



# CG1500C2

## MQ POWER Containerized Diesel Generator

Prime Rating — 1365 kW (1706 kVA)

Standby Rating — 1500 kW (1875 kVA)

EPA Certified Tier 2, 60 Hertz



### STANDARD FEATURES

#### Cummins Heavy Duty Diesel Engine

- 4-cycle design, turbocharged, aftercooled, direct injection
- Battery charger
- Engine coolant heater
- Fire extinguisher (ABC type)
- Meets EPA Tier 2 emissions standards

#### Fuel System

- 1000 gallon, double wall fuel tank
- Fuel priming system
- Manual fuel valves (for internal or external fuel supply)
- External fuel fill
- Fuel containment

#### Alternator

- Brushless, 4-pole, synchronous, WYE connection
- Class H insulation system conforms to NEMA MG1-22.43
- Drip-proof, self-venting, amortisseur windings

#### Electronic Voltage Regulator

- Electronic automatic voltage regulator provides precise regulation
- Separate three-phase PMG for fast recovery from block loads and motor starting

#### Full Load Acceptance

- Accepts 100% of standby nameplate rating in one step, in compliance with NFPA, para 5-13.2.6

#### Generator Control Panel

- Vibration-isolated controller
- Manual or remote engine start/stop
- Modbus communication support
- Safety shutdowns
- Externally mounted emergency stop switch
- Generator mainline circuit breaker, 100% rated, electronically operated, UL listed

#### Specially Designed Container

- 40 ft. ISO container, sound-attenuated, acoustical fiberglass for extremely quiet operation
- 4" full containment
- Integral vibration isolators
- Exterior polyurethane coating system provides long life in extreme operating conditions
- Interior DC lights and timer switches
- Critical grade silencer with insulation

#### Warranty

- Engine-generator sets are covered by an express written, one-year limited warranty



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### SPECIFICATIONS

#### Alternator Specifications

Make	Stamford P.1734C1
Type	4-Pole, Rotating Field
Number of Leads	12
Generator Type	Brushless w/ PMG
Voltage Regulator	Solid State
Insulation	NEMA MG1-22.43
Material	Class H
Temperature Rise Prime/Standby	105° C / 125° C
Bearing: Number, Type	Single, Sealed
Coupling	Flexible Disk
Amortisseur Windings	Full
Exciter Type	PMG (Permanent Magnet Generator)
Voltage Regulation (no load to full load)	0.5% Steady State
Generator Efficiency at Full Load	96%
Phase Sequence	ABC (L1, L2, L3)
L-L Harmonic Max Total	<5.0%
L-L Harmonic Max Single	<3.0%

#### Engine Specifications

Manufacturer/Model	Cummins / QSK50-G5 NR2
Engine Type	4-cycle, Turbocharged, and Low Temperature After Cooled (Air-to -Air)
Cylinder Arrangement	V-16
Displacement	3067 in <sup>3</sup> (50.3 L)
Bore	6.25 in. (159 mm)
Stroke	6.25 in. (159 mm)
Compression Ratio	15 : 1
Piston Speed (60Hz)	1875 ft./min (9.5 m/sec)
Bearing Main: Type	Replaceable, Precision
Cylinder Head Material	Cast iron
Brake Mean Effective Pressure (BMEP)	283 psi (1951 kPa)
Rated RPM (60 Hz)	1800 RPM
Max. Power At Rated RPM	2220 hp (1656 kW)
Governor: Type	Electronic
Frequency Regulation: Steady State	Isochronous
Air Cleaner Type - All Models	Dry

#### Amperage

Voltage	Phase	Power Factor	Continuous Amperes	
			Standby	Prime
480 Volt	3	0.8	2255	2052

#### Engine Electrical System

Battery Charging Alternator Ground Type	Negative
Volts	24 VDC
Alternator Ampere Rating	55 A
Starter Motor Rated Voltage	24 VDC
Minimum Recommended Battery for 0°C/ Cold Cranking Performance	1800 CCA

#### Derating

Derating Factors (60 Hz)	Altitude	Ambient Temperature
The engine may be operated up to 1909 ft. (582 m) altitude without derating at 1800 rpm.	>1909 ft. = 6% per 1000 ft. (305 m)	14% per 10°C (18°F)

