



# EEC Grade Power Module

Using Diesel Engine Generator Sets

## FEATURES

### ■ CAT® 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. Supported 100% by your Caterpillar® Dealer with warranty on parts and labor; extended warranty available in some areas.

### ■ 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.

### ■ THE CATERPILLAR GENERATOR

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

### ■ EXCLUSIVE CATERPILLAR VOLTAGE REGULATOR

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

### ■ CATERPILLAR COOLING SYSTEM

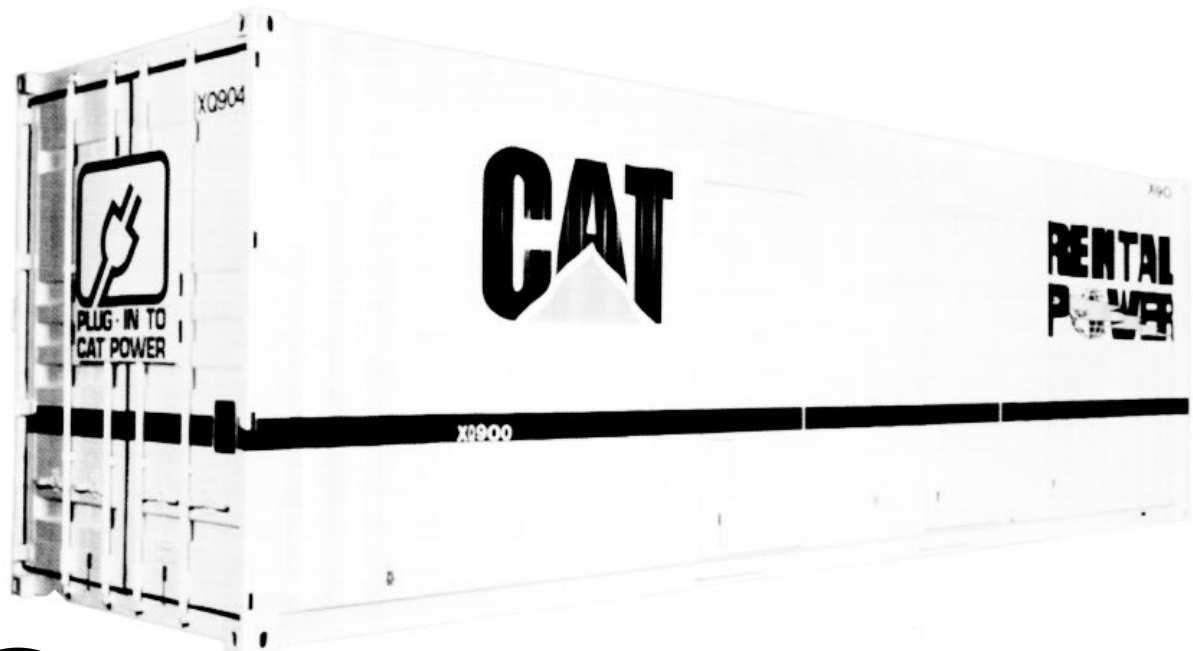
Sized compatible to rating with energy efficient fan and core.

### ■ CATERPILLAR SWITCHGEAR

Single unit or optional paralleling components. Circuit breakers, bus bars, and connection panel ready to connect.

### ■ ISO CONTAINER

For ease of transportation and protection. Meets ISO/TC104, ANSI/MH5.1, and UIC Code 592-1. Meets 84/526/EEC sound power levels.



**STANDARD EQUIPMENT**

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**Engine**

Air cleaner, with service indicator  
 Batteries  
 Filters  
   fuel LH with service indicators  
   lubricating oil  
 Insulated muffler  
 Jacket water heater  
 Pump, fuel priming  
 Radiator  
 Service meter  
 Standard 8-gauge instrument panel  
 Sump pump

**Generator**

SR4 brushless, 480 volt  
   PM excited  
 Three-phase, with voltage regulator  
   and space heater

**Container**

Air intake louvers  
 Bus bar access door  
 EEC sound attenuation  
 Fuel tank w/sight gauge  
   40 ft, 3760 L (1000 gal)  
 110 VAC/24 VDC lighting  
 Steel deck floor

