DIESEL GENERATOR SET

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® 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® program cost effectively detects internal engine component condition, even the presence of unwanted fluids and combustion by-product

STANDBY
100 ekW 125 kVA
PRIME
90 ekW 113 kVA
60 Hz 1800 rpm 480 Volts

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

Cat® Model D100-6, Three Phase
CAT C4.4 DIESEL ENGINE
• Reliable, rugged, durable design
• Field-proven in thousands of applications worldwide
• 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

Image shown may not reflect actual package.
## FACTORY INSTALLED STANDARD & OPTIONAL EQUIPMENT

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

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frame size</td>
<td>LC3014B</td>
</tr>
<tr>
<td>Excitation</td>
<td>Self excitation</td>
</tr>
<tr>
<td>Pitch</td>
<td>0.6667</td>
</tr>
<tr>
<td>Number of poles</td>
<td>4</td>
</tr>
<tr>
<td>Number of bearings</td>
<td>Single bearing</td>
</tr>
<tr>
<td>Number of leads</td>
<td>12</td>
</tr>
<tr>
<td>Insulation</td>
<td>Class H</td>
</tr>
<tr>
<td>IP Rating</td>
<td>IP23</td>
</tr>
<tr>
<td>Overspeed capability (%)</td>
<td>125</td>
</tr>
<tr>
<td>Wave form deviation (%)</td>
<td>2</td>
</tr>
<tr>
<td>Voltage regulator</td>
<td>Three phase sensing</td>
</tr>
<tr>
<td>Voltage regulation</td>
<td>+/- 0.25% (steady state)</td>
</tr>
</tbody>
</table>

### Additional Voltage Information:

<table>
<thead>
<tr>
<th>Three Phase</th>
<th>Prime</th>
<th>Standby</th>
</tr>
</thead>
<tbody>
<tr>
<td>208V</td>
<td>125°C / 225°F</td>
<td>150°C / 270°F</td>
</tr>
<tr>
<td>240V</td>
<td>125°C / 225°F</td>
<td>150°C / 270°F</td>
</tr>
<tr>
<td>480V</td>
<td>105°C / 189°F</td>
<td>130°C / 234°F</td>
</tr>
<tr>
<td>600V</td>
<td>105°C / 189°F</td>
<td>130°C / 234°F</td>
</tr>
</tbody>
</table>

*– Consult your Cat dealer for other available voltages*

## CAT DIESEL ENGINE

C4.4 In-line 4, 4-cycle diesel

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bore</td>
<td>105.0 mm (4.13 in)</td>
</tr>
<tr>
<td>Stroke</td>
<td>127.0 mm (5.0 in)</td>
</tr>
<tr>
<td>Displacement</td>
<td>4.4 L (268.5 in³)</td>
</tr>
<tr>
<td>Compression ratio</td>
<td>16.2:1</td>
</tr>
<tr>
<td>Aspiration</td>
<td>Turbocharged, Air-to-Air Aftercooled</td>
</tr>
<tr>
<td>Fuel system</td>
<td>Common rail</td>
</tr>
<tr>
<td>Governor type</td>
<td>Electronic</td>
</tr>
</tbody>
</table>

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## 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
## TECHNICAL DATA

### Open Generator Set – 1800 rpm/60 Hz/480 Volts

<table>
<thead>
<tr>
<th>EPA Certified for Stationary Emergency Application (Emits Equivalent U.S. EPA Tier 3 Nonroad Standards)</th>
<th>P3362A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generator Set Package Performance</td>
<td>Standby</td>
</tr>
<tr>
<td>Genset power rating @ 0.8 pf</td>
<td>125.0 kVA</td>
</tr>
<tr>
<td>Genset power rating with fan</td>
<td>100.0 ekW</td>
</tr>
</tbody>
</table>

### Fuel Consumption

<table>
<thead>
<tr>
<th></th>
<th>Standby</th>
<th>Prime</th>
</tr>
</thead>
<tbody>
<tr>
<td>100% load with fan</td>
<td>29.8 L/hr</td>
<td>7.9 gal/hr</td>
</tr>
<tr>
<td>75% load with fan</td>
<td>23.7 L/hr</td>
<td>6.3 gal/hr</td>
</tr>
<tr>
<td>50% load with fan</td>
<td>17.5 L/hr</td>
<td>4.6 gal/hr</td>
</tr>
</tbody>
</table>

### Cooling System

<table>
<thead>
<tr>
<th></th>
<th>Standby</th>
<th>Prime</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air flow restriction (system)</td>
<td>0.12 kPa</td>
<td>0.12 kPa</td>
</tr>
<tr>
<td>Engine coolant capacity with radiator/exp. tank</td>
<td>17.0 L</td>
<td>7.0 L</td>
</tr>
<tr>
<td>Engine coolant capacity</td>
<td>7.0 L</td>
<td>2.6 Gal</td>
</tr>
</tbody>
</table>

