

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



## Specifications

Generator Set Specifications	
Minimum Rating	1650 ekW
Maximum Rating	2500 ekW
Voltage	220 to 13800 volts
Frequency	60 Hz
Speed	1800 RPM

Generator Set Configurations	
Emissions/Fuel Strategy	EPA Certified for Stationary Emergency Application (Emits Equivalent U.S. EPA Tier 2 Nonroad Standards)

Engine Specifications	
Engine Model	3516C, ATAAC, V-16,4-Stroke Water-Cooled Diesel
Bore	170 mm (6.69 in)
Stroke (Std)	190 mm (7.48 in)
Stroke (HD)	215 mm (8.46 in)
Compression Ratio	14.7:1
Aspiration	TA
Governor Type	Adem™3
Fuel System	Electronic unit injection
Exhaust Flange Size (Internal Diameter)	203.2 mm (8.0 in)

## **Benefits And Features**

### **Cat™ Diesel Engine**

- Reliable, rugged, durable design
- Field-proven in thousands of applications worldwide
- Four-stroke-cycle diesel engine combines consistent performance and excellent fuel economy with minimum weight

### **Generator**

- Matched to the performance and output characteristics of Cat engines
- Industry leading mechanical and electrical design
- Industry leading motor starting capabilities
- High Efficiency

### **Cat EMCP Control Panel**

The EMCP controller features the reliability and durability you have come to expect from your Cat equipment. EMCP4 is a scalable control platform designed to ensure reliable generator set operation, providing extensive information about power output and engine operation. EMCP4 systems can be further customized to meet your needs through programming and expansion modules.

### **Seismic Certification**

- Seismic Certification available.
- Anchoring details are site specific, and are dependent on many factors such as generator set size, weight, and concrete strength. IBC Certification requires that the anchoring system used is reviewed and approved by a Professional Engineer
- Seismic Certification per Applicable Building Codes: IBC 2000, IBC 2003, IBC 2006, IBC 2009, CBC 2007, CBC 2010
- Pre-approved by OSHPD and carries an OSP-0321-10 for use in healthcare projects in California

### **Design Criteria**

The generator set accepts 100% rated load in one step per NFPA 110 and meets ISO 8528-5 transient response.

### **UL 2200 / CSA - Optional**

- UL 2200 listed packages
- CSA Certified
- Certain restrictions may apply.
- Consult with your Cat® Dealer.

### **Single-Source Supplier**

Fully prototype tested with certified torsional vibration analysis available

## **World Wide Product Support**

Cat Dealers provide extensive post sale support including maintenance and repair agreements. Cat dealers have over 1,800 dealer branch stores operating in 200 countries. The Cat® S•O•SSM program cost effectively detects internal engine component condition, even the presence of unwanted fluids and combustion by-products.

## **Standard Equipment**

### **Air Inlet**

- Air Cleaner

### **Cooling**

- Package mounted radiator

### **Exhaust**

- Exhaust flange outlet

### **Fuel**

- Primary fuel filter with integral water separator
- Secondary fuel filter
- Fuel priming pump

### **Generator**

- Matched to the performance and output characteristics of Cat engines
- IP23 Protection

### **Power Termination**

- Bus Bar

### **Control Panel**

- EMCP 4 Genset Controller

### **General**

- Paint - Caterpillar Yellow except rails and radiators gloss black

## **Optional Equipment**

### **Exhaust**

- Exhaust mufflers

### **Generator**

- Anti-condensation heater
- Internal excitation (IE)
- Permanent magnet excitation (PMG)
- Oversize and premium generators

### **Power Termination**

- Circuit breakers, UL listed
- Circuit breakers, IEC compliant

### **Control Panels**

- EMCP 4.2
- EMCP 4.3
- EMCP 4.4
- Generator temperature monitoring & protection
- Load share module
- Digital I/O module
- Remote monitoring software

### **Mounting**

- Rubber anti-vibration mounts
- Spring-type vibration isolator
- IBC isolators

### **Starting/Charging**

- Battery chargers
- Oversize batteries
- Jacket water heater
- Heavy-duty starting system
- Charging alternator
- Air starting motor with control and silencer

### **General**

- The following options are based on regional and product configuration:
- Seismic Certification per applicable building codes: IBC 2000, IBC 2003, IBC 2006, IBC 2009, CBC 2007
- UL 2200 package
- EU Certificate of Conformance (CE)
- CSA Certification
- EEC Declaration of Conformity
- Enclosures: sound attenuated, weather protective
- Automatic transfer switches (ATS)
- Integral & sub-base fuel tanks
- Integral & sub-base UL listed dual wall fuel tanks

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# ELECTRIC POWER - Technical Spec Sheet

## STANDARD



3516C

2500 ekW/ 3125 kVA/ 60 Hz/ 1800 rpm/ 480 V/ 0.8 Power Factor

Rating Type: MISSION CRITICAL STANDBY

Emissions: EPA Certified for Stationary Emergency  
Application (Emits Equivalent U.S. EPA Tier 2 Nonroad  
Standards)

