DIESEL GENERATOR SET





Image shown may not reflect actual package.

PRIME 725 ekW 906 kVA 60 Hz 1800rpm 480 Volts

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

FEATURES

FUEL/EMISSIONS STRATEGY

 EPA Certified for Stationary Emergency Application
 (EPA Tier 2 emissions levels)

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.

FULL RANGE OF ATTACHMENTS

- Wide range of bolt-on system expansion attachments, factory designed and tested
- Flexible packaging options for easy and cost effective installation

SINGLE-SOURCE SUPPLIER

• Fully prototype tested with certified torsional vibration analysis available

WORLDWIDE 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

CAT C27 ATAAC DIESEL ENGINE

- Utilizes ACERT™ Technology
- Reliable, rugged, durable design
- Four-cycle diesel engine combines consistent performance and excellent fuel economy with minimum weight
- · Electronic engine control

CAT GENERATOR

- Designed to match the performance and output characteristics of Cat diesel engines
- · Single point access to accessory connections
- UL 1446 recognized Class H insulation

CAT EMCP 4 CONTROL PANELS

- Simple user friendly interface and navigation
- Scalable system to meet a wide range of customer needs
- Integrated Control System and Communications Gateway

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
- Pre-approved by OSHPD and carries an OSP-0084-10 for use in healthcare projects in California

60 Hz 1800rpm 480 Volts



FACTORY INSTALLED STANDARD & OPTIONAL EQUIPMENT

System	Standard	Optional
Air Inlet	• Air cleaner	
Cooling	Package mounted radiator	
Exhaust	• Exhaust flange outlet	[] Exhaust mufflers
Fuel	Primary fuel filter with integral water separator Secondary fuel filters Fuel priming pump	
Generator	Matched to the performance and output characteristics of Cat engines	[] Oversize and premium generators [] Permanent magnet excitation (PMG) [] Internal excited (IE) [] Anti-condensation space heaters
Power Termination	• Bus bar	[] Circuit breakers, UL listed [] Circuit breakers, IEC compliant
Control Panel	• EMCP 4 Genset Controller	[] EMCP 4.2 [] EMCP 4.3 [] EMCP 4.4 [] Generator temperature monitoring and protection [] Load share module [] Digital I/O module [] Remote monitoring software
Mounting		[] Rubber vibration isolators
Starting/Charging		[] Battery chargers [] Oversize batteries [] Jacket water heater [] Heavy duty starting system [] Charging alternator
General	Paint - Caterpillar Yellow except rails and radiators gloss black	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 [] EU Certificate of Conformance (CE) [] UL 2200 package [] 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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SPECIFICATIONS

CAT GENERATOR

Frame size
Excitation Permanent Magnet
Pitch
Number of poles
Number of bearings Single bearing
Number of Leads012
InsulationUL 1446 Recognized Class H with
tropicalization and antiabrasion - Consult your Caterpillar dealer for available voltages
IP RatingDrip Proof IP23
AlignmentPilot Shaft
Overspeed capability150
Wave form Deviation (Line to Line)Less than 5%
deviation Voltage regulator 3 Phase sensing with selectible
volts/Hz Voltage regulationLess than +/- 1/2% (steady state)
Less than +/- 1% (no load to full load)

CAT DIESEL ENGINE

C2/ TA, V-12, 4-Stroke	Water-cooled	Diesel		
Bore		137.20	mm (5.4	in)
Stroke		152.40	mm (6.0	in)
Displacement		27.03 L	(1649.47	in ³
Compression Ratio			16	.5:1
Aspiration				.TA
Fuel System			M	EUI
Governor Type			ADEM™	Α4

CAT EMCP 4 SERIES CONTROLS

EMCP 4 controls including:

- Run / Auto / Stop Control
- Speed and Voltage Adjust
- Engine Cycle Crank
- 24-volt DC operation
- Environmental sealed front face
- Text alarm/event descriptions

Digital indication for:

- RPM
- DC volts
- Operating hours
- Oil pressure (psi, kPa or bar)
- Coolant temperature
- Volts (L-L & L-N), frequency (Hz)
- Amps (per phase & average)
- ekW, kVA, kVAR, kW-hr, %kW, PF

Warning/shutdown with common LED indication of:

- Low oil pressure
- High coolant temperature
- Overspeed
- Emergency stop
- Failure to start (overcrank)
- Low coolant temperature
- Low coolant level

Programmable protective relaying functions:

- Generator phase sequence
- Over/Under voltage (27/59)
- Over/Under Frequency (81 o/u)
- Reverse Power (kW) (32)
- Reverse reactive power (kVAr) (32RV)
- Overcurrent (50/51)

Communications:

- Six digital inputs (4.2 only)
- Four relay outputs (Form A)
- Two relay outputs (Form C)
- Two digital outputs
- Customer data link (Modbus RTU)
- Accessory module data link
- Serial annunciator module data link
- Emergency stop pushbutton

Compatible with the following:

- Digital I/O module
- Local Annunciator
- Remote CAN annunciator
- Remote serial annunciator

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TECHNICAL DATA

Open Generator Set 1800rpm/60 Hz/480 Volts		DM9069	
EPA Certified for Stationary Emergency Application			
(EPA Tier 2 emissions levels)			
Generator Set Package Performance			
Genset Power rating @ 0.8 pf	906.25 kVA		
Genset Power rating with fan	725 ekW		
Fuel Consumption	400 4 4 4	50 F C 14	
100% load with fan	199.6 L/hr	52.7 Gal/hr	
75% load with fan	157.8 L/hr	41.7 Gal/hr	
50% load with fan	112.5 L/hr	29.7 Gal/hr	
Cooling System ¹	0.40 10		
Air flow restriction (system)	0.12 kPa	0.48 in. water	
Engine coolant capacity	55.0 L	14.5 gal	
Inlet Air			
Combustion air inlet flow rate	60.3 m ³ /min	2129.5 cfm	
Exhaust System			
Exhaust stack gas temperature	500.6 ° C	933.1 ° F	
Exhaust gas flow rate	160.7 m³/min	5675.1 cfm	
Exhaust flange size (internal diameter)	203 mm	8 in	
Exhaust system backpressure (maximum allowable)	10.0 kPa	40.2 in. water	
Heat Rejection			
Heat rejection to coolant (total)	320 kW	18198 Btu/min	
Heat rejection to exhaust (total)	741 kW	42141 Btu/min	
Heat rejection to aftercooler	146 kW	8303 Btu/min	
Heat rejection to atmosphere from engine	89 kW	5061 Btu/min	
Heat rejection to atmosphere from generator	38.2 kW	2174.3 Btu/min	
Alternator ²			
Motor starting capability @ 30% voltage dip	2641 skVA		
Frame	1268		
Temperature Rise	125 ° C	225 ° F	
Lube System			
Sump refill with filter	68.0 L	18.0 gal	
Emissions (Nominal) ³			
NOx g/hp-hr	4.61 g/hp-hr		
CO g/hp-hr	.27 g/hp-hr		
HC g/hp-hr	.03 g/hp-hr		
PM g/hp-hr	.022 g/hp-hr		

¹ For ambient and altitude capabilities consult your Cat dealer. Air flow restriction (system) is added to existing restriction from factory. ² Generator temperature rise is based on a 40°C ambient per NEMA MG1-32. UL 2200 Listed packages may have oversized generators with a different temperature rise and motor starting characteristics.

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.

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RATING DEFINITIONS AND CONDITIONS

Applicable Codes and Standards: AS1359, CSA C22.2 No 100-04, UL142, UL489, UL601, UL869, UL2200, NFPA 37, NFPA 70, NFPA 99, NFPA 110, IBC, IEC60034-1, ISO3046, ISO8528, NEMA MG 1-22, NEMA MG 1-33, 72/23/EEC, 98/37/EC, 2004/108/EC

Prime - Output available with varying load for an unlimited time. Average power output is 70% of the prime power rating. Typical peak demand is 100% of prime rated ekW with 10% overload capability for emergency use for a maximum of 1 hour in 12. Overload operation cannot exceed 25 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 or 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.).

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DIMENSIONS

Package Dimensions				
Length	4141.6 mm	163.05 in		
Width	1823.3 mm	71.78 in		
Height	2210.5 mm	87.03 in		

NOTE: For reference only - do not use for installation design. Please contact your local dealer for exact weight and dimensions.

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Materials and specifications are subject to change without notice. The International System of Units (SI) is used in this publication.

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