### **DIESEL GENERATOR SET**





Image shown may not reflect actual package

## STANDBY 200 ekW 250 kVA

### 60 Hz 1800 rpm 600 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 (Emits Equivalent U.S. EPA Tier 3 Nonroad Standards)

#### **DESIGN CRITERIA**

- The generator set meets NFPA 110, ISO 8528-5 transient response and can accept 100% rated load in one step
- Cooling system designed to operate in 50°C / 122°F ambient temperatures with an air flow restriction of 0.5 in, water

#### UL 2200 / CSA - Optional

- UL 2200 Listed
- CSA Certified

Certain restrictions may apply. Consult with your Cat<sup>®</sup> 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•S<sup>SM</sup> program cost effectively detects internal engine component condition, even the presence of unwanted fluids and combustion by-product

### Cat Model D200-2, Three Phase

#### **CAT C7.1 DIESEL ENGINE**

- Reliable, rugged, durable design
- Four-stroke diesel engine combines consistent performance and excellent fuel economy with minimum weight
- Electronic engine control

### **GENERATOR SET**

- Complete system designed and built at ISO 9001 certified facilities
- Factory tested to design specifications at full load conditions

#### **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
- Integrated Voltage Regulation

#### **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, IBC 2012 CBC 2007, CBC 2010

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## **FACTORY INSTALLED STANDARD & OPTIONAL EQUIPMENT**

System	Standard	Optional
Air Inlet	Dry replaceable paper element type with restriction indicator	
Cooling	Radiator and cooling fan complete with protective guards     Standard ambient temperatures up to 50°C (122°F)	[] Radiator stone guard [] Radiator transition flange
Exhaust		[ ] Industrial [ ] Residential [ ] Critical Mufflers [ ] Overhead silencer mounting kit
Fuel	Flexible fuel lines to base with NPT connections	[] Sub-base dual wall UL listed 354 gallon fuel tank [] Sub-base dual wall UL listed 690 gallon fuel tank [] Emergency vent 12ft extension [] 5 gallon spill containment
Generator	Class H insulation Drip proof generator air intake (NEMA 2,IP23) Electrical design in accordance with with BS5000 Part 99, EN61000-6, IEC60034-1, NEMA MG-1.33 IP23 Protection	[ ] Generator upgrade 1 size [ ] Permanent Magnet Excitation [ ] Internal Excitation (IE) / AREP [ ] Anti-condensation space heater
Power Termination	Circuit breakers – 100% rated assembly, UL Listed  Power center houses EMCP controller and control terminations (CB)  Segregated low voltage wiring termination panel  NEMA 1 steel enclosure, vibration isolated  Electrical stub-up area directly below circuit breaker	[] Auxiliary contacts [] Shunt trip [] Overload shutdown via breaker
Governor	ADEM™A4	
Control Panels	EMCP 4.2 digital control panel     Vibration isolated NEMA 1 enclosure with lockable hinged door     DC and AC Wiring harnesses	[] NFPA110 upgrade [] Control panel chassis
Lube		[] Lube oil heater
Mounting	Heavy-duty fabricated steel base with lifting points     Anti-vibration pads to ensure vibration isolation     Stub-up pipe ready for connection to silencer pipework	[] IBC Seismic certification per Applicable Building Codes: IBC2000, IBC2003, IBC2006, IBC 2009, IBC 2012, CBC 2007, CBC 2010
Starting/Charging	12 volt starting motor     Batteries with rack and cables	[] Battery charger – UL 10 amp [] Battery disconnect switch [] Battery removal (does not remove rack and cables) [] Coolant Heater
General	High gloss polyurethane paint, Caterpillar Yellow except rails and radiators gloss black     Anticorrosive paint protection     All electroplated hardware	[ ] CSA Certified [ ] Sound attenuated protective enclosures [ ] Caterpillar tool set [ ] Caterpillar White paint

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### **SPECIFICATIONS**

STANDARD CAT GENERATOR			
Frame size	LC5024F		
Excitation	Internal Excitation		
Pitch	0.6667		
Number of poles	4		
Number of bearings	Single bearing		
Number of leads	12		
Insulation	Class H		
IP Rating	IP23		
Overspeed capability (%)	125		
Wave form deviation (%)	2		
Voltage regulator	Three phase sensing		
Voltage regulation	+ /- 0.25% (steady state)		