3516C

2500 ekW/ 3125 kVA  
60 Hz/ 1800 rpm/ 480 V



Image shown may not reflect actual configuration

### Metric

### English

#### Package Performance

Genset Power Rating with Fan @ 0.8 Power Factor	2500 ekW	
Genset Power Rating	3125 kVA	
Aftercooler (Separate Circuit)	N/A	N/A

#### Fuel Consumption

100% Load with Fan	656.8 L/hr	173.5 gal/hr
75% Load with Fan	510.8 L/hr	134.9 gal/hr
50% Load with Fan	372.4 L/hr	98.4 gal/hr
25% Load with Fan	219.3 L/hr	57.9 gal/hr

#### Cooling System<sup>1</sup>

Engine Coolant Capacity	233.0 L	61.6 gal
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#### Inlet Air

Combustion Air Inlet Flow Rate	204.2 m <sup>3</sup> /min	7212.2 cfm
Max. Allowable Combustion Air Inlet Temp...	N/A	N/A

#### Exhaust System

Exhaust Stack Gas Temperature	490.7 ° C	915.2 ° F
Exhaust Gas Flow Rate	554.5 m <sup>3</sup> /min	19578.8 cfm
Exhaust System Backpressure (Maximum Allowable)	6.7 kPa	27.0 in. water

**3516C**  
**2500 ekW/ 3125 kVA/ 60 Hz/ 1800 rpm/ 480 V/ 0.8 Power Factor****Rating Type: MISSION CRITICAL STANDBY****Emissions: EPA Certified for Stationary Emergency  
Application (Emits Equivalent U.S. EPA Tier 2 Nonroad  
Standards)****Heat Rejection**

Heat Rejection to Jacket Water	826 kW	46992 Btu/min
Heat Rejection to Exhaust (Total)	2502 kW	142265 Btu/min
Heat Rejection to Aftercooler	786 kW	44723 Btu/min
Heat Rejection to Atmosphere from Engine	161 kW	9146 Btu/min
Heat Rejection to Atmosphere from Generator	102 kW	5772 Btu/min

**Alternator<sup>2</sup>**

Motor Starting Capability @ 30% Voltage Dip	6559 skVA
Current	3759 amps
Frame Size	1842
Excitation	PM
Temperature Rise	150 ° C

**Emissions (Nominal)<sup>3</sup>**

NOx	2349.1 mg/Nm <sup>3</sup>	5.3 g/hp-hr
CO	195.4 mg/Nm <sup>3</sup>	0.4 g/hp-hr
HC	42.1 mg/Nm <sup>3</sup>	0.1 g/hp-hr
PM	14.1 mg/Nm <sup>3</sup>	0.0 g/hp-hr

**DEFINITIONS AND CONDITIONS**

1. For ambient and altitude capabilities consult your Cat dealer. Air flow restriction (system) is added to existing restriction from factory.
2. UL 2200 Listed packages may have oversized generators with a different temperature rise and motor starting characteristics. Generator temperature rise is based on a 40° C ambient per NEMA MG1-32.
3. Emissions data measurement procedures are consistent with those described in EPA CFR 40 Part 89, Subpart D & E and ISO8178-1 for measuring HC, CO, PM, NOx. Data shown is based on steady state operating conditions of 77° F, 28.42 in HG and number 2 diesel fuel with 35° API and LHV of 18,390 btu/lb. The nominal emissions data shown is subject to instrumentation, measurement, facility and engine to engine variations. Emissions data is based on 100% load and thus cannot be used to compare to EPA regulations which use values based on a weighted cycle.

**Applicable Codes and Standards:**AS1359, CSA C22.2 No100-04, UL142, UL489, UL869, UL2200,  
NFPA37, NFPA70, NFPA99, NFPA110, IBC, IEC60034-1, ISO3046, ISO8528,  
NEMA MG1-22, NEMA MG1-33, 72/23/EEC, 98/37/EC, 2004/108/EC

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

**3516C**  
**2500 ekW/ 3125 kVA/ 60 Hz/ 1800 rpm/ 480 V/ 0.8 Power Factor**

**Rating Type: MISSION CRITICAL STANDBY**

**Emissions: EPA Certified for Stationary Emergency  
Application (Emits Equivalent U.S. EPA Tier 2 Nonroad  
Standards)**

**MISSION CRITICAL STANDBY:**Output available with varying load for the duration of the interruption of the normal source power. Average power output is 85% of the standby power rating. Typical peak demand up to 100% of standby rated ekW for 5% of the operating time. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

**Ratings** are based on SAE J1349 standard conditions. These ratings also apply at ISO3046 standard conditions

**Fuel Rates** are based on fuel oil of 35° API [16° C (60° F)] gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29° C (85° F) and weighing 838.9 g/liter (7.001 lbs/U.S. gal.). Additional ratings may be available for specific customer requirements, contact your Cat representative for details. For information regarding Low Sulfur fuel and Biodiesel capability, please consult your Cat dealer.

[www.Cat-ElectricPower.com](http://www.Cat-ElectricPower.com)

Performance No.: DM9228-01

Feature Code: 516DE8F

Generator Arrangement: 3723052

Date: 10/06/2014

Source Country: U.S.

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