#### Cooling System

Radiator Design	Stacked cores
Coolant Capacity - Total	120 gal. (453 L)
Water Pump Design/Type	Belt Driven, Centrifugal
Coolant Flow, Jacket Water	500 gal/min (1893 L/min)
Coolant Flow, After Cooler	142 gal/min (538 L/min)
Total Heat Rejection from Cooling System	65,445 BTU/min (69 MJ/min)
Thermostat Range	200 °F (93.3 °C)

#### Fuel System

Recommended Fuel	ASTM-D975-No.1 & No.2-D*	
Filter Micron Size	7	
Total Fuel Flow	200 gal./hr. (757 L/Hr.)	
Fuel Tank Capacity	1000 gal (3,785 L)	
Fuel Consumption - gal/hr (L/hr)	Standby	Prime
At 1/4 load	34.1 (129.1)	31.6 (119.6)
At 1/2 load	61.9 (234.3)	56.0 (212.0)
At 3/4 load	84.1 (318.4)	76.7 (290.3)
At full load	109.9 (416.0)	98.0 (371.0)

\* - Use ultra-low sulfur diesel fuel.

#### Lubrication System

Type	Full Pressure System
Oil Filters	4 Spin-on, Full Flow
Oil Capacity with Filters	62 gal. (235 L)

#### Exhaust System

Exhaust Temperature at Rated kW	905° F (485° C)
Exhaust Flow at Rated kW	11,230 cfm (318 m <sup>3</sup> /min)
Silencer Type	Critical
Maximum Allowable Backpressure (standby)	27 in/wc (6.8 kPa)
Exhaust Outlet Size at hook-up	6 in. (152 mm) x 2



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The CG1500C2 Sound Attenuated Generator is configured for standard 60 Hz, 480V output. Special voltage outputs are available (special order).

### ALTERNATOR FEATURES

- Generator protection for overload and short circuit.
- Generator is designed and built within NEMA, IEEE and ANSI standards for temperature rise.
- PMG for superior regulation and response.
- Three-phase sensing on regulator.

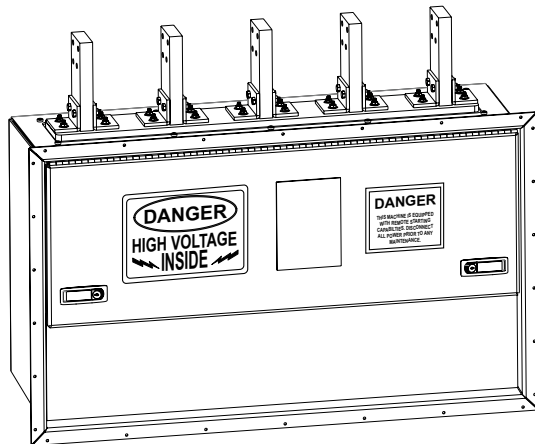
### OPTIONAL FEATURES AND ACCESSORIES

#### Generator Set

- Genset-to-Genset Paralleling Control System
- Remote Controller
- Custom Outlet Panels
- Oil Pan Heater
- Alternator Strip Heater

#### Container

- ISO Trailer Chassis (40 ft.)
- 9-Step Fueling Ladder with Hand Rail
- Personnel Ladder (Aluminum Construction)
- Custom Paint Colors (Arctic White is Standard)



Bus Panel

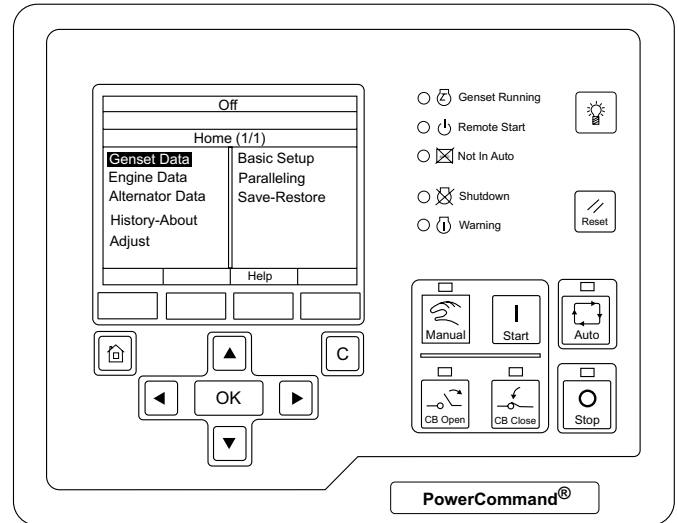
### DIGITAL CONTROLLER FEATURES

#### Operator/Display Functions

- Displays paralleling breaker status
- Provides direct control of the paralleling breaker
- 320 x 240 pixels graphic LED backlight LCD
- Auto, manual, start, stop, fault reset and lamp test/panel lamp switches
- Alphanumeric display with pushbuttons
- LED lamps indicating genset running, remote start, not in auto, common shutdown, common warning, manual run mode, auto mode and stop