#### Additional Voltage Information:

Three Phase	Standby
208V Temp Rise	105°C / 189°F
240V Temp Rise	105°C / 189°F
480V Temp Rise	130°C / 234°F
600V Temp Rise	150°C / 270°F

#### - Consult your Cat dealer for other available voltages

### **CAT DIESEL ENGINE**

C7.1 In-line 6, 4-cycle diesel		
Bore	105.0 mm (4,13 in)	
Stroke	135.0 mm (5.31 in)	
Displacement	7.01 L (427.8 in³)	
Compression ratio	16.5:1	
Aspiration	Turbocharged, Air-to-Air Aftercooled	
Fuel system	Common rail	
Governor type	Electronic	

#### **CAT EMCP 4 SERIES CONTROLS**

#### EMCP 4 controls including:

- Run / Auto / Stop Control
- Speed and Voltage Adjust
- Engine Cycle Crank
- 12 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
- 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 - 1800 rpm/60 Hz/600 Volts	P43	P4364A	
EPA Certified for Stationary Emergency Application (Emits Equivalent U.S. EPA Tier 3 Nonroad Standards)		Standby	
Generator Set Package Performance Genset power rating @ 0.8 pf Genset power rating with fan		250 kVA 200 ekW	
Fuel Consumption 100% load with fan 75% load with fan 50% load with fan	56.4 L/hr 45.8 L/hr 32.6 L/hr	14.9 gal/hr 12.1 gal/hr 8.6 gal/hr	
Cooling System <sup>1</sup> Air flow restriction (system) Air flow (max @ rated speed for radiator arrangement) Engine coolant capacity with radiator/exp. tank Engine coolant capacity Radiator coolant capacity	0.12 kPa 372 m³/min 21.0 L 9.5 L 11.5 L	0.48 in. water 13137 cfm 5.5 gal 2.5 gal 3.0 gal	
Inlet Air Combustion air inlet flow rate	15.8 m³/min	558 cfm	
Exhaust System  Exhaust stack gas temperature Exhaust gas flow rate Exhaust flange size (internal diameter) Exhaust system back pressure	697°C 38.3 m³/min 89.0 mm 15.0 kPa	1287°F 1353 cfm 3.5 in 60.2 in. water	
Heat Rejection  Heat rejection to coolant (total)  Heat rejection to exhaust (total)  Heat rejection to aftercooler  Heat rejection to atmosphere from engine  Heat rejection to atmosphere from generator	91.8 kW 183 kW 45.0 kW 35.3 kW 15.5 kW	5221 Btu/min 10407 Btu/min 2559 Btu/min 2019 Btu/min 881 Btu/min	
Alternator <sup>2</sup> Motor starting capability @ 30% voltage dip Frame Insulation class Temperature rise	516 skV LC5024F H 150°C	270°F	
Lubrication System Total oil capacity Oil pan	16.5 L 15.5 L	4.4 gal 4.1 gal	
Emissions (Nominal) <sup>3</sup> NOx + HC CO PM	3.73 g/kWhr 1.31 g/kWhr 0.18 g/kWhr		

<sup>&</sup>lt;sup>1</sup>For ambient and altitude capabilities consult your Cat dealer. Airflow restriction (system) is added to existing restriction from factory.

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 $<sup>^2</sup>Generator$  temperature rise is based on a 40  $^{\circ}C$  (104  $^{\circ}F)$  ambient per NEMA MG1-32.

<sup>&</sup>lt;sup>3</sup>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.

**Standby** – Output available with varying load for the duration of the interruption of the normal source power. Average power output is 70% of the standby power rating. 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 to specification EPA 2D 89.330-96 with a density of 0.845-0.850 kg/L (7.052-7.094 lbs/U.S. gal.) @  $15^{\circ}$ C  $(59^{\circ}$ F) and fuel inlet temperature  $40^{\circ}$ C  $(104^{\circ}$ F).

**Additional ratings** customer requirements, contact your Caterpillar representative for details.

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### **DIMENSIONS**

Package Dimensions				
Length	3037 mm	119.6 in		
Width	1110 mm	43.7 in		
Height	1476 mm	58.1 in		
Weight*	2015 kg	4442 lb		

<sup>\*</sup>With oil and coolant.

NOTE: For reference only - do not use for installation design. Please contact your local dealer for exact weight and dimensions. (General Dimension Drawing #460-0863).

www.Cat-ElectricPower.com Performance No.: P4364A

Feature Code: NAC144P

Gen. Arr. Number: 4568093

Source: U.S. Sourced

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