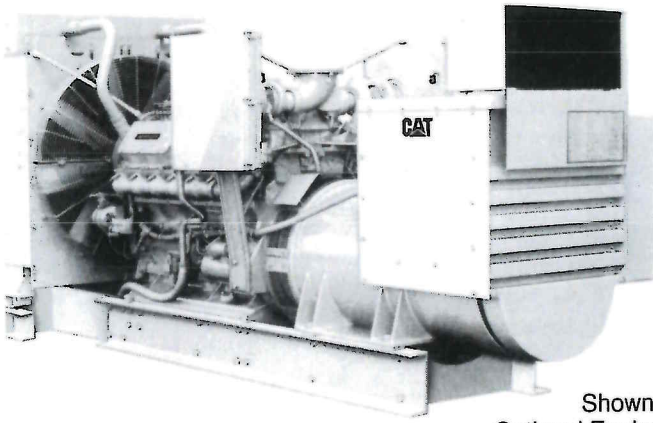


CATERPILLAR®

Generator Set

3412
1800 rpm
600 kW 60 Hz

Standby Power



Shown with
Optional Equipment

CATERPILLAR® ENGINE SPECIFICATIONS

V-12, 4-Stroke-Cycle, Watercooled Diesel
 Bore—mm (in) 137 (5.4)
 Stroke—mm (in) 152 (6.0)
 Displacement—L (cu in)..... 27.0 (1,649)
 Compression ratio 14.5:1



FEATURES

■ CAT® DIESEL GENERATOR SETS

Factory designed, certified prototype tested with torsional analysis. Production tested and delivered to you in a package that is ready to be connected to your fuel and power lines. EPG Designer computer sizing available. Supported 100% by your Caterpillar dealer with warranty on parts and labor. Extended warranty available in some areas. The generator set was designed and manufactured in an ISO 9001 compliant facility. Generator set and components meet or exceed the following specifications:
 ABGSM TM3, AS1359, AS2789, BS4999, BS5000, BS5514, DIN6271, DIN6280, EGSA101P, IEC 34/1, ISO3046/1, ISO8528, JEM1359, NEMA MG1-22, VDE0530, 89/392 EEC.

■ RELIABLE, FUEL EFFICIENT DIESEL

The compact, four-stroke-cycle diesel engine combines durability with minimum weight while providing dependability and economy. The fuel system operates on a variety of fuels.

■ CATERPILLAR® SR4B GENERATOR

Single bearing, wye connected, static regulated, brushless permanent magnet excited generator designed to match the performance and output characteristics of the Caterpillar diesel engine that drives it.

■ EXCLUSIVE CATERPILLAR VOLTAGE REGULATOR

Three-phase sensing and Volts per Hertz regulation give precise control, excellent block loading, and constant voltage in the normal operating range.

CATERPILLAR® SR4B GENERATOR

Type Static regulated, brushless excited
 Excitation Permanent magnet
 Construction Single bearing, close coupled
 Three phase..... Wye connected
 Insulation Class H with tropicalization and antiabrasion
 Terminal box Drip proof IP 22
 Alignment Pilot shaft
 Overspeed capability 150%
 Paralleling capability Standard — with adjustable droop
 Voltage regulator..... 3-phase sensing with Volts-per-Hertz
 Voltage regulation .. Less than ± 1/2% (steady state)
 Less than ± 1% (no load to full load)
 Voltage gain ... Adjustable to compensate for engine speed droop and line loss

Wave form Less than 5% deviation
 TIF Less than 50
 THD Less than 5%

CATERPILLAR CONTROL PANEL

24 Volt DC Control

Vibration isolated
 NEMA 1, IP 22 enclosure
 Electrically dead front
 Lockable hinged door
 Generator instruments meet ANSI C-39-1
 Terminal box mounted

Voltages Available
(Consult Price List)

STANDARD EQUIPMENT

<p>Engine Aftercooler Air cleaner, light duty without service indicators Base, rails Blower fan and drive Breather, crankcase Cooler, lubricating oil Exhaust fitting and flange Filters, right hand fuel, full flow lubricating oil, full flow Flywheel housing SAE No.1 Governor hydra-mechanical Lifting eyes Manifold, exhaust, dry Pumps, gear driven fuel transfer, lubricating oil jacket water Radiator Shutoff, manual Starting, electric, 24 Volt</p> <p>Generator SR4B brushless PM excited with VR3 voltage regulator</p>	<p>ELECTRONIC MODULAR CONTROL PANEL (EMCP)</p> <p>Standard Generator Controls and Monitoring: Ammeter/voltmeter phase selector switch Digital ammeter, voltmeter, and frequency meter Voltage adjust rheostat</p> <p>Standard Engine Controls and Monitoring: Automatic/manual start-stop control Cooldown timer Cycle cranking Emergency stop pushbutton Engine control switch for: off/reset, auto start, manual start, stop Shutdown protection and LED indicators for: high coolant temperature low oil pressure overcrank overspeed</p>
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STANDBY POWER ATTACHMENTS

