

# Rental



## **C18-20' XQ600 MULTI-VOLTAGE SOUND ATTENUATED POWER MODULE 60 Hz**

### **FEATURES**

Factory designed, certified prototype tested with torsional analysis. Production tested and delivered in a package that is ready to be connected to your fuel and power lines. Electric Power Design Pro computer sizing available. Supported 100% by your Caterpillar dealer with warranty on parts and labor. Extended warranty available in some areas. The generator set is designed and manufactured in an ISO 9001:2000 compliant facility. Generator set and components meet or exceed the following specifications: BS5000 Part 99, IEC60034-1, VDE0530, NEMA MG1.22, BS4999, BS5514, ISO3046/1, DIN6271, ISO8528, and EGSA101P

#### **CATERPILLAR C18 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.

#### **RELIABLE, FUEL EFFICIENT DIESEL ENGINE**

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 COOLING SYSTEM**

Sized compatible to rating with energy efficient fan and core.

#### **LINK BOARD ASSEMBLY**

Set mounted generator multi-voltage adjust plate. Voltage nodes 208V, 240V and 480V – Wye configuration.

#### **ENVIRONMENTALLY FRIENDLY**

110% full spill containment of all onboard fluids.

#### **SOUND ATTENUATED CONTAINER**

For ease of transportation and protection. Meets 75 dB(A) at 7m or below per ISO3744 measurement procedure.

## FACTORY INSTALLED STANDARD EQUIPMENT

System	Standard Equipment
Engine	<p>EPA approved Tier II C-18 ATAAC Caterpillar diesel engine</p> <p>Air cleaner with service indicator</p> <p>45-Amp charging alternator</p> <p>Fuel filters - primary and duplex secondary with integral water separator and change-over valve</p> <p>Jacket water heater, fuel cooler, priming pump and pressure gauge</p> <p>Electronic ADEM™ A4 controls</p>
Generator	<p>Multi-Voltage, brushless, IE exciter, three-phase with automatic voltage regulator,</p> <p>space heater, 12-lead design, Class H insulation operating at Class F temperature for extended life.</p>
Containerized Module	<p>20' ISO high cube container, CSC certified</p> <p>2-axle 20' ISO container chassis</p> <p>Sound attenuated air intake louver at rear of container with cooling air discharged vertically from roof.</p> <p>2 lockable personnel doors with panic release, one lockable double door for control access.</p> <p>Bus bar access door, external access load connection bus bars</p> <p>Shore power connection via distribution block</p> <p>Standard lighting 2 AC / 2 DC, one (1) single duplex service receptacle, 2 external break-glass emergency stop push buttons</p> <p>Fuel tank UL listed, double wall, 14hr runtime @ 75% load</p> <p>Sound Attenuated 75 dB(A) @ 7m, spill containment 110% of all onboard fluids i.e.: fuel, coolant, and oil</p> <p>Oversized maintenance-free battery, battery rack and 10-Amp battery charger</p> <p>Critical grade internally insulated exhaust silencer</p> <p>Vibration isolators, corrosion resistance hardware and hinges,</p> <p>External drain access to standard fluids (coolant and oil)</p> <p>Standard CAT decals and painted standard CAT power module white.</p>
Cooling	<p>Standard cooling provides 43°C ambient capability at prime plus 10% overload rating</p> <p>Engine mounted, vertical radiator, vertical air discharge, and exhaust discharge, hand operated fill.</p>
Control Panel	<p>Set-mounted control panel with EMCP 3.3 controller</p> <p>Automatic start/stop with cool down timer</p> <p>2,500A circuit breaker, UL listed, electrically operated</p> <p>Meters: kW, kVA, kVAR , PF, kWh</p> <p>Protection: 27, 59, 810, 81U</p> <p>Event log, standard lights display (status and alarms)</p> <p>Auxiliary power connections for jacket water heater, space heater, battery charger</p> <p>2,500A reconnectable link board for 208/240/480V – Wye configuration.</p>
Quality	<p>Standard genset and package factory tested</p> <p>UL, NEMA, ISO and IEEE standards</p> <p>O&amp;M manuals</p>

