

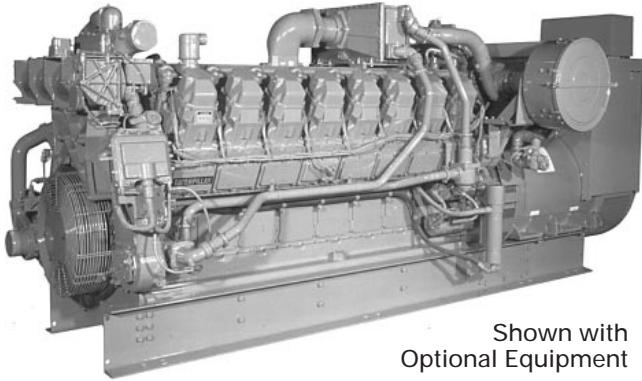


# Gas Generator Set

## G3516

1800 rpm  
1040 ekW 60 Hz

Standby Power



Shown with  
Optional Equipment

### CATERPILLAR® ENGINE SPECIFICATIONS

V-16, 4-Stroke-Cycle Spark-Ignited  
Bore — in (mm) ..... 6.7 (170)  
Stroke — in (mm) ..... 7.5 (190)  
Displacement — cu in (L)..... 4210 (67.4)  
Aspiration ..... Turbocharged-Aftercooled  
Compression ratio..... 11:1



### FEATURES

- **CATERPILLAR® FACTORY PACKAGE**  
Factory designed, assembled, and tested. Supported by Caterpillar parts and labor warranty through your local Caterpillar dealer.
- **DIESEL STRENGTH BUILT IN**  
Blocks, crankshafts, liners, and connecting rods are common with higher loaded Cat® diesel engines. Robust design provides prolonged life at lower gas engine loads.

- **ELECTRONIC IGNITION SYSTEM WITH DETONATION SENSITIVE TIMING**  
The Caterpillar Electronic Ignition System (EIS) provides optimized spark timing for all operating conditions. Timing is automatically controlled to maintain continuous detonation protection.
- **LOW EXHAUST EMISSIONS**  
2.0 gram/bhp-hr NO<sub>x</sub>. Lower emissions are achievable for selected applications; consult your Caterpillar dealer.

### CATERPILLAR® SR4B GENERATOR

Type ..... Static regulator, brushless excited  
Construction ..... Single bearing, close coupled  
Three phase ..... Wye connected  
Insulation ..... Class H  
Enclosure ..... Drip proof IP/22, guarded  
Alignment ..... Caterpillar pilot shaft  
Overspeed capability ..... 150%  
Waveform ..... Less than 5% deviation  
Voltage regulator ..... 3-phase sensing with  
Volts-per-Hertz response  
Voltage regulation ..... Less than ± 1%  
Voltage gain ..... Adjustable to compensate for  
engine speed droop and line loss  
TIF ..... Less than 50  
THF ..... Less than 5%

### CATERPILLAR CONTROL PANEL

**24 Volt DC Control**  
Terminal box mounted  
Vibration isolated  
NEMA 1/IP 22 enclosure  
Electrically dead front  
Lockable door  
Generator instruments meet ANSI C-39-1

**Voltages Available**  
60 Hz  
240, 480

(Adjustable a minimum of ±10%)  
Other voltages available – consult your Caterpillar dealer.  
Some voltages require derating.



**PTS**  
DATA CENTER SOLUTIONS

For More Information:  
(866) 787-3271  
Sales@PTSdcs.com

### STANDARD EQUIPMENT

#### Engine

Air cleaner with service indicator  
 Breather, crankcase  
 Cooler, lubricating oil  
 EMCP II, generator control, engine start/stop logic  
 Filter, lubricating oil, RH  
 Flywheel housing, SAE No. 0  
 Governor, Woodward 2301A  
 Ignition system, Caterpillar EIS  
 Instrument panel, RH intake manifold pressure, intake manifold temperature, oil pressure differential, exhaust pyrometer, and thermocouples  
 Jacket water heater  
 Lifting eyes  
 Manifold, exhaust, watercooled  
 Paint, Caterpillar yellow  
 Protection devices  
 Pumps, aftercooler water, lubricating oil, jacket water, gear driven

