STANDBY
600 ekW 750 kVA
50 Hz  1500 rpm  400 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
• Low Fuel consumption

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-products

CAT® 3412C TA 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

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
# FACTORY INSTALLED STANDARD & OPTIONAL EQUIPMENT

<table>
<thead>
<tr>
<th>System</th>
<th>Standard</th>
<th>Optional</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Air Inlet</strong></td>
<td>• Single element canister type air cleaner</td>
<td>[ ] Dual element air cleaner</td>
</tr>
<tr>
<td></td>
<td>• Service indicator</td>
<td>[ ] Heavy-duty air cleaner</td>
</tr>
<tr>
<td><strong>Cooling</strong></td>
<td>• Radiator with guard</td>
<td>[ ] Radiator duct flange</td>
</tr>
<tr>
<td></td>
<td>• Coolant drain line with valve</td>
<td>[ ] Jacket water heater with shutoff valve</td>
</tr>
<tr>
<td></td>
<td>• Fan and belt guards</td>
<td>[ ] Heat exchanger and expansion tank</td>
</tr>
<tr>
<td></td>
<td>• Cat® Extended Life Coolant</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Low coolant level alarm or shutdown</td>
<td></td>
</tr>
<tr>
<td><strong>Exhaust</strong></td>
<td>• Stainless steel exhaust flex and ANSI style outlet flange, gasket, bolts and mating weld flange, shipped loose</td>
<td>[ ] Mufflers (10 or 35 dBA)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[ ] Elbow kit and through-wall installation kit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[ ] Manifold and turbocharger guards</td>
</tr>
<tr>
<td><strong>Fuel</strong></td>
<td>• Primary and secondary fuel filters</td>
<td>[ ] Manual transfer pump</td>
</tr>
<tr>
<td></td>
<td>• Water separator</td>
<td>[ ] Choice of three Automatic Transfer Systems</td>
</tr>
<tr>
<td></td>
<td>• Fuel priming pump</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Flexible fuel lines</td>
<td></td>
</tr>
<tr>
<td><strong>Generator</strong></td>
<td>• Class H insulation</td>
<td>[ ] Digital Voltage Regulator with kVAR/PF control</td>
</tr>
<tr>
<td></td>
<td>• Class F temperature rise</td>
<td>[ ] Anti-condensation space heater</td>
</tr>
<tr>
<td></td>
<td>• VR6 Voltage Regulator, 3-phase sensing, 2:1 Volts/Hz</td>
<td>[ ] Oversize and premium generators</td>
</tr>
<tr>
<td></td>
<td>• Reactive droop</td>
<td>[ ] Circuit breakers, IEC Compliant, 3-pole or 4-pole with shunt trip</td>
</tr>
<tr>
<td></td>
<td>• Extension box</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Bus bar connection</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Segregated low voltage (AC/DC) wiring panel</td>
<td></td>
</tr>
<tr>
<td><strong>Governor</strong></td>
<td>• PEEC - Cat Electronic</td>
<td>[ ] Electronic load sharing</td>
</tr>
<tr>
<td><strong>Control Panels</strong></td>
<td>• 4.2 (mounted inside power center)</td>
<td>[ ] Right-hand mounting of control panel</td>
</tr>
<tr>
<td></td>
<td>• Rear facing</td>
<td>[ ] Local annunciator modules (NFPA 99/110)</td>
</tr>
<tr>
<td></td>
<td>• Speed adjust</td>
<td>[ ] Remote annunciator modules (NFPA 99/110)</td>
</tr>
<tr>
<td></td>
<td>• Emergency stop pushbutton</td>
<td>[ ] Discrete I/O module</td>
</tr>
<tr>
<td><strong>Lube</strong></td>
<td>• Lubricating oil and filter</td>
<td>[ ] Manual sump pump</td>
</tr>
<tr>
<td></td>
<td>• Oil drain line with valves</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Fumes disposal</td>
<td></td>
</tr>
<tr>
<td><strong>Mounting</strong></td>
<td>• Formed steel base</td>
<td>[ ] Integral fuel tank base</td>
</tr>
<tr>
<td></td>
<td>• Linear vibration isolators between base and engine-generator</td>
<td>[ ] Sub base fuel tank</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[ ] Wide base</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[ ] Skid base</td>
</tr>
<tr>
<td><strong>Starting/Charging</strong></td>
<td>• 45 amp charging alternator</td>
<td>[ ] Heavy-duty starting system</td>
</tr>
<tr>
<td></td>
<td>• Fuel shutoff solenoid</td>
<td>[ ] 5 or 10 amp battery charger</td>
</tr>
<tr>
<td></td>
<td>• 24 volt starting motor</td>
<td>[ ] Oversize batteries</td>
</tr>
<tr>
<td></td>
<td>• Battery with rack and cables</td>
<td>[ ] Ether starting aid</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[ ] Battery disconnect switch</td>
</tr>
<tr>
<td><strong>General</strong></td>
<td></td>
<td>[ ] Enclosures - sound attenuated, weather protective</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[ ] Automatic transfer switches (ATS)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[ ] Floor standing circuit breakers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[ ] EU Certificate of Conformance (CE)</td>
</tr>
</tbody>
</table>

