



Image shown may not reflect actual package.

PRIME 580 kW 725 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

FULL RANGE OF ATTACHMENTS

- Wide range of bolt-on system expansion attachments, factory designed and tested
- ENCLOSURES (optional)**
- Weather protective and sound attenuated
- SINGLE-SOURCE SUPPLIER**
- Designed and built at Caterpillar ISO certified facilities
- 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 1,844 dealer branch stores operating in 166 countries
- The Cat Scheduled Oil Sampling (S•O•SSM) 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
- UL 2200 Listed packages are available. Certain restrictions may apply. Consult with your Caterpillar dealer

CAT SR4B GENERATOR

- Matched to the performance and output characteristics of Caterpillar engines
- Optimum winding pitch for minimum total harmonic distortion and maximum efficiency
- Segregated low voltage, AC/DC accessory box provides single point access to accessory connections
- UL 1446 Recognized Class H insulation

CAT CONTROL PANELS

- Four levels of controls to meet individual customer needs:
 - EMCP II offers digital monitoring, metering, and protection
- UL 508A Listed
 - EMCP II+ offers EMCP II features plus full-featured power metering and protective relaying
 - EMCP II+ Auto-Paralleling offers EMCP II+ features plus synchronization and load sharing
 - Switchgear conversion offers easy interface for remote switchgear
- UL 508A Listed

FACTORY INSTALLED STANDARD & OPTIONAL EQUIPMENT

System	Standard	Optional
Air Inlet	<ul style="list-style-type: none"> • Single element canister type air cleaner • Service indicator 	<ul style="list-style-type: none"> • Dual element air cleaner • Heavy-duty air cleaner
Cooling	<ul style="list-style-type: none"> • Radiator with guard • Coolant drain line with valve • Fan and belt guards • Caterpillar Extended Life Coolant • Low coolant level alarm or shutdown 	<ul style="list-style-type: none"> • Radiator duct flange • Jacket water heater with shutoff valve • Heat exchanger and expansion tank
Exhaust	<ul style="list-style-type: none"> • Stainless steel exhaust flex and ANSI outlet flange 	<ul style="list-style-type: none"> • Mufflers (20, 25, or 30 dBA) • Elbow kit and through-wall installation kit • Manifold and turbocharger guards
Fuel	<ul style="list-style-type: none"> • Primary and secondary fuel filters • Water separator • Fuel priming pump • Flexible fuel lines • Fuel pressure gauge 	<ul style="list-style-type: none"> • Manual transfer pump • Choice of three Automatic Transfer Systems • Low fuel level alarm
Generator	<ul style="list-style-type: none"> • Self excited • Class H insulation • Class F temperature rise (105°C prime/130°C standby) • VR3F Voltage Regulator, 3-phase sensing, 2:1 Volts/Hz • Reactive droop • Extension box • Bus bar connection 	<ul style="list-style-type: none"> • Permanent magnet excited • Digital Voltage Regulator • Digital Voltage Regulator with KVAR/PF control • Anti-condensation space heater • Oversize and premium generators (except 648 ekW Prime/720 ekW Standby) • Circuit breakers, IEC Compliant, 3-pole or 4-pole with shunt trip
Governor	<ul style="list-style-type: none"> • PEEC - Cat Electronic 	<ul style="list-style-type: none"> • Electronic isochronous • Electronic load sharing
Control Panels	<ul style="list-style-type: none"> • EMCP II 	<ul style="list-style-type: none"> • EMCP II+ • EMCP II+ with Auto-Paralleling • Switchgear conversion • Customer Communication Module • Local alarm and remote annunciator modules
Lube	<ul style="list-style-type: none"> • Lubricating oil and filter • Oil drain line with valves • Fumes disposal 	<ul style="list-style-type: none"> • Manual sump pump
Mounting	<ul style="list-style-type: none"> • Formed steel base • Linear vibration isolators between base and engine-generator 	<ul style="list-style-type: none"> • Skid base • Fuel tank base • Extended capacity fuel tank base
Starting/Charging	<ul style="list-style-type: none"> • 45 amp charging alternator • Energized to Run (ETR) fuel shutoff solenoid • 24 volt starting motor • Batteries with rack and cables 	<ul style="list-style-type: none"> • Heavy-duty starting system • 5 or 10 amp battery charger • Oversize batteries • Ether starting aid • Battery disconnect switch
General		<ul style="list-style-type: none"> • Enclosures - sound attenuated, weather protective • Automatic transfer switches (ATS) • Floor standing circuit breakers • EU Certificate of Conformance (CE)

