

Rental Power 1600 kW



> Specification sheet

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Description

This Cummins Power Generation rental package is a fully integrated mobile power generation system, providing optimum performance, reliability, and versatility for standby and prime power applications.

This single package contains 2 - Tier II parallelable 800kW gensets with a single customer connection point. These dual 800kW gensets result in a redundant power source for 800kW applications and allows the ability to alternate engines for maintenance during continuous operations. It also allows shift loading which improves fuel economy.

Features

Cummins diesel engines

- Two rugged 4-cycle industrial diesel delivers reliable power and fast response to load changes.
- Equipped with heavy duty air cleaners, bypass-type oil filters and dual-element fuel/water separator filtration system with 4-way valve.
- Includes jacket water heaters for more reliable operation in emergency standby applications.

Control system

- The most advanced, reliable, and capable generator set control system available in the market today.
 - Integrated generator set providing precise frequency and voltage regulation, alarm and status message display in one easy-to-operate customer interface.

- Remote monitoring and operation ready.
- Auto shutdown at fault detection.

Stamford alternators

- Designed and built by Cummins Generator Technologies.
- Voltage - 480 VAC standard (600 VAC optional).
- Alternators designed for improved motor starting.
- Permanent magnet excitation for improved performance in cyclic and non-linear load applications.

Rental package enclosure

- Designed for serviceability access.
- Optimized fuel capacity.
- Fluid containment design for greater environmental protection.
- Sound attenuated to minimize impact on local environment.
- Vertical cooling air and engine exhaust path to minimize sound level adjacent to the container.
- Equipped with 24 VDC lighting.
- Unit has paralleling capabilities.
- Utility grade breaker.

Shore power 100 amp service breaker panel (one per generator set) – single phase 120/240 VAC: (1) 30 amp breaker – 240 VAC (26.75 amp = 6420 watts for the heater). (1) 15 amp breaker – 120 VAC (GFIs), (1) 15 amp breaker – 120 VAC (battery charger).

Model	Voltages (V)	Standby rating		Prime rating		Engine model	Alternator model	Generator Specification sheet number
		60 Hz kW (kVA)	50 Hz kW (kVA)	60 Hz kW (kVA)	50 Hz kW (kVA)			
C1600D6RG-7212	480	1600 (2000)		1450 (1812)		QSK23-G7	HCI634H	S-1551
C1600D6RG 600V	600	1600 (2000)		1450 (1812)		QSK23-G7	HCI634J	S-1551

Generator set specifications

Governor regulation class	ISO8528 Part 1 Class G3
Voltage regulation, no load to full load	±0.5%
Random voltage variation	±0.5%
Frequency regulation	Isochronous
Random frequency variation	±0.25%
Radio frequency interference	IEC 801.2, through IEC 801.5, MIL STD 461C, Part 9

Engine specifications

Engine model	QSK23-G7
Engine data sheet	DS-50047
EPA Nonroad	Tier II
Design	4 cycle, in-line, turbocharged and low temperature after-cooled
Bore	170 mm (6.69 in.)
Stroke	170 mm (6.69 in.)
Displacement	23.15 liters (1413 in ³)
Cylinder block	Cast iron, in-line, 6 cylinder
Battery capacity	8D (qty: 4) 1250 CCA @ 0 °F and 1500 CCA @ 32 °F
Battery charging alternator	24 volt 35 amp Delco Remy
Starting voltage	24 volt, negative ground
Fuel system	Direct injection: number 2 diesel fuel
Fuel filter	Spin on fuel filters with water separator. Additional Fleetguard Industrial Pro Pre-filters
Air cleaner type	2-stage dry replaceable element with dust ejectors (qty: 2)
Lube oil filter type(s)	Dual venturi spin-on, combination full-flow and bypass filters
Oil capacity	102L (108 qt)
Standard cooling system	113 °F (45 °C)

Alternator specifications

Alternator data sheet	ADS-310 (208/480 VAC), ADS-311 (600 VAC optional)
Design	Brushless, 4-pole, revolving field
Stator	Double layer lap 2/3 pitch
Rotor	Single bearing, flexible disc
Insulation system	Class H per NEMA MG1-1.65 (480 VAC), Class H per NEMA MG1-1.65 (600 VAC optional)
Standard temperature rise	105/40 °C standby (480 VAC), 125/40 °C standby (600 VAC optional)
Exciter type	PMG (Permanent Magnet Generator)
Phase rotation	A (U), B (V), C (W)
Alternator cooling	Direct drive centrifugal fan
AC waveform total harmonic distortion	< 5% no load to full linear load, < 3% for any single harmonic
Telephone influence factor (TIF)	< 50 per NEMA MG1-22.43
Telephone harmonic factor (THF)	< 3

