



Rental Power

100 kW

U.S EPA Tier IV emissions



Description

This Cummins® Rental package is a fully integrated mobile power generation system, providing optimum performance, reliability, and versatility for Standby and Prime Power applications.

Features

Cummins diesel engines

- U.S. Tier IV Final and EU SIIIa certified Cummins QSB5-G11 engines which meet emissions limits without the use of a Diesel Particulate Filter (DPF)
- Dual speed engine for operation at 50 or 60 Hz
- Advanced electronic engine controls with integrated after-treatment system provide superior fuel efficiency while reducing emissions
- High-pressure common rail fuel system reduces engine noise and smoke
- Cummins Direct Flow™ air filtration offering improved air management, longer service life, and easier serviceability
- 2-stage fuel filtration with optimum particle and water separation

Control features

- The most advanced, reliable and capable generator set control system on the market today
- PowerCommand 3.3® with Masterless Load Demand (MLD) technology enables smartly adapting power to match varying load demand. MLD capable generators allow sharing of information among paralleled generator sets
- Controls provide precise frequency and voltage regulation, alarm and status message display in one easy to operate customer interface

Engine controls

- Oil pressure and coolant temperature gauge
- Fuel level gauge, Diesel Exhaust Fluid (DEF) level gauge and battery voltage gauge
- Digital Hour meter (5-digit read out)
- Engine control module includes remote start capability

Stamford alternators

- 12-lead reconnectable alternators fitted with voltage selection switch
- Permanent magnet excitation for improved performance in non-linear load applications

Rental package enclosure

- Camlock, barrel lugs & bus bar distribution panel
- Sound attenuated, white powder coated lockable enclosure
- 24-hour fuel tank (75% prime) with leak detection sensor
- Single wall fuel tank with 110% fluid containment basin
- Transport Canada Tank
- Roof mounted, single point lift
- Cooling system rated for 120 °F (49 °C) at 100% Standby ambient
- Complete engine fluid containment reservoir
- 4 position voltage selector switch (277/480 or 139/240 or 120/208 VAC 3 phase or 120/240 VAC 1 phase)
- 2 position voltage selector switch (60Hz: 277/480 or 347/600 VAC 3 phase).
- Shore power (15A/120 V) – for coolant heater, battery charger, oil heater and battery warmer
- Conveniently located analog gauges and heated Human Machine Interface (HMI) display

Rental package options

- Optional Auxiliary Fuel and DEF connections
- DOT approved electric brake trailer with heavy duty center mounted jack, ball or pintle hitch
- DOT approved hydraulic brake trailer with heavy duty center mounted jack, ball or pintle hitch

| Model | Voltages (V) | Standby Rating | | Prime Rating | | Sound Level Full load @7m | Alternator Model |
|----------|--------------------|----------------|----------------|----------------|----------------|---------------------------|------------------|
| | | 60 Hz kW (kVA) | 50 Hz kW (kVA) | 60 Hz kW (kVA) | 50 Hz kW (kVA) | | |
| C100D2RE | 480-600 Switchable | 100 (125) | - | 90 (113) | - | 68 dB(A) | UCI274E |
| | 208/240/480 | 100 (125) | 90 (113) | 90 (113) | 81 (101) | 68 dB(A) | UCI274D |

Engine specifications

| | |
|-----------------------------|--|
| Engine model | QSB5-G11 |
| Alternator data sheet | UCI |
| Tier rating | Tier IV |
| Design | 4 cycle, In-Line, turbocharged and after-cooled |
| Bore | 107 mm (4.21 in.) |
| Stroke | 124.0 mm (4.88 in.) |
| Displacement | 4.5 liters (274.6 in ³) |
| Cylinder block | Cast iron, In-Line 4 cylinder |
| Battery capacity | 2 x 760 cca |
| Battery charging alternator | 70 amps |
| Starting voltage | 24 volt, negative ground |
| Fuel system | Direct injection HPCR system |
| Fuel filter | Dual Spin on fuel filter with water separator |
| Air cleaner type | 2-stage, dry replaceable element with dust ejector |
| Lube oil filter type(s) | Single spin-on, full flow |
| Standard cooling system | 120 °F (49 °C) ambient radiator |