Rails, mounting, 13 inch  
 SAE standard rotation  
 Thermostats and housing  
 Torsional vibration damper  
 Valve, 24V gas shutoff

#### Generator

All metal components are plated or painted  
 Optimum winding pitch for minimum total harmonic distortion  
 Self excitation (300% short circuit current)  
 Standards: meets or exceeds the requirements of IEC 34-1, NEMA MG1-22, BS4999, VDE0530, UTE5100, CSA 22.2, ISO 8528-3  
 Three-phase sensing automatic voltage regulator  
 VR3 voltage regulator  
 Wet layer wound rotors individually tested to 125% overspeed; prototypes to 150% @ 338° F (170° C)  
 Windings coated with a fungus-resistant varnish

### OPTIONAL EQUIPMENT

#### Engine

Battery chargers  
 Battery, rack, and cables  
 Air inlet adapters  
 Customer Communications Module (CCM)  
 Exhaust fittings  
 Muffler  
 Power takeoffs  
 Prelube pump  
 Lube oil

#### Generator

DVR – Digital Voltage Regulator, adjustable volts/H<sub>3</sub> regulation for large block loads. Diode monitor, under- and over-voltage protection  
 Extra dips and bakes of insulating resins  
 Manual voltage control  
 RFI filter – 82/499/EEC, VDE 875/10.84 A2 Level N, BS800 standards, and MIL-STD-461B (conducted, radiated, and susceptibility VR3F for enhanced transient response and block loading  
 Permanent magnet excitation

### ENGINE AND GENERATOR CONTROLS

The EMCP II comes complete with many control features competitive manufacturers only offer as options.

#### Standard Features

Adjustable purge cycle from 0-20 seconds (factory set at 5 seconds)  
 Auto start-stop engine control with programmable safety shutdowns  
 Cooldown timer, adjustable from 0 to 30 minutes  
 Cycle cranking, with adjustable crank/rest periods of 1 to 60 seconds  
 Delayed ignition (magneto) "kill" after gas valve is closed. Five second delay  
 Emergency stop button

Flashing LED indicators for protection and diagnostics, including: low oil pressure, high coolant temperature, low coolant level (when optional coolant sensor is installed), overspeed, overcrank, emergency stop, fault shutdown, spare fault alarm

Generator voltage adjust potentiometer  
 Indicator/display test switch  
 LCD digital readout for: engine oil pressure, coolant temperature, engine rpm, system DC volts, generator AC volts and amps, and generator frequency  
 NEMA 1/IP 22 enclosure  
 Programmable for energize to shutoff or energize to run  
 Spare alarm and fault inputs for customer use

#### Optional Features

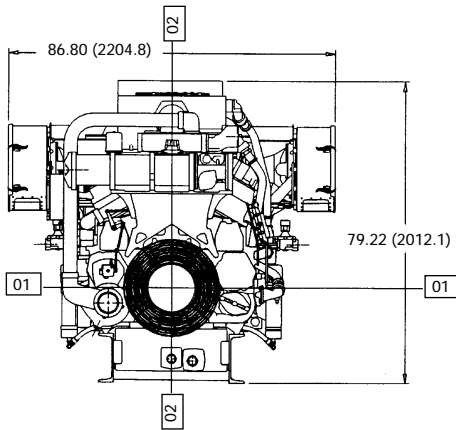
Alarm modules and remote annunciators to meet NFPA 99 or NFPA 110 codes  
 Auxiliary relay  
 Coolant loss sensor  
 Customer interface module  
 Dustproof enclosure  
 Frequency adjust potentiometer  
 Panel lights  
 Reverse power relay  
 Synchronizing modules