#### Alternator Data

- Line-to-neutral and line-to-line AC volts
- 3-phase AC current
- Frequency
- kW, kvar, power factor kVA (three phase and total)



Power Command 3.3 Digital Genset Control

#### Engine Data

- DC voltage
- Engine speed
- Lube oil pressure and temperature
- Coolant temperature

#### Backup Data

- Start attempts, starts, running hours, kW hours
- Load profile (operating hours at % load in 5% increments)
- Fault history

#### Digital Governing

- Integrated digital electronic isochronous governor

#### Digital Voltage Regulation

- Integrated digital electronic voltage regulator
- 3-phase, 4-wire line-to-line sensing

#### AC Protection

- Over current and short circuit shutdown
- Over current warning
- Over and under voltage/frequency shutdown

#### Engine Protection

- Battery voltage monitoring, protection and testing
- Overspeed shutdown
- Low oil pressure warning and shutdown
- High coolant temperature warning and shutdown
- Low coolant level warning or shutdown
- Low coolant temperature warning
- Low fuel level warning or shutdown

#### Control Functions

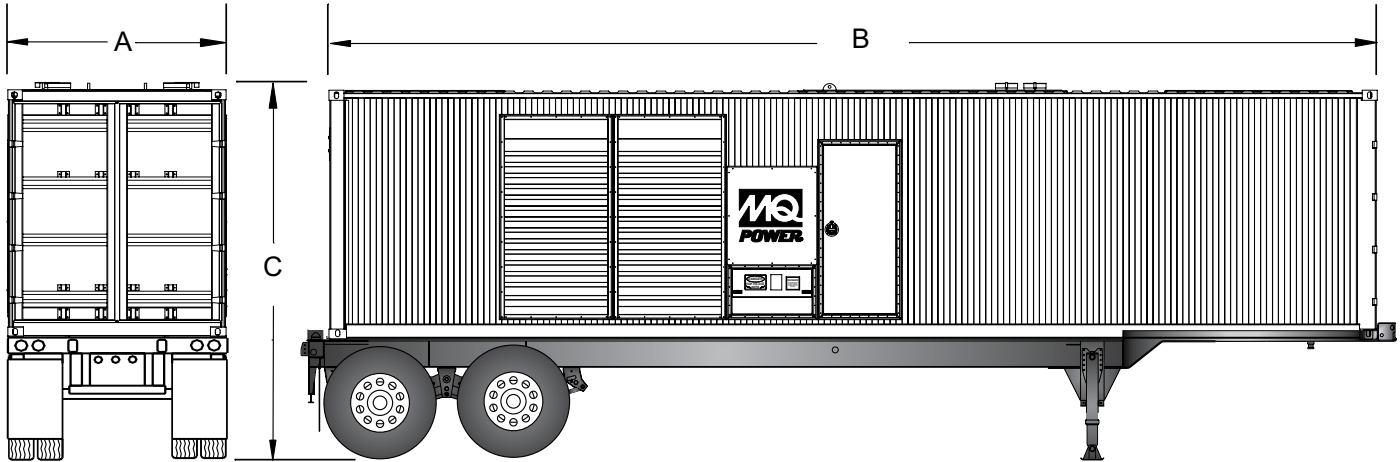
- Time delay start and cool down
- Real time clock for fault and event time stamping
- Exerciser clock- and time of day start/stop
- Data logging
- Configurable inputs and outputs (4)
- Remote emergency stop



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### DIMENSIONS



<b>Weight and Dimensions</b>		
<b>A</b>	<b>B</b>	<b>C</b>
96 in. (2,438 mm)	480 in. (12,192 mm)	199 in. (5,054 mm)
Weight (Wet)*		68,060 lbs (30,871 kg)
Weight (Wet with Trailer)*		74,660 lbs (33,865 kg)

\* - Weight is approximate. Wet weight does not include fuel.

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