### Inlet Air

<table>
<thead>
<tr>
<th></th>
<th>Standby</th>
<th>Prime</th>
</tr>
</thead>
<tbody>
<tr>
<td>Com bustion air inlet flow rate</td>
<td>8.5 m³/min</td>
<td>8.4 m³/min</td>
</tr>
</tbody>
</table>

### Exhaust System

<table>
<thead>
<tr>
<th></th>
<th>Standby</th>
<th>Prime</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exhaust stack gas temperature</td>
<td>506°C</td>
<td>480°C</td>
</tr>
<tr>
<td>Exhaust gas flow rate</td>
<td>20.0 m³/min</td>
<td>19.2 m³/min</td>
</tr>
<tr>
<td>Exhaust flange size (internal diameter)</td>
<td>63.5 mm</td>
<td>2.5 in</td>
</tr>
<tr>
<td>Exhaust system back pressure (maximum)</td>
<td>15.0 kPa</td>
<td>15.0 kPa</td>
</tr>
</tbody>
</table>

### Heat Rejection

<table>
<thead>
<tr>
<th></th>
<th>Standby</th>
<th>Prime</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heat rejection to coolant (total)</td>
<td>61.0 kW</td>
<td>57.0 kW</td>
</tr>
<tr>
<td>Heat rejection to exhaust (total)</td>
<td>87.0 kW</td>
<td>81.0 kW</td>
</tr>
<tr>
<td>Heat rejection to aftercooler</td>
<td>18.0 kW</td>
<td>17.0 kW</td>
</tr>
<tr>
<td>Heat rejection to atmosphere from engine</td>
<td>18.0 kW</td>
<td>15.0 kW</td>
</tr>
<tr>
<td>Heat rejection to atmosphere from generator</td>
<td>9.7 kW</td>
<td>8.4 kW</td>
</tr>
</tbody>
</table>

### Alternator

<table>
<thead>
<tr>
<th></th>
<th>Standby</th>
<th>Prime</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor starting capability @ 30% voltage dip</td>
<td>206 skV</td>
<td>206 skV</td>
</tr>
<tr>
<td>Frame</td>
<td>LC3014B</td>
<td>LC3014B</td>
</tr>
<tr>
<td>Insulation class</td>
<td>H</td>
<td>H</td>
</tr>
<tr>
<td>Rotor temperature rise</td>
<td>130°C</td>
<td>105°C</td>
</tr>
<tr>
<td></td>
<td>234°F</td>
<td>189°F</td>
</tr>
</tbody>
</table>

### Lubrication System

<table>
<thead>
<tr>
<th></th>
<th>Standby</th>
<th>Prime</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total oil capacity</td>
<td>8.0 L</td>
<td>8.0 L</td>
</tr>
<tr>
<td>Oil pan</td>
<td>7.0 L</td>
<td>7.0 L</td>
</tr>
</tbody>
</table>

### Emissions (Nominal)

<table>
<thead>
<tr>
<th></th>
<th>Standby</th>
<th>Prime</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOx + HC</td>
<td>3.73 g/kWhr</td>
<td>2.1 gal</td>
</tr>
<tr>
<td>CO</td>
<td>1.15 g/kWhr</td>
<td>1.8 gal</td>
</tr>
<tr>
<td>PM</td>
<td>0.21 g/kWhr</td>
<td>1.8 gal</td>
</tr>
</tbody>
</table>

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1For ambient and altitude capabilities consult your Cat dealer. Airflow restriction (system) is added to existing restriction from factory.
2Generator temperature rise is based on a 40°C (104°F) ambient per NEMA MG1-32.
3The nominal emissions data shown is subject to instrumentation, measurement, facility and engine to engine variations. Emissions data is based on 100% load.
STANDBY 100 e kW 125 kVA
PRIME 90 e kW 113 kVA
60 Hz 1800 rpm 480 Volts

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.

Prime – Output available with varying load for an
unlimited time. Average power output is 70% of the
prime power rating. Typical peak demand of 100% of
prime-rated eKW with 10% of 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 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°C (59°F) and fuel
inlet temperature 40°C (104°F).

Additional ratings may be available for specific
customer requirements, contact your Cat
representative for details.
### DIMENSIONS

<table>
<thead>
<tr>
<th>Package Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
</tr>
<tr>
<td>Width</td>
</tr>
<tr>
<td>Height</td>
</tr>
</tbody>
</table>

**NOTE:** For reference only – do not use for installation design. Please contact your local dealer for exact weight and dimensions. (General Dimension Drawing #4190059).