Alternator specifications

| | |
|--|---|
| Design | Brushless, 4 pole, drip proof, revolving field |
| Stator | Double layer concentric, 2/3 winding pitch |
| Rotor | Single bearing, flexible disc |
| Insulation system | Class H per NEMA MG1-1.65 |
| Standard temperature rise | 125/40 °C Prime |
| Exciter type | Permanent Magnet Generator (PMG) |
| Phase rotation | A (U), B (V), C (W) |
| Alternator cooling | Direct drive centrifugal blower fan |
| AC waveform Total Harmonic Distortion (THDV) | < 1.5% no load, < 5% non-distorting balance linear load |
| Telephone Influence Factor (TIF) | < 50 per NEMA MG1-22.43 |
| Telephone Harmonic Factor (THF) | < 2% |

Power capability specifications

(Assume power factor = 0.80 for 3 phase amps)

| | Standby rating | | | | | |
|-----------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|--------------------------------|
| | 240 V, 1 phase Amps 60 Hz | 208 V, 3 phase Amps 60 Hz | 480 V, 3 phase Amps 60 Hz | 240 V, 3 phase Amps 60 Hz | 400 V, 3 phase Amps 50 Hz | 600 V, 3 Phase Amps 60Hz |
| C100D2RE | 280 | 347 | 150 | 301 | 162 | 120 |

Electrical power panel specifications

| Model voltage | 120 V duplex receptacles | 240 V twist | Load lug connection (stud diameter) | Load lug circuit breakers |
|---------------|-----------------------------|-------------|---|------------------------------|
| 120/480 Volt | 2 - 20 Amp GFCI | 3 - 50 Amp | 1/2 inch | 400 Amp |
| 480-600 Volt | | | 1/2 inch | 150 Amp |

PowerCommand 3.3 control system



An integrated microprocessor based generator set control system providing voltage regulation, engine protection, alternator protection, operator interface and isochronous governing. Refer to document S-1570 for more detailed information on the control.

Simplified display for Rental operators - simplified display tailored for Rental equipment operations for ease of use.

Masterless Load Demand (MLD) - The controller is capable of smartly managing power from paralleled generators to match varying load patterns.

Power management - Control function provides battery monitoring and testing features and smart starting control system.

Advanced control methodology - Three phase sensing, full wave rectified voltage regulation, with a PWM output for stable operation with all load types.

Regulation compliant - Prototype tested: UL, CSA and CE compliant.

Service - InPower™ PC-based service tool available for detailed diagnostics, setup, data logging and fault simulation.

Easily upgradeable - PowerCommand controls are designed with common control interfaces.

Reliable design - The control system is designed for reliable operation in harsh environment.

Operator panel 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
- Alpha-numeric display with pushbuttons
- Heated HMI
- LED lamps indicating genset running, remote start, not in auto, common shutdown, common warning, manual run mode, auto mode and stop

Paralleling control functions

- First Start Sensor™ system selects first genset to close to bus
- Phase lock loop synchronizer with voltage matching
- Sync check relay
- Isochronous kW and kVar load sharing
- Enhanced safety features for paralleling generators

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)

Engine data

- DC voltage
- Lube oil pressure
- Coolant temperature
- Comprehensive FAE data (where applicable)

Other data

- Fault history
- Data logging and fault simulation (requires InPower)

Standard control functions

Digital governing

- Integrated digital electronic isochronous governor
- Temperature dynamic governing

Digital voltage regulation

- Integrated digital electronic voltage regulator
- 3-phase, 4-wire Line-to-Line sensing
- Configurable torque matching

AmpSentry™ AC protection

- AmpSentry protective relay
- Over current and short circuit shutdown
- Over current warning
- Single and three phase fault regulation
- Over and under voltage shutdown
- Over and under frequency shutdown
- Overload warning with alarm contact
- Reverse power and reverse Var shutdown
- Field overload 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
- Fail to start (overcrank) shutdown
- Fail to crank shutdown
- Cranking lockout
- Sensor failure indication
- Full authority electronic engine protection