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## CAT C18 GENERATOR

Frame Size ..... 7024J  
 Excitation ..... AREP  
 Constructions ..... Single Bearing, close coupled  
 Insulation ..... Class H  
 Enclosure ..... Drip proof IP22  
 Alignment..... Pilot shaft  
 Overspeed capability ..... 125% of rated  
 Voltage regulator..... R448  
 Voltage regulation..... Less than +/- ½% steady state  
 Wave form ..... .2% deviation  
 Telephone Influence Factor (TIF) ..... Less than 50  
 Harmonic Distortion (THD)..... Less than 5%

## CAT C18 DIESEL ENGINE

### C18, I-6, 4-Stroke-cycle diesel

Bore - ..... 145mm (5.71 in)  
 Stroke - ..... 183 mm (7.2 in)  
 Displacement - ..... 18.13 (1106.36<sup>3</sup>)  
 Compression ratio ..... 14.5:1  
 Aspiration ..... Air to Air Aftercooled  
 Fuel system ..... MEUI  
 Governor Type..... Caterpillar ADEM™ Control System

Power Rating		Prime
60 Hz	ekW (kVA)	545 (681)
Engine and Container Information		
Engine Model		C18
Container Size	m (ft)	6 (20)
Container Dimensions	mm (in)	Length 6096 (240.00)
	mm (in)	Width 2438 (96.00)
	mm (in)	Height 2896 (114.00)
Fuel Capacity	L (Gal)	1620 (428)
Operation at 75% Load	Hours	14 (approx.)
Approximate Weight — with Genset and Switchgear		Dry
Including Container	kg (lb)	13608/(30000) (approx.)
With Optional Undercarriage	kg (lb)	16330/(36000) (approx.)

## **STANDARD CONTROLS**

### **6 m (20 ft) CONTAINER**

### **480V/60 HZ**

#### **PRIME POWER OPERATION**

The generator is set to RUN and the start sequence is initiated. If the engine fails to start after 3 attempts, the start sequence is disabled.

#### **STANDBY OPERATION**

Upon receipt of a standby start signal (provided locally or remotely by the customer via automatic transfer switch), the generator automatically starts, attains rated speed and voltage, and feeds the connected emergency load. Generator circuit breaker is normally closed when in standby mode. The customer must ensure that the load is less than the genset is capable of block loading, and ensure that the load bus is disconnected from a utility source. When signaled to shutdown, the engine is placed in the cool-down mode. At that time, the utility may be reconnected to a load bus.

#### **GENERATOR SET EMCP 3.3 LOCAL CONTROL PANEL**

Generator mounted EMCP 3.3 local control panel

Provides MODBUS datalink to engine and generator

Convenient service access for Caterpillar service tools (not included)

The Caterpillar EMCP 3.3 places fully featured power metering, protective relaying and engine and generator control and monitoring at your fingertips.

Integration with the voltage regulator provides enhanced system performance.

Ability to view and reset diagnostics in all controls networked on J1939 datalink.

Network modules via the control panel, removes the need for a separate service tool for troubleshooting.

Fully featured power metering, protective relaying, engine and generator parameter viewing, and expanded AC metering are all integrated into this controller.

Fuel level monitoring and control

Real-time clock allows for date and time stamping of diagnostics and events.

#### **OPERATOR INTERFACE**

-Graphical display with positive image, transfective LCD, adjustable white backlight/contrast.

-Two LED status indicators (1 red, 1 amber).

-Three Engine Control Keys and Status Indicators (Run/Auto/Stop).

-Lamp Test Key

-Alarm Acknowledgement Key.

-Display Navigation Keys

-Two Shortcut Keys: Engine Operating Parameters and Generator Operating Parameters.

#### **PROGRAMMING AND DIAGNOSTICS**

Includes field programmable set-points for engine control and monitoring variables and self diagnosis of the EMCP-3 system component and wiring failures.

#### **ALARM MODULE**

Flashing LED warnings for: low coolant temperature, high coolant temperature (pre-alarm), low oil pressure (pre-alarm), engine control switch not in automatic and low DC voltage. Includes an alarm horn and acknowledge pushbutton.

#### **ENGINE CONTROL KEYS**

RUN Key, AUTO Key and STOP Key with LED Indicators.

