DIESEL GENERATOR SET

CATERPILLAR®



Image shown may not reflect actual package.

FEATURES

ENCLOSURES (optional)

• Weather protective and sound attenuated

SINGLE-SOURCE SUPPLIER

- Complete systems designed and built at Caterpillar ISO certified facilities.
- Fully prototype tested with certified torsional vibration analysis available

WORLDWIDE PRODUCT SUPPORT

- Worldwide parts availability through the Caterpillar dealer network
- With over 1844 dealer branch stores operating in 166 countries, you're never far from the Caterpillar part you need
- 99.7% of parts orders filled within 24 hours. The best product support record in the industry
- Caterpillar dealer service technicians are trained to service every aspect of your electric power generation system
- Preventive maintenance agreements
- 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

PRIME 545 ekW 681 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[®] 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 you Caterpillar dealer

CAT[®] SR4B GENERATOR

- Designed to match performance and output characteristics of Caterpillar diesel 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 system

CAT CONTROL PANELS

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

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FACTORY INSTALLED STANDARD & OPTIONAL EQUIPMENT

System	Standard	Optional	
Air Inlet	•Single element canister type air cleaner	•Dual element air cleaner	
	•Service indicator	•Heavy-duty air cleaner	
Cooling	 Radiator with guard 	Radiator duct flange	
	 Coolant drain line with valve 	 Jacket water heater with shutoff valve 	
	Fan and belt guards	 Heat exchanger and expansion tank 	
	Caterpillar Extended Life Coolant		
	Low coolant level alarm or shutdown		
Exhaust	Stainless steel exhaust flex and ANSI outlet flange	• Mufflers (20, 25, or 30 dBA)	
		Elbow kit and through-wall installation kit	
		Manifold and turbocharger guards	
Fuel	Primary and secondary fuel filters	Manual transfer pump	
	Water separator	Choice of three Automatic Transfer Systems	
	Fuel priming pump	Low fuel level alarm	
	Flexible fuel lines		
-	Fuel pressure gauge		
Generator	• Self excited	Permanent magnet excited	
	Class H insulation	Digital Voltage Regulator	
	Class F temperature rise (105°C prime/130°C stand-	Digital Voltage Regulator with KVAR/PF control	
	by)	Anti-condensation space heater	
	VR3F Voltage Regulator, 3-phase sensing, 2:1 Volts/Hz	 Oversize and premium generators Circuit breakers, IEC Compliant, 3-pole or 4-pole with 	
	Reactive droop	shunt trip	
	• Extension box	shunt trip	
	Bus bar connection		
Governor	Woodward 2301A	Electronic isochronous	
		Electronic load sharing	
Control Panels	• EMCP II	• EMCP II+	
		EMCP II+ with Auto-Paralleling	
		Switchgear conversion	
		Customer Communication Module	
		 Local alarm and remote annunciator modules 	
Lube	 Lubricating oil and filter 	Manual sump pump	
	Oil drain line with valves		
	Fumes disposal		
Mounting	Formed steel base	Skid base	
	Linear vibration isolators between base and engine-	Fuel tank base	
	generator	Extended capacity fuel tank base	
Starting/Charging	• 45 amp charging alternator	Heavy-duty starting system	
	Energized to Run (ETR) fuel shutoff solenoid	• 5 or 10 amp battery charger	
	• 24 volt starting motor	Oversize batteries	
	 Batteries with rack and cables 	Ether starting aid	
0		Battery disconnect switch	
General		• Enclosures - sound attenuated, weather protective	
		Automatic transfer switches (ATS)	
		Floor standing circuit breakers	
		• EU Certificate of Conformance (CE)	

SPECIFICATIONS

CAT SR4B GENERATOR

CAT DIESEL ENGINE

3412C TA V-12, 4-stroke-cycle waterc	ooled diesel
Bore - mm	
Stroke - mm	
Displacement - L	
Compression Ratio	14.5 TO 1
Aspiration	
Fuel system	.Mechanical pump and line
Governor type	Woodward

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 - — 1800 rpm/60 Hz/480 Volts	PRIMI	PRIME DM1910	
Package Performance			
Power rating	545 ekW		
Power rating @ 0.8 pf	681.25 kVA		
Fuel Consumption			
100% load with fan	152.6 L/hr	40.3 Gal/hr	
75% load with fan	117.3 L/hr	31.0 Gal/hr	
50% load with fan	83.9 L/hr	22.2 Gal/hr	
Cooling System*			
Ambient air temperature	50 Deg C	122 Deg F	
Air flow restriction (system)	.12 kPa	0.48 in. water	
Air flow (max @ rated speed for radiator	742 m3/min	26,204 cfm	
arrangement)			
Engine coolant capacity	57.0 L	15.1 Gal	
Exhaust System			
Combustion air inlet flow rate	49.4 m3/min	1,744.5 cfm	
Exhaust stack gas temperature	477.9 Deg C	892 Deg F	
Exhaust gas flow rate	130.8 m3/min	4,619.2 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)	353 kW	20,075 Btu/min	
Heat rejection to exhaust (total)	559 kW	31,790 Btu/min	
Heat rejection to atmosphere from engine	111 kW	6,313 Btu/min	
Heat rejection to atmosphere from generator	30.73 kW	1,747.61 Btu/min	
Alternator**			
Motor starting capability @ 30% voltage dip	1629 skVA		
Frame	593		
Temperature Rise	105 Deg C		
Lube System			
Lube oil refill volume with filter change for	139.0 L	36.7 Gal	
standard sump			

*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 degree C 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.

Package Dimensions				
Length	4485.0 mm	176.57 in		
Width	1748.5 mm	68.84 in		
Height	1986.7 mm	78.22 in		
Weight	6399 kg	14,107 lb		

Note: Do not use for installation design. See general dimension drawings for detail (Drawing #1540167).



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European Sourced

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