Power capability specifications

	Standby rating			
	240 V, 1 phase amps	208 V, 3 phase amps	480 V, 3 phase amps	600 V, 3 phase amps
C1600D6RG			2406	1924

Electrical power panel specifications

Model voltage	120 V duplex receptacles	240 V twist	Load lug connection (stud diameter)	Load lug circuit breakers
480 V	4 (20 amp) 2 per genset		1/2	3200 amp (2 x 1600 amp)
600 V	4 (20 amp) 2 per genset		1/2	2000 amp (2 x 1000 amp)

Site derating factors

Standby application: The engines may be operated at 1800 rpm up to 3730 ft (1137 m) and 104 °F (40 °C) without power deration. For sustained operation above the conditions, derate by 4.4% per 1000 ft (305 m) and 10% per 18 °F (10 °C).

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Control system

PowerCommand control with AmpSentry™ protection

- Integrated automatic voltage regulator and engine speed governor
- AmpSentry protection guards the electrical integrity of the alternator and power system from the effects of overcurrent, over/under voltage, under frequency and overload conditions
- Control components designed to withstand the vibration levels typical in generator sets

Standard control description

- Analog % of current meter (amps)
- Analog AC frequency meter
- Analog AC voltage meter
- Analog % of load meter (kW)
- Cycle cranking control
- Digital display panel
- Emergency stop switch
- Idle mode control
- Menu switch
- Panel backlighting
- Remote starting, 12 volt, 2 wire
- Reset switch
- Run-off-auto switch
- Sealed front panel, gasketed door
- Self diagnostics
- Voltmeter/ammeter phase selector switch

Standard performance data warnings

- High coolant temperature
- High DC voltage
- Low coolant temperature
- Low DC voltage
- Low oil pressure
- Over current
- Overload load shed contacts
- Up to four customer fault inputs
- Weak battery
- Overflow
- Overspeed
- Short circuit
- Underfrequency

Standard protection functions

- Voltmeter/ammeter phase selector
- Warnings
- High Coolant Temperature
- High DC Voltage
- Low Coolant Temperature
- Low DC Voltage
- Low Oil Pressure
- Over Current
- Overload Load Shed Contacts
- Up to Four Customer Fault Inputs
- Weak Battery
- Overflow

Shutdowns

- Emergency stop
- Fail to crank
- High AC voltage
- High coolant temperature
- Low coolant level
- Low AC voltage
- Low oil pressure
- Overcurrent
- Overspeed
- Short circuit
- Underfrequency



Optional features shown

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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)
C1600D6RG	14630 (576)	2438 (96)	2896 (114)	23711 (52164)	28209 (62062)	5106 (1349)

Note: Weight and dimensions do not include optional chassis.

Fuel consumption

60 Hz Ratings, kW (kVA)	Load	Standby				Prime			
		1600 (2000)				1450 (1812)			
		1/4	1/2	3/4	Full	1/4	1/2	3/4	Full
	US Gal/hr	34	58	82	106	31	55	76	96
	L/hr	128.8	219.6	310.4	401.2	117.4	208.2	287.6	363.4

Specifications

Model	KW rating		Sound level at full load dB(A) @ 7 m	Tier rating	Hours of operation (75% load)	
	Standby	Prime			Standby	Prime
C1600D6RG	1600	1450	79	Tier II	15	16

Accessories

Ladder	Part Number
Fueling Ladder	0410-1372
Access Ladder*	0410-1371
Folding Ladder	0410-1362

* One access ladder provided with purchase of unit

Certifications

Below certifications are for generator set only



This generator set is designed in facilities certified to ISO9001 and manufactured in facilities certified to ISO9001 or ISO9002.



The Prototype Test Support (PTS) program verifies the performance integrity of the generator set design. Cummins Power Generation products bearing the PTS symbol meet the prototype test requirements of NFPA 110 for Level 1 systems.



All low voltage models are CSA certified to product class 4215-01.



The generator set is available Listed to UL 2200, Stationary Engine Generator Assemblies.

U.S. EPA

Engine certified to U.S. EPA Nonroad Source Emissions Standards, 40 CFR 89, Tier 2.

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