



Image shown may not reflect actual package.

## STANDBY

**640 e kW 800 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

### DESIGN CRITERIA

- The generator set accepts 100% rated load in one step.

### FULL RANGE OF ATTACHMENTS

- Wide range of bolt-on system expansion attachments, factory designed and tested

### SINGLE-SOURCE SUPPLIER

- Fully prototype tested with certified torsional vibration analysis available

### WORLDWIDE PRODUCT SUPPORT

- Caterpillar® dealers provide extensive post sale support including maintenance and repair agreements
- Caterpillar dealers fill 99.7% of parts orders within 24 hours
- Caterpillar dealers have over 1,600 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-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 SR4B GENERATOR

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

### CAT EMCP 3 SERIES CONTROL PANELS

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

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## FACTORY INSTALLED STANDARD & OPTIONAL EQUIPMENT

System	Standard	Optional
Air Inlet	<ul style="list-style-type: none"> <li>•Single element canister type air cleaner</li> <li>•Service indicator</li> </ul>	<ul style="list-style-type: none"> <li>•Dual element air cleaner</li> <li>•Heavy-duty air cleaner</li> </ul>
Cooling	<ul style="list-style-type: none"> <li>• Radiator with guard</li> <li>• Coolant drain line with valve</li> <li>• Fan and belt guards</li> <li>• Caterpillar® Extended Life Coolant</li> <li>• Low coolant level alarm or shutdown</li> </ul>	<ul style="list-style-type: none"> <li>• Radiator duct flange</li> <li>• Jacket water heater with shutoff valve</li> <li>• Heat exchanger and expansion tank</li> </ul>
Exhaust	<ul style="list-style-type: none"> <li>• Stainless steel exhaust flex and ANSI style outlet flange, gasket, bolts and mating weld flange, shipped loose</li> </ul>	<ul style="list-style-type: none"> <li>• Mufflers (10 or 35 dBA)</li> <li>• Elbow kit and through-wall installation kit</li> <li>• Manifold and turbocharger guards</li> </ul>
Fuel	<ul style="list-style-type: none"> <li>• Primary and secondary fuel filters</li> <li>• Water separator</li> <li>• Fuel priming pump</li> <li>• Flexible fuel lines</li> </ul>	<ul style="list-style-type: none"> <li>• Manual transfer pump</li> <li>• Choice of three Automatic Transfer Systems</li> </ul>
Generator	<ul style="list-style-type: none"> <li>• Self excited</li> <li>• Class H insulation</li> <li>• Class F temperature rise (105°C prime/130°C standby)</li> <li>• VR3F Voltage Regulator, 3-phase sensing, 2:1 Volts/Hz</li> <li>• Reactive droop</li> <li>• Extension box</li> <li>• Bus bar connection</li> <li>• Segregated low voltage (AC/DC) wiring panel</li> </ul>	<ul style="list-style-type: none"> <li>• Permanent magnet excited</li> <li>• Digital Voltage Regulator with KVAR/PF control</li> <li>• Anti-condensation space heater</li> <li>• Oversize and premium generators</li> <li>• Circuit breakers, IEC Compliant, 3-pole or 4-pole with shunt trip</li> </ul>
Governor	<ul style="list-style-type: none"> <li>• PEEC - Cat Electronic</li> </ul>	<ul style="list-style-type: none"> <li>• Electronic load sharing</li> </ul>
Control Panels	<ul style="list-style-type: none"> <li>• EMCP 3.1 (mounted inside power center)</li> <li>• Rear facing</li> <li>• Speed adjust</li> <li>• Emergency stop pushbutton</li> <li>• Voltage adjustment</li> </ul>	<ul style="list-style-type: none"> <li>• EMCP 3.2 &amp; EMCP 3.3</li> <li>• Right-hand mounting of control panel</li> <li>• Local annunciator modules (NFPA 99/110)</li> <li>• Remote annunciator modules (NFPA 99/110)</li> <li>• Discrete I/O module</li> </ul>
Lube	<ul style="list-style-type: none"> <li>• Lubricating oil and filter</li> <li>• Oil drain line with valves</li> <li>• Fumes disposal</li> </ul>	<ul style="list-style-type: none"> <li>• Manual sump pump</li> </ul>
Mounting	<ul style="list-style-type: none"> <li>• Formed steel base</li> <li>• Linear vibration isolators between base and engine-generator</li> </ul>	<ul style="list-style-type: none"> <li>• Skid base</li> <li>• Fuel tank base</li> <li>• Extended capacity fuel tank base</li> </ul>
Starting/Charging	<ul style="list-style-type: none"> <li>• 45 amp charging alternator</li> <li>• Fuel shutoff solenoid</li> <li>• 24 volt starting motor</li> <li>• Battery with rack and cables</li> </ul>	<ul style="list-style-type: none"> <li>• Heavy-duty starting system</li> <li>• 5 or 10 amp battery charger</li> <li>• Oversize batteries</li> <li>• Ether starting aid</li> <li>• Battery disconnect switch</li> </ul>
General		<ul style="list-style-type: none"> <li>• Enclosures - sound attenuated, weather protective</li> <li>• Automatic transfer switches (ATS)</li> <li>• Floor standing circuit breakers</li> <li>• EU Certificate of Conformance (CE)</li> </ul>