**Switchgear**

Automatic start/stop  
   with single cycle crank  
 Battery charger, heavy duty  
 Circuit breaker  
   electrically operated  
 Connection terminals  
   3-phase and neutral  
 40-foot module  
   floor standing with  
   EMCP components  
 20-foot module  
   EMCP generator mounted  
 220 VAC/50 Hz  
   auxiliary inlets for jacket water heater,  
   battery charger, space heaters  
 2301/2301A governor, installed

**CATERPILLAR ENGINE**

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V8, V12, & V16, Four-Stroke-Cycle Diesel  
 Bore—mm (in) . . . . . 170 (6.7)  
 Stroke—mm (in) . . . . . 190 (7.5)  
 Displacement—L (cu in)  
   V8 . . . . . 34.5 (2,105)  
   V12 . . . . . 51.8 (3,158)  
   V16 . . . . . 69.0 (4,210)  
 Aspiration . . . . . Turbocharged-Aftercooled

**CATERPILLAR® SR4 GENERATOR**

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Type . . . . . Static regulated brushless PM excited  
 Construction . . . . . Single bearing, close coupled  
 Three phase . . . . . Wye connected  
 Insulation . . . . . Class H  
 Enclosure . . . . . Drip proof  
 Alignment . . . . . Pilot shaft  
 Overspeed capability . . . . . 130%  
 Voltage regulator . . . . . 3 phase sensing with  
   Volts-per-Hertz  
 Voltage regulation . . . . . Less than ± 1%  
 Voltage gain . . . . . Adjustable to compensate for engine  
   speed droop and line loss  
 Wave form . . . . . Less than 5% deviation  
 TIF . . . . . Less than 50  
 THF . . . . . Less than 3%

**OPTIONAL EQUIPMENT**

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**Container**

Cold weather packages  
 Undercarriage

**Generator**

Mil Std 461B, VDE 875 Level N  
 Temperature rise detectors

**Switchgear**

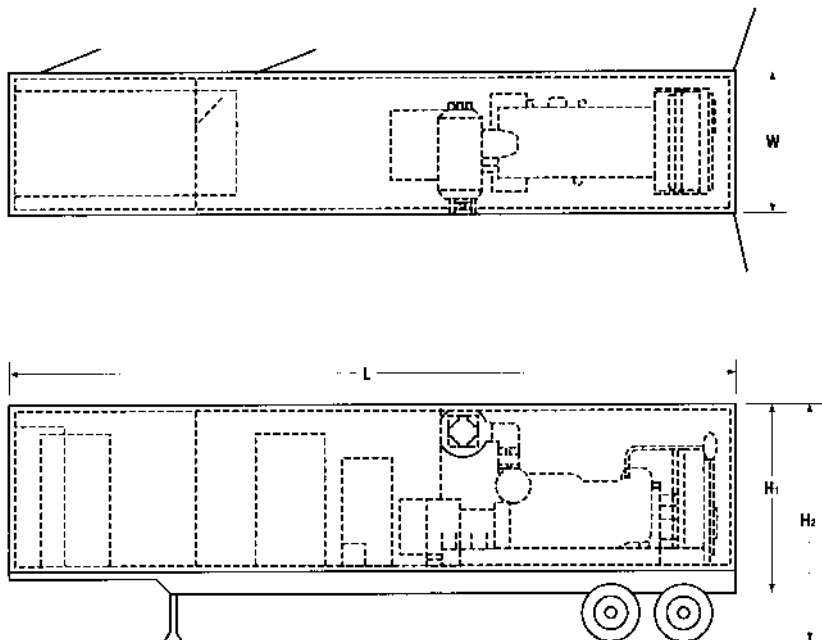
Audible alarms  
 Four-alarm light module  
 Meters,  
   kW, kW hr, power factor  
 Multiple cranking  
   with cooldown timer  
 Paralleling  
   manual, permissive, or semi-automatic  
 Peak shaving  
 Special options on request

**Engine**

Fuel transfer system  
 Fuel-water separator system  
 Jacket water heaters  
 Oil level makeup system