SPECIFICATIONS

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.....	125
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 (1648.76 cu. in)
Compression Ratio.....	14.5:1
Aspiration.....	TA
Fuel system.....	Scroll
Governor type.....	PEEC - Cat Electronic

CAT CONTROL PANELS

- EMCP II
- 24 Volt CD Control
- NEMA 1, IP22 enclosure
- Electronically dead front
- Lockable hinged door
- Generator instruments meet ANSI C-39-1
- Terminal box mounted
- Single location customer connection point
- EC compliant - segregated AC/DC connections
- Panel illuminating lights
- Auto start/stop control
- Voltage adjust potentiometer
- True RMS AC metering
- Digital indications for:
 - rpm
 - Operating hours
 - Oil pressure
 - Coolant Temperature
 - System DC volts
 - AC volts, phase amps, Hz
- Shutdowns with indicating lights for:
 - Low oil pressure
 - High coolant temperature
 - Overspeed
 - Emergency Stop
 - Failure to start (overcrank)

TECHNICAL DATA

Open Generator Set - - 1500 rpm/50 Hz/400 Volts	DM0627	
Package Performance Genset Power rating @ 0.8 pf Genset Power rating with fan	725 kVA 580 ekW	
Fuel Consumption 100% load with fan 75% load with fan 50% load with fan	153.7 L/hr 117.5 L/hr 82.5 L/hr	40.6 Gal/hr 31.0 Gal/hr 21.8 Gal/hr
Cooling System Ambient air temperature Air flow restriction (system) Air flow (max @ rated speed for radiator arrangement) Engine coolant capacity	55 Deg C 0.12 kPa 117 m ³ /min 59.0 L	131 Deg F 0.48 in. water 4132 cfm 15.6 Gal
Exhaust System Combustion air inlet flow rate Exhaust stack gas temperature Exhaust gas flow rate Exhaust flange size (internal diameter) Exhaust system backpressure (maximum allowable)	44.2 m ³ /min 534.0 Deg C 125.4 m ³ /min 203.2 mm 6.7 kPa	1560.9 cfm 993 Deg F 4428.5 cfm 8.0 in 26.9 in. water
Heat rejection Heat rejection to coolant (total) Heat rejection to exhaust (total) Heat rejection to atmosphere from engine Heat rejection to atmosphere from generator	347 kW 571 kW 95 kW 27.93 kW	19734 Btu/min 32473 Btu/min 5403 Btu/min 1588.38 Btu/min
Alternator Motor starting capability @ 30% voltage dip Frame Temperature Rise	1768 skVA 597 105 Deg C	221 Deg F
Lube System Sump refill with filter	139.0 L	36.7 Gal

Ambient capability at 200 m (660 ft) above sea level. For ambient capability at other altitudes, consult your Caterpillar dealer.
Generator temperature rise is based on a 40° C (104° F) ambient per NEMA MG1-32.

RATING DEFINITIONS AND CONDITIONS

Meets or Exceeds International Specifications: ABGSM TM3, AS1359, AS2789, BS4999, BS5000, BS5514, DIN6271, DIN6280, EGSA101P, IEC34/1, ISO3046/1, ISO8528, JEM1359, NEMA MG 1-22, VDE0530, 89/392/EEC, 89/336/EEC

Prime - Output available with varying load for an unlimited time. Prime power in accordance with ISO8528. 10% overload power in accordance with ISO3046/1, AS2789, DIN6271, and BS5514 available on request. Prime power ambients shown indicate ambient at 100 percent load which results in a coolant top tank temperature just below the alarm temperature.

Ratings are based on SAE J1995 standard conditions. These ratings also apply at ISO3046/1, DIN6271, and BS5514 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).

Additional Ratings may be available for specific customer requirements. Consult your Caterpillar representative for details.

DIMENSIONS

Package Dimensions		
Length	4485.0 mm	176.57 in
Width	1748.4 mm	68.83 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 #1540166).



Performance No.: DM0627

Feature Code:: 412DE48

Source:: European Sourced

6 June 2004

2262874

www.CAT-ElectricPower.com

Caterpillar
All rights reserved.

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