*STANDBY 600 ekW 750 kVA*

50 Hz 1500 rpm 400 Volts
STANDBY 600 ekW 750 kVA
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SPECIFICATIONS

CAT GENERATOR
Frame size............................................................................ 596
Excitation............................................................................. Self Excitation
Pitch.................................................................................... 0.8667
Number of poles................................................................. 4
Number of bearings.......................................................... Single bearing
Number of Leads................................................................. 012
Insulation.......................................................................... UL 1446 Recognized Class H with tropicalization and antiabrasion
- Consult your Caterpillar dealer for available voltages
IP Rating............................................................. Drip Proof IP22
Alignment.............................................................. Pilot Shaft
Overspeed capability......................................................... 180
Wave form Deviation (Line to Line).............. Less than 5% deviation
Voltage regulation............. Less than +/- 1/2% (steady state)
Less than +/- 1% (no load to full load)
Telephone influence factor................................. Less than 50
Harmonic Distortion......................................................... Less than 5%

CAT DIESEL ENGINE
3412C TA, V-12, 4-Stroke Water-cooled Diesel
Bore.......................................................... 137.20 mm (5.4 in)
Stroke......................................................................... 152.40 mm (6.0 in)
Displacement.................................................. 27.02 L (1648.86 in³)
Compression Ratio...................................................... 13.0:1
Aspiration...................................................................... TA
Fuel System......................................................... Pump and Lines
Governor Type................................................. PEEC - Cat Electronic

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
### TECHNICAL DATA

#### Open Generator Set - 1500 rpm/50 Hz/400 Volts

<table>
<thead>
<tr>
<th>Package Performance</th>
<th>Genset Power rating @ 0.8 pf</th>
<th>Genset Power rating with fan</th>
<th>DM0629</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>750 kVA</td>
<td>600 ekW</td>
<td></td>
</tr>
</tbody>
</table>

#### Fuel Consumption

<table>
<thead>
<tr>
<th>Load with Fan</th>
<th>Fuel Consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td>158.9 L/hr</td>
</tr>
<tr>
<td>75%</td>
<td>121.6 L/hr</td>
</tr>
<tr>
<td>50%</td>
<td>85.3 L/hr</td>
</tr>
</tbody>
</table>

#### Cooling System

- Airflow restriction (system): 0.12 kPa, 0.48 in. water
- Airflow (max @ rated speed for radiator arrangement): 1236 m³/min, 43649 cfm
- Engine coolant capacity: 59.0 L, 15.6 gal
- Radiator coolant capacity: 84.0 L, 22.2 gal
- Engine coolant capacity with radiator/exp. tank: 143.0 L, 37.8 gal

#### Exhaust System

- Combustion air inlet flow rate: 45.6 m³/min, 1610.4 cfm
- Exhaust stack gas temperature: 536.0 °C, 996.8 °F
- Exhaust gas flow rate: 129.8 m³/min, 4583.8 cfm
- Exhaust flange size (internal diameter): 203.2 mm, 8.0 in
- Exhaust system backpressure (maximum allowable): 6.7 kPa, 26.9 in. water

#### Heat rejection

- Heat rejection to coolant (total): 359 kW, 20416 Btu/min
- Heat rejection to exhaust (total): 591 kW, 33610 Btu/min
- Heat rejection to atmosphere from engine: 96 kW, 5460 Btu/min
- Heat rejection to atmosphere from generator: 28.9 kW, 1643.5 Btu/min

#### Alternator

- Motor starting capability @ 30% voltage dip: 1732 skVA, 596
- Temperature Rise: 130 °C, 234 °F

#### Lube System

- Sump refill with filter: 139.0 L, 36.7 gal

#### Emissions

- NOx mg/nm³: 2947.9 mg/nm³
- CO mg/nm³: 170.2 mg/nm³
- HC mg/nm³: 109.5 mg/nm³
- PM mg/nm³: 45.1 mg/nm³

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1 For ambient and altitude capabilities consult your Cat dealer. Airflow 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.
**RATING DEFINITIONS AND CONDITIONS**


**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. Standby power in accordance with ISO8528. Fuel stop power in accordance with ISO3046. Standby ambients shown indicate ambient temperature at 100% load which results in a coolant top tank temperature just below the shutdown temperature.

**Ratings** are based on SAE J1349 standard conditions. These ratings also apply at ISO3046 standard conditions. **Fuel rates** are based on fuel oil of 35º API [16º C (60º F)] gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29º C (85º 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.
### DIMENSIONS

<table>
<thead>
<tr>
<th>Package Dimensions</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>4485.0 mm</td>
</tr>
<tr>
<td>Width</td>
<td>1798.1 mm</td>
</tr>
<tr>
<td>Height</td>
<td>1986.7 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>6214 kg</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 #).

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Performance No.: DM0629  
Feature Code: 412DEAZ  
Gen. Arr. Number: 1492441  
Source: European Sourced  
September 23 2011

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