#### **CIRCUIT BREAKER CONTROL SWITCH**

Heavy duty, three (3) position spring return to center with momentary trip and close position and slip contacts for automatic closing. Pull to lock feature in trip position.

## **ALARM ACKNOWLEDGE/SILENCE KEY**

Pressing the Alarm Acknowledge/Silence Key will silence the horn and cause any yellow or red alarm/shutdown lights to turn off or become solid depending on the active status of the alarms.

## **LAMP TEST KEY**

Pressing and holding the Lamp Test Key will cause all LEDs and pixels on the LCD screen to turn on solid until it is released.

## **EMERGENCY STOP PUSHBUTTON**

Mushroom head, twist to reset, causes engine shutdown and tripping of the generator circuit breaker. Prevents engine starting when depressed.

## **SCROLL KEYS**

Scroll Up Key – Used to navigate up through menus or monitoring screens and for set point entry.

Scroll Down Key – Used to navigate up through menus or monitoring screens and for set point entry.

Scroll Right Key – Used for set point adjustment.

Scroll Left Key – Used for set point adjustment.

## **ENTER/ESCAPE KEYS**

Enter Key – Used during menu navigation to select menu items and during set point programming to save changes.

Escape Key - Used during menu navigation to move up through menu items and during set point programming to cancel changes.

## **CIRCUIT BREAKER**

2500A, 3 pole, UL Listed, electrically operated, insulated case circuit breaker with solid state trip unit for overload (time overcurrent) and fault (instantaneous) overcurrent protection. DC shunt trip coil activated on any monitored engine or electrical fault.

## **ELECTRONIC GOVERNOR**

Includes speed adjust potentiometer and idle/rated switch.

## **VOLTAGE REGULATION CIRCUITRY**

Standard Caterpillar generator mounted automatic voltage regulator with voltage adjust rheostat.

## **CURRENT TRANSFORMERS**

CT's rated 2500:5 with secondaries wired to shorting terminal strips.

## **BUS BARS**

Three phase, plus fully rated neutral, bus bars are tin-plated copper with NEMA standard hole pattern for connection of customer load cables and generator cables. Bus bars are sized for full load capacity of the generator set at 0.8 power factor. Also includes ground bus, tin-plated copper, for connection to the generator frame ground and field ground cable.

## **LINKBOARD ASSEMBLY**

Set mounted generator multi-voltage adjust plate. Voltage nodes 208V, 240V and 480V-wye configuration. Link board access via door in sidewall of container.

## **AC DISTRIBUTION / SHORE POWER CONNECTIONS**

Transformer distributes utility voltage to the distribution board providing 120 VAC for all module accessories. Shore power cable connections via cable gland in the side of the container, hardwired to terminal block in distribution board. One (1) 120 VAC shore power connection for jacket water heaters, generator space heater and battery charger. Genset control panel includes fault protection and relays to de-energize jacket water heaters and generator space heater when the engine is running.

## **LIGHTING**

2 internal DC lights with a timer installed at each personnel door.

2 internal AC lights with On/Off switch at each personnel door.

1 single duplex service receptacle.

## **BATTERY CHARGER**

24 VDC/10A battery charger with float/equalize modes and charging ammeter.

## **CUSTOMER MONITORING OUTPUTS**

Form C contact outputs (x2) for customer monitoring, configurable to indicate any two of the following conditions: circuit breaker status, engine running, summary alarm, summary shutdown, and controls not in automatic

## **ENCLOSURE – DISTRIBUTION PANEL**

NEMA 1 for indoor use

Information contained in this publication may be considered confidential. Discretion is recommended when distributing.

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### RELIABLE, FUEL EFFICIENT DIESEL ENGINE

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 COOLING SYSTEM

Sized compatible to rating with energy efficient fan and core.

### ENVIRONMENTALLY FRIENDLY

110% full spill containment of all onboard fluids.