<p>Engine Air cleaner, regular duty or heavy duty Air precleaner Charging alternator Cooling systems Exhaust fittings Governor, Woodward 2301, or 2301A load share; Woodward 1724 or 1724 load share Protection devices Tachometer drive</p> <p>Generator Coastal protected generators Digital voltage regulator Extension terminal box Manual voltage control MIL Std. 461B, Part 9 Oversized generators RFI N Level (VDE 875), BS800 Self-excited generators Space heater</p> <p>Switchgear Automatic start-stop Battery charger Circuit breaker manual electric operated</p>	<p>Enclosure — floor standing NEMA 1 Main load buss Paralleling manual permissive auto (consult factory) Protective relays</p> <p>Control Panel Auxiliary relay Customer Communication Module (CCM) Enclosure, NEMA 12/IP 44 Governor speed switch Illuminating lights Installed speed sensing governor (Woodward) Low coolant level Overcurrent relay Overvoltage relay Provision for: alarm module alarm module – NFPA 99 alarm module – NFPA 110 Reverse power relay Starting aid switch Synchronizing lights</p>
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Caterpillar® EMCP II Electronic Modular Control Panel

The Electronic Modular Control Panel (EMCP II) is a generator-mounted control panel, available on all Caterpillar packaged generator sets. It utilizes an environmentally sealed, solid-state, microprocessor-based module for engine control and AC metering. This new application of mature, high-tech electronics to gen set control and monitoring provides more features, accuracy and reliability than present electro-mechanical and many competitive panel systems.

The EMCP II provides these standard control and monitoring features, many of which are options on other panels:

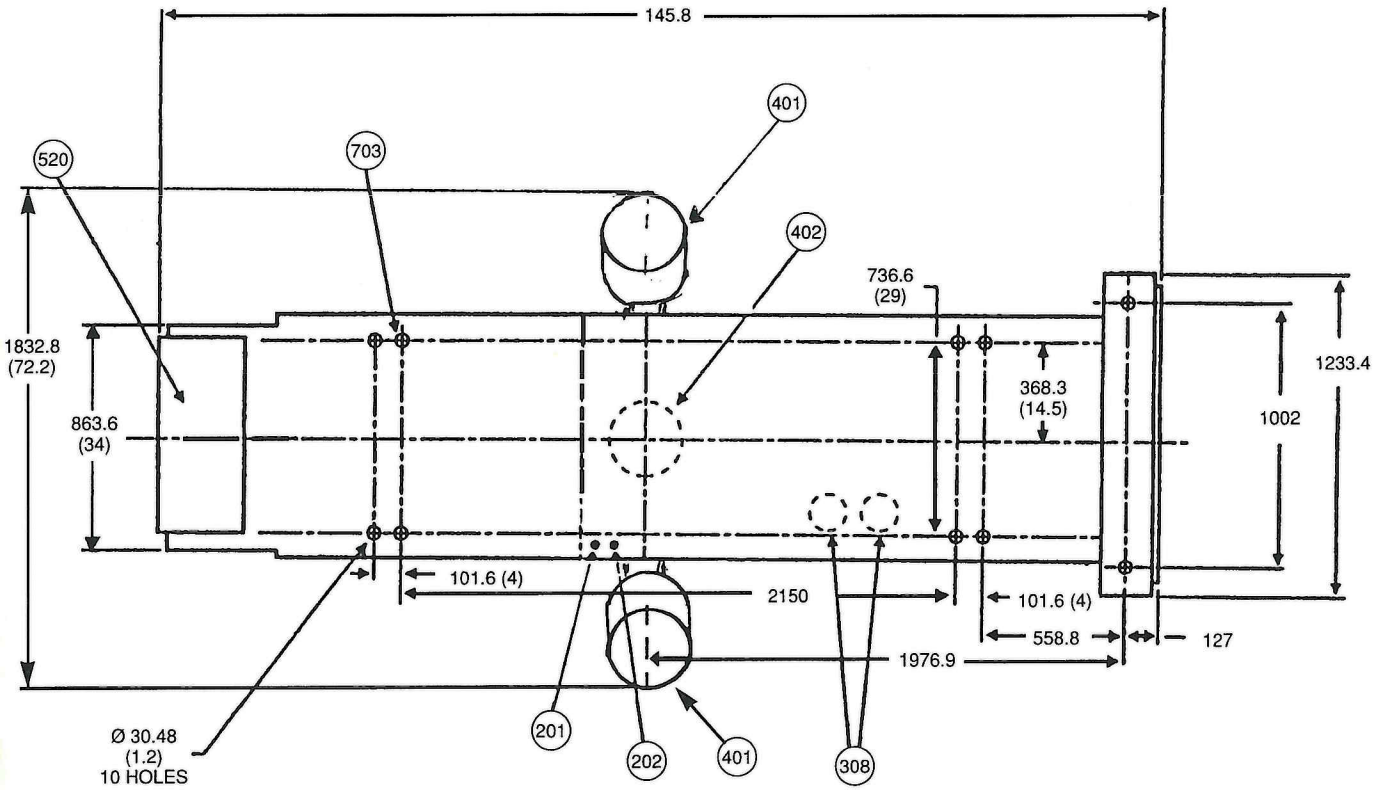
- Automatic/manual start-stop engine control with programmable safety shutdowns and associated flashing LED indicators for low oil pressure, high coolant temperature, overspeed, overcrank and emergency stop
- Cycle cranking—adjustable 1-60 second crank/rest periods
- Cooldown timer—adjustable 0-30 minutes
- Energized to run or shutdown fuel control systems
- LCD digital readout for: Engine oil pressure; coolant temperature; engine rpm; system DC volts; engine running hours; system diagnostic codes; generator AC volts; generator AC amps; and generator frequency
- Engine control switch
- Ammeter-voltmeter phase selector switch
- Emergency stop pushbutton
- Indicator/display test switch
- Voltage adjust potentiometer
- Rugged NEMA 1/IP 22 cabinet.



