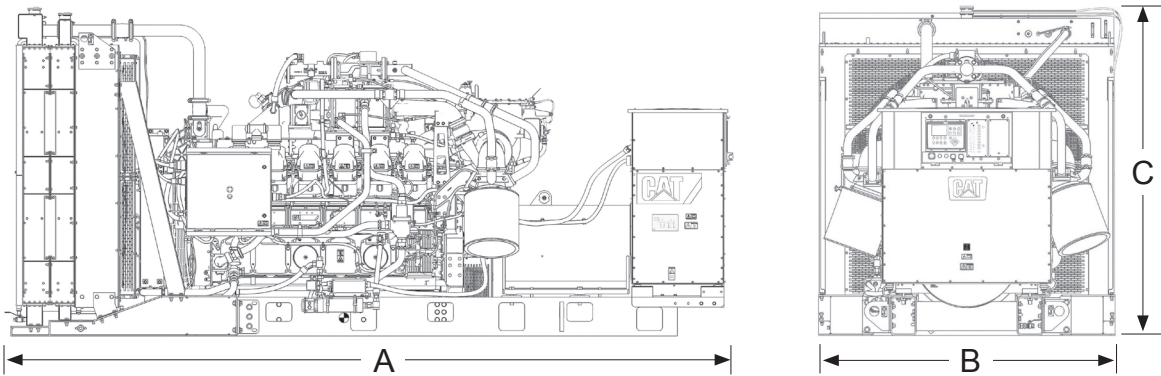
- UL 2200 Listed
- CSA Certified
- EU Declaration of Conformity
- EEC Declaration of Conformity

**Note:** Some options may not be available on all models. Certifications may not be available with all model configurations. Consult factory for availability.

## Package Performance

<b>Performance</b>		Continuous – Load Management	
Frequency	60 Hz		
Genset power rating @ 0.8 power factor – kW (kVA)	750	(938)	
Performance number	EM2093-01		
<b>Fuel Consumption</b>			
100% load with fan – MJ/ekW-hr (Btu/ekW-hr)	10.78	(10222)	
75% load with fan – MJ/ekW-hr (Btu/ekW-hr)	11.53	(10930)	
50% load with fan – MJ/ekW-hr (Btu/ekW-hr)	13.10	(12422)	
<b>Cooling System</b>			
Radiator air flow restriction – kPa (in. water)	.12	(.5)	
Radiator air flow – m <sup>3</sup> /min (cfm)	1830	(64625)	
Radiator ambient capability @ 152 m (500 ft) – °C (°F)	44	(112)	
SCAC circuit temperature (maximum inlet) – °C (°F)	43	(130)	
Jacket water temperature (maximum outlet) – °C (°F)	99	(210)	
<b>Inlet Air</b>			
Combustion air inlet flow rate (0°C, 101.3 kPa)/(77°F, 14.7 psia) – m <sup>3</sup> /min (cfm)	4.54	(2422)	
<b>Altitude Capability</b>			
At 25°C (77°F) ambient, above sea level – m (ft)	2862	(9390)	
<b>Exhaust System</b>			
Exhaust temperature – engine outlet – °C (°F)	512	(953)	
Air flow (0°C, 101.3 kPa)/(@ engine outlet temperature, 14.7 psia) – Nm <sup>3</sup> /bKW-hr (ft <sup>3</sup> /min)	4.83	(6874)	
Exhaust Gas Mass Flow – kg/bkW-hr (lb/hr)	6.08	(11133)	
<b>Heat Rejection</b>			
LHV input – kW (Btu/min)	2290	(130250)	
Heat rejection to jacket water – kW (Btu/min)	366	(20841)	
Heat rejection to atmosphere – kW (Btu/min)	135	(7694)	
Heat rejection to lube oil (OC) – kW (Btu/min)	73	(4158)	
Heat rejection to exhaust (LHV to 77°F) – kW (Btu/min)	792	(45029)	
Heat rejection to exhaust (LHV to 248°F) – kW (Btu/min)	620	(35256)	
Heat rejection to A/C – Stage 1 (1AC) – kW (Btu/min)	52	(2969)	
Heat rejection to A/C – Stage 2 (2AC) – kW (Btu/min)	67	(3833)	
Pump power – kW (Btu/min)	17	(971)	
<b>Emissions</b>			
EPA – S.I. Stationary Continuous	U.S. NSPS Compliant		
NO <sub>x</sub> (as NO <sub>2</sub> ) – mg/Nm <sup>3</sup> (g/bhp-hr)	431	(1)	
CO – mg/Nm <sup>3</sup> (g/bhp-hr)	838	(1.94)	
THC (mol. wt. of 15.84) – mg/Nm <sup>3</sup> (g/bhp-hr)	1174	(2.72)	
NMHC (mol. wt. of 15.84) – mg/Nm <sup>3</sup> (g/bhp-hr)	188	(0.44)	
Exhaust O <sub>2</sub> – % dry	9.3		

## Weights and Dimensions



Dim "A" mm (in)	Dim "B" mm (in)	Dim "C" mm (in)	Dry Weight kg (lb)
5224 (205.7)	2286 (90.0)	2525 (99.4)	12 500 (27,500)

**Note:** For reference only. Do not use for installation design. Contact your local Cat dealer for precise weights and dimensions.

## Ratings Definitions

### Continuous

Output available with non-varying load for an unlimited time. Average power output is 70-100% of the continuous power rating. Typical peak demand is 100% of continuous rated kW for 100% of the operating hours.

### Applicable Codes and Standards

AS 1359, CSA C22.2 No. 100-04, UL 489, UL 869, UL 2200, NFPA37, NFPA70, NFPA99, NFPA110, IBC, IEC 60034-1, ISO 3046, ISO 8528, NEMA MG1-22, NEMA MG1-33, 2014/35/EU, 2006/42/EC, 2014/30/EU.

**Note:** Codes may not be available in all model configurations. Please consult your local Cat dealer for availability.

### Fuel Rates

1. For transient response, ambient, and altitude capabilities consult your local Cat dealer.
2. Fuel pressure range specified is to the engine fuel control valve. Additional fuel train components may be required and should be considered in pressure and flow calculations.
3. For a complete reference of definitions and conditions see datasheet EM1508.

<http://www.cat.com/powergeneration>

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