### SOUND ATTENUATED CONTAINER

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## FACTORY INSTALLED STANDARD EQUIPMENT

System	Standard Equipment
Engine	<p>EPA approved Tier II C-18 ATAAC Caterpillar diesel engine</p> <p>Air cleaner with service indicator</p> <p>45-Amp charging alternator</p> <p>Fuel filters - primary and duplex secondary with integral water separator and change-over valve</p> <p>Jacket water heater, fuel cooler, priming pump and pressure gauge</p> <p>Electronic ADEM™ A4 controls</p>
Generator	<p>Multi-Voltage, brushless, IE exciter, three-phase with automatic voltage regulator, space heater, 12-lead design, Class H insulation operating at Class F temperature for extended life.</p>
Containerized Module	<p>20' ISO high cube container, CSC certified</p> <p>2-axle 20' ISO container chassis</p> <p>Sound attenuated air intake louver at rear of container with cooling air discharged vertically from roof.</p> <p>2 lockable personnel doors with panic release, one lockable double door for control access.</p> <p>Bus bar access door, external access load connection bus bars</p> <p>Shore power connection via distribution block</p> <p>Standard lighting 2 AC / 2 DC, one (1) single duplex service receptacle, 2 external break-glass emergency stop push buttons</p> <p>Fuel tank UL listed, double wall, 14hr runtime @ 75% load</p> <p>Sound Attenuated 75 dB(A) @ 7m, spill containment 110% of all onboard fluids i.e.: fuel, coolant, and oil</p> <p>Oversized maintenance-free battery, battery rack and 10-Amp battery charger</p> <p>Critical grade internally insulated exhaust silencer</p> <p>Vibration isolators, corrosion resistance hardware and hinges,</p> <p>External drain access to standard fluids (coolant and oil)</p> <p>Standard CAT decals and painted standard CAT power module white.</p>
Cooling	<p>Standard cooling provides 43°C ambient capability at prime plus 10% overload rating</p> <p>Engine mounted, vertical radiator, vertical air discharge, and exhaust discharge, hand operated fill.</p>
Control Panel	<p>Set-mounted control panel with EMCP 3.3 controller</p> <p>Automatic start/stop with cool down timer</p> <p>2,500A circuit breaker, UL listed, electrically operated</p> <p>Meters: kW, kVA, kVAR, PF, kWh</p> <p>Protection: 27, 59, 810, 81U</p> <p>Event log, standard lights display (status and alarms)</p> <p>Auxiliary power connections for jacket water heater, space heater, battery charger</p> <p>800A 600V Main Generator Breaker</p>
Quality	<p>Standard genset and package factory tested</p> <p>UL, NEMA, ISO and IEEE standards</p> <p>O&amp;M manuals</p>



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 Enclosure ..... Drip proof IP22  
 Alignment..... Pilot shaft  
 Overspeed capability ..... 125% of rated  
 Voltage regulator..... R448  
 Voltage regulation..... Less than +/- ½% steady state  
 Wave form ..... .2% deviation  
 Telephone Influence Factor (TIF) ..... Less than 50  
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Approximate Weight — with Genset and Switchgear		Dry
Including Container	kg (lb)	13608/(30000) (approx.)
With Optional Undercarriage	kg (lb)	16330/(36000) (approx.)

## **STANDARD CONTROLS**

### **6 m (20 ft) CONTAINER**

### **600V /60 HZ**

#### **PRIME POWER OPERATION**

The generator is set to RUN and the start sequence is initiated. If the engine fails to start after 3 attempts, the start sequence is disabled.

#### **STANDBY OPERATION**

Upon receipt of a standby start signal (provided locally or remotely by the customer via automatic transfer switch), the generator automatically starts, attains rated speed and voltage, and feeds the connected emergency load. Generator circuit breaker is normally closed when in standby mode. The customer must ensure that the load is less than the genset is capable of block loading, and ensure that the load bus is disconnected from a utility source. When signaled to shutdown, the engine is placed in the cool-down mode. At that time, the utility may be reconnected to a load bus.

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-Two LED status indicators (1 red, 1 amber).

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-Display Navigation Keys

-Two Shortcut Keys: Engine Operating Parameters and Generator Operating Parameters.

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Includes field programmable set-points for engine control and monitoring variables and self diagnosis of the EMCP-3 system component and wiring failures.

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#### **ENGINE CONTROL KEYS**

RUN Key, AUTO Key and STOP Key with LED Indicators.

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Heavy duty, three (3) position spring return to center with momentary trip and close position and slip contacts for automatic closing. Pull to lock feature in trip position.

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