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## SPECIFICATIONS

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### CAT SR4B GENERATOR

Frame Size.....597  
Excitation.....Self Excited  
Pitch.....0.8000  
Number of poles.....4  
Number of bearings..... Single Bearing  
Insulation..... UL 1446 Recognized Class H with tropicalization and antiabrasion  
IP Rating.....Drip Proof IP22  
Alignment..... Pilot Shaft  
Overspeed capability - % of rated..... 180  
Wave form..... Less than 5% deviation  
Paralleling kit/Droop transformer..... Standard  
Voltage regulator.3 Phase sensing with selectable volts/Hz  
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-cycle watercooled diesel  
Bore - mm..... 137.20 mm (5.4 in)  
Stroke - mm..... 152.40 mm (6.0 in)  
Displacement - L..... 27.02 L (1648.86 in<sup>3</sup>)  
Compression Ratio..... 13.0:1  
Aspiration..... TA  
Fuel system.....Pump and Lines  
Governor type..... PEEC - Cat Electronic

### CAT CONTROL PANELS

- EMCP 3.1 (Standard)
- Voltage adjustment potentiometer
- Digital speed adjustment (via EMCP3 display)
- Panel illuminating lights
- Digital AC metering - 3 phase, true RMS
- Digital indications for:
  - RPM
  - System DC volts
  - Operating hours
  - Oil pressure
  - Coolant temperature
  - Coolant Temperature
  - AC volts, phase amps, Hz
  - ekW, kVa, kVAR, kW-hr, % kW, PF
- Shutdowns with indicating lights for:
  - Low oil pressure
  - High coolant temperature
  - Overspeed
  - Emergency Stop
  - Failure to start (overcrank)
- Programmable digital (4) inputs and (4) outputs
- ModBus isolated data link (RS 485 half-duplex)  
supports serial communication at data rate up to 115.2 kbaud (optional)

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## TECHNICAL DATA

Open Generator Set - - 1500 rpm/50 Hz/400 Volts	DM0630	
<b>Package Performance</b> Genset Power rating @ 0.8 pf Genset Power rating with fan	800 kVA 640 ekW	
<b>Fuel Consumption</b> 100% load with fan 75% load with fan 50% load with fan	169.1 L/hr 128.9 L/hr 89.9 L/hr	44.7 Gal/hr 34.1 Gal/hr 23.7 Gal/hr
<b>Cooling System<sup>1</sup></b> Air flow restriction (system) Air flow (max @ rated speed for radiator arrangement) Engine coolant capacity Radiator coolant capacity Engine Coolant capacity with radiator/exp. tank	0.12 kPa 1236 m <sup>3</sup> /min 59.0 L 84.0 L 143.0 L	0.48 in. water 43649 cfm 15.6 gal 22.2 gal 37.8 gal
<b>Exhaust System</b> Combustion air inlet flow rate Exhaust stack gas temperature Exhaust gas flow rate Exhaust flange size (internal diameter) Exhaust system backpressure (maximum allowable)	48.1 m <sup>3</sup> /min 538.7 ° C 137.2 m <sup>3</sup> /min 203.2 mm 6.7 kPa	1698.6 cfm 1001.7 ° F 4845.2 cfm 8.0 in 26.9 in. water
<b>Heat rejection</b> Heat rejection to coolant (total) Heat rejection to exhaust (total) Heat rejection to atmosphere from engine Heat rejection to atmosphere from generator	381 kW 628 kW 105 kW 30.9 kW	21667 Btu/min 35714 Btu/min 5971 Btu/min 1757.3 Btu/min
<b>Alternator<sup>2</sup></b> Motor starting capability @ 30% voltage dip Frame Temperature Rise	1815 skVA 597 130 ° C	234 ° F
<b>Lube System</b> Sump refill with filter	139.0 L	36.7 gal
<b>Emissions<sup>3</sup></b> NOx mg/nm <sup>3</sup> CO mg/nm <sup>3</sup> HC mg/nm <sup>3</sup> PM mg/nm <sup>3</sup>	2969.2 mg/nm <sup>3</sup> 181.6 mg/nm <sup>3</sup> 120.1 mg/nm <sup>3</sup> 45.1 mg/nm <sup>3</sup>	

<sup>1</sup> For ambient and altitude capabilities consult your Caterpillar dealer. Air flow restriction (system) is added to existing restriction from factory.

<sup>2</sup> Generator temperature rise is based on a 40° C (104° F) ambient per NEMA MG1-32.

<sup>3</sup> Emissions data measurement is consistent with those described in EPA CFR40 Part 89, Subpart D 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.

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## RATING DEFINITIONS AND CONDITIONS

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**Meets or Exceeds International Specifications:** AS1359, CSA, IEC60034, ISO3046, ISO8528, NEMA MG 1-33, UL508A, 72/23/EEC, 89/336/EEC, 98/37/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. 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 J1995 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 Caterpillar representative for details. For information regarding Low Sulfur fuel and Biodiesel capability, please consult your Caterpillar dealer.

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## DIMENSIONS

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Package Dimensions		
Length	4485.0 mm	176.57 in
Width	1798.1 mm	70.79 in
Height	1986.7 mm	78.22 in
Weight	7081 kg	15,611 lb

Note: Do not use for installation design.  
See general dimension drawings for detail (Drawing #2923106).

Performance No.: DM0630

Feature Code:: 412DEQ9

Source:: European Sourced

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