**TECHNICAL DATA**

Rating Information	50 Hz 50 Hz	800 EKW 1000 kV•A	1120 EKW 1460 kV•A	1600 EKW 2000 kV•A	
Engine and Container Information	<b>Engine Model</b>	3508	3512	3516	
	Container size*	40 ft	40 ft	40 ft	
	Container dimensions	C	C	C	
	Ratings ambient	°C 46 °F 115	43 110	43 110	
Fuel Capacity (gallon) Hours of Operation at 60% Load Factor**	1250 (4732 L) STD 40 ft	31	23	17	
	2500 (9464 L) OPT 40 ft	62	46	33	
	4500 (17,034 L) OPT 40 ft	112	83	59	
	** Maximum Standby Rating at 1800 rpm				
Approximate Weight (Dry) – Container with Generator Set and Switchgear	Container	kg lb	21,500 47,500	23,600 52,000	25,850 57,000
	With undercarriage	kg lb	25,000 55,000	26,300 58,000	29,500 65,000



**\*Container Dimensions**  
**C**  
**40 ft**  
**HI CAP**  
 L 1219 cm (480")  
 W 234 cm (92")  
 H<sub>1</sub> 290 cm (114")  
 H<sub>2</sub> 411 cm (162")

NOTE: The container meets or exceeds the following standards and regulations.  
 – ISO/TC 104 Requirements for Cargo Containers  
 – ANSI/MH5.1 Basic Requirements for Cargo Containers  
 – ANSI/MH5.1.1 Requirements for Closed Van Containers  
 – UIC CODE 592-1

The module must have support under the center when set on the ground.  
 3516 requires tri-axle chassis.

Maximum weight allowed on Interstate highways is 34,000 lb (rear axles). 3516 typically weighs 33,000 lb as shipped. The complete unit weighs 55,000 lb gross with chassis. Empty chassis weighs 6,000 lb. These weights do not include tractor.

## SWITCHGEAR

Standard 600 VAC EMCP component floor standing switchgear intended for single unit application.

Manual paralleling with synchronizing lights and reverse power relay.

Microprocessor based automatic engine start/stop control module, with cycle crank, cooldown timer, six engine fault shutdowns with flashing LEDs for overcrank, overspeed, high coolant temperature, low oil pressure, emergency stop, and spare shutdown. Digital display with backlit LCD for engine hours, rpm, battery voltage, oil pressure, and coolant temperature.

Engine mode selector switch for auto/manual/cooldown/off reset operations. Amps/volts phase selector switch. Digital AC meters, 0.5% accuracy, true RMS, with backlit LCD for generator voltage, amperage, and frequency. Voltage adjust rheostat. Current and potential transformers. Engine alarm module with LEDs and horn to warn of high coolant temperature, low lube oil pressure, low coolant temperature, low battery voltage, engine control not in auto, low water level, and two spares. Lamp test pushbutton. Woodward 2301A loadsharing electronic governor control with panel mounted speed adjust rheostat and isochronous/droop switch.

Set of three-phase bus bars, tin plated aluminum, rated for capacity of generator set, connected off the generator main circuit breaker and extended to access panel on exterior of container. Isolated neutral bus bar, tin plated aluminum, rated for half of generator capacity. Ground bus bar, tin plated aluminum, connected to container frame. Generator main circuit breaker, three-pole, fixed mounted insulated case with stored energy close mechanism. Provided with manual operation, automatic solid state trip unit for overcurrent protection with adjustable ampere instantaneous settings for overload/high fault current protection, two sets of auxiliary switch contacts, and 24 VDC shunt trip. Breaker rated for generator set capacity.

Power supply distribution group provides low voltage for container interior lights, generator space heater, engine jacket water heater, battery charger, and interior optional equipment, with automatic voltage sensing changeover circuit to disconnect from

shore power when generator power is available. Includes three fused receptacles for connection to customer shore power. Engine jacket water heater circuit includes service disconnect switch, and engine run disconnect relay. 50 Hz systems use 230 VAC L-N directly from either customer supplied power or generator output. 60 Hz systems include power transformer to provide 120 VAC from generator output voltage, with 30 A fuses and three receptacles for customer supplied power