Control functions

- Time delay start and cool down
- Real time clock for fault and event time stamping
- Cycle cranking
- Load shed
- Remote emergency stop

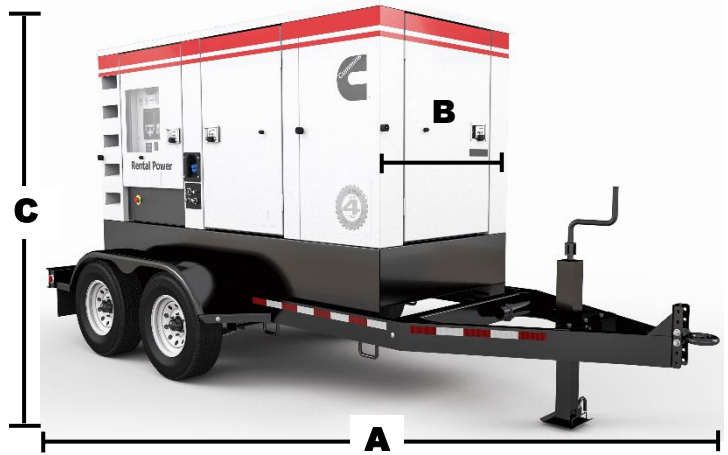
Ratings definitions

Standby:

Applicable for supplying emergency power for the duration of normal power interruption. No sustained overload capability is available for this rating. (Equivalent to Fuel Stop Power in accordance with ISO3046, AS2789, DIN6271 and BS5514). Nominally rated.

Prime (unlimited running time):

Applicable for supplying power in lieu of commercially purchased power. Prime power is the maximum power available at a variable load for an unlimited number of hours. A 10% overload capability is available for limited time. (Equivalent to Prime Power in accordance with ISO8528 and Overload Power in accordance with ISO3046, AS2789, DIN6271, and BS5514).



Dimensions

| Model | Dim "A" mm (in.) | Dim "B" mm (in.) | Dim "C" mm (in.) | Weight w/o fuel kg (lbs) | Weight with fuel kg (lbs) | Fuel capacity liters (gal)* |
|---------------------|---------------------|---------------------|---------------------|-----------------------------|------------------------------|--------------------------------|
| C100D2RE | 3063 (121) | 1262 (50) | 1953 (77) | 2522 (5560) | 2976 (6560) | 495 (131) |
| With trailer | 4798 (189) | 2106 (83) | 2444 (96) | 3221 (7100) | 3674 (8100) | 495 (131) |

* Onboard DEF capacity is sized for 24 hours of operation at 10 gallons.

Fuel consumption

| 60 Hz Ratings, kW (kVA) | Standby | | | | Prime | | | | Hours of operation |
|----------------------------|-----------|------|------|------|----------|------|------|------|-----------------------|
| | 100 (125) | | | | 90 (113) | | | | |
| Load | 1/4 | 1/2 | 3/4 | Full | 1/4 | 1/2 | 3/4 | Full | 75% load |
| US Gal/hr | 2.3 | 3.8 | 5.3 | 7.1 | 2.2 | 3.5 | 4.8 | 6.3 | 27 |
| L/hr | 8.7 | 14.2 | 19.9 | 26.9 | 8.2 | 13.1 | 18.3 | 24.0 | 27 |

Note: DEF consumption less than 4% of fuel consumption.

Trailer information

| Model | Tire size | Tire type | Load range | Number of tires per trailer | Lug pattern |
|-----------------|------------|-----------|-----------------|--------------------------------|-------------|
| C100D2RE | 225/75-R15 | Radial | 2535 lbs - each | 4 | 6 hole |

Certifications

These generator sets are certified to following standards:



CAN/CSA STD C22.2 NO. 100
CAN/CSA STD C22.2 NO. 14

For more information contact your local Cummins distributor
or visit power.cummins.com

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