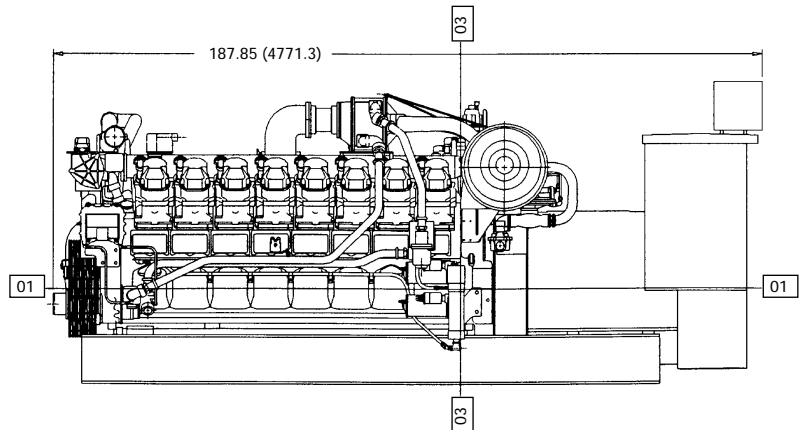
## TECHNICAL DATA

<b>G3516 LE Standby Power Gas Generator Sets — 1800 rpm</b>		
Power Rating @ 0.8 PF without Fan	ekW kV•A	1040 1300
Generator Frame Size		693
Engine Lubricating Oil Capacity	gal	106
System Backpressure (Max Allowable)	in water	27
Exhaust Flange Size — (Internal Diameter)	in	7.1
Length	in	187.9
Width	in	86.8
Height	in	79.2
Shipping Weight	lbs	20 560
Engine Coolant Capacity with Radiator	gal	
100% Load		
Fuel Consumption (100% load) with Fan per ISO3046/1: +5%, -0% tolerance	BTU/bhp-hr	7899
Motor Starting (35% voltage dip)	SkVA (volt)	2626 (480)
Combustion Air Inlet Flow Rate	ft <sup>3</sup> /min	3435
Exhaust Gas Flow Rate (at stack temp)	ft <sup>3</sup> /min	8583
Heat Rejection to Aftercooler	BTU/min	9746
Heat Rejection to Exhaust (total)	BTU/min	54 853
Heat Rejection to Jacket Water (total)	BTU/min	58 557
Heat Rejection to Atmosphere from Engine	BTU/min	7155
Heat Rejection to Atmosphere from Generator	BTU/min	2821
Exhaust Gas Stack Temperature	Deg F	1603
Deration for Engine		
Altitude – 3.5% per 500 feet above	ft	4000
2% per 10° F above	Deg F	77
* Note: For permitting see TMI data.		

### FRONT VIEW



### SIDE VIEW



01 Centerline of Crankshaft

03 Rear Face of Cylinder Block

02 Centerline of Engine

See general dimension drawing 127-8351 for additional information.

Dimensions are in in (mm).

Note: General configuration not to be used for installation.



## RATINGS DEFINITIONS AND CONDITIONS

**Ratings** are based on SAE J1349 standard conditions of 29.61 in Hg (100 kPa) and 77° F (25° C). These ratings also apply at ISO3046/1, DIN6271, and BS5514 standard conditions of 29.61 in Hg (100 kPa) and 81° F (27° C); and API 7B-11C standard conditions of 29.38 in Hg (99 kPa) and 85° F (29° C) also apply.

**Ratings** are based on dry natural gas having a low heat value of 905 btu/ft<sup>3</sup> (35.22 MJ/m<sup>3</sup>). Variations in altitude, temperature, and gas composition from standard conditions may require a reduction in engine horsepower.

**Turbocharged-aftercooled ratings** apply to 4000 ft (1525 m) and 77° F (25° C). For applications which exceed these limits consult your Caterpillar dealer.

**Standby** — Output available with varying load for the duration of the interruption of the normal source power. Fuel stop power in accordance with ISO3046/1, AS2789, DIN6271, and BS5514.

Additional ratings may be available for specific customer requirements. Consult your Caterpillar representative for details.