TECHNICAL DATA

3412 Standby Power Generator Set — 1800 RPM		
Power Rating @ 0.8 PF with Fan	kW	600
Power Rating @ 0.8 PF with Fan	kV•A	750
Engine Rating without Fan	Hp	896
Generator Frame Size		593
Engine Lubricating Oil Capacity	qts	124
Engine Coolant Capacity without Radiator	gal	15.5
System Backpressure (Max Allowable)	in water	27
Exhaust Flange Size — (Internal Diameter)	in	8
Aspiration		TA
Length	in	145.8
Width	in	72.2
Height	in	76.1
Shipping Weight	lbs	10,110
Engine Coolant Capacity with Radiator	gal	31.0
Standard Radiator Arrangement Data: Air Flow (Max @ Rated Speed)	cfm	37,787
Air Flow Restriction (after radiator)	in water	0.25
Ambient Air Temperature	Deg. F	125
100% Load Fuel Consumption (100% load) with Fan per ISO3046/1: +5%, -0% tolerance	gal/hr	44.5
75% Load Fuel Consumption (75% load) with Fan per ISO3046/1: +5%, -0% tolerance	gal/hr	33.8
Combustion Air Inlet Flow Rate	ft ³ /min	1873
Exhaust Gas Flow Rate	ft ³ /min	5014
Heat Rejection to Coolant (total)	BTU/min	22,065
Heat Rejection to Exhaust (total)	BTU/min	34,918
Heat Rejection to Atmosphere from Engine	BTU/min	7336
Heat Rejection to Atmosphere from Generator	BTU/min	2150
Exhaust Gas Stack Temperature	Deg F	906

STANDBY GENERATOR SET PACKAGE



- (201) Fuel Inlet
- (202) Excess Fuel Return
- (308) Oil Filter
- (401) Air Inlet
- (402) Exhaust
- (520) Control and Power Panel
- (703) Customer Mounting Holes

For overall dimensions see technical data section (page 3).

Note: General configuration not to be used for installation. See general dimension drawings for detail. All dimensions are in mm.

CONDITIONS AND DEFINITIONS

Standby — Output available with varying load for the duration of the interruption of the normal source power. Fuel stop power in accordance with ISO3046/1, AS2789, DIN6271, and BS5514.

Ratings are based on SAE J1349 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.