Specification sheet

Rental Power 1000 kW

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.

The package utilizes custom designed switchgear to meet severe customer requirements. This switchgear provides reconnectable voltage via a link board design, automatic start/stop control and easy connection to existing installations.

Features

Cummins diesel engines

- 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 - 480/208 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 at 480 and 600 VAC only.
- Utility grade breaker.
- Shore power 100 amp service breaker panel – single phase 120/240 VAC: (2) 30 amp breakers (1 for each coolant heater) – 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).

Options

Cold weather package (includes):

- Additional diesel fired block heater
- Battery heating pad
- Floor insulation
- Actuated louver control
- Transport Canada UN31A certified fuel tank

Model	Voltages (V)	Standby Rating 60 Hz kW (kVA)	Standby Rating 50 Hz kW (kVA)	Prime Rating 60 Hz kW (kVA)	Prime Rating 50 Hz kW (kVA)	Engine model	Alternator model	Generator* Specification Sheet (Ref)
C1000D6RG	208/480	1000 (1250)		900 (1125)		QST30-G5	HCI634K	S-1508
	600	1000 (1250)		900 (1125)		QST30-G5	HCI634K	S-1508

* Not all reference data Is applicable.

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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	QST30-G5
Engine data sheet	DS-5247
EPA Nonroad	TPEM (Tier 2)
Design	4 cycle, V-block, turbocharged and low temperature after-cooled
Bore	140 mm (5.51 in.)
Stroke	165 mm (6.5 in.)
Displacement	30.5 liters (1860 in^3)
Cylinder block	Cast iron, 50° V 12 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	Triple element, 10 micron filtration, 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)	Four spin-on combination full-flow and bypass filters
Oil capacity	154L (162.8 qt)
Standard cooling system	122 °F (50 °C)

Alternator specifications

Alternator data sheet	ADS-312
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 (208/480 VAC), Class F per NEMA MG1-1.65 (600 VAC optional)
Standard temperature rise	125/40 °C standby (208/480 VAC), 105/40 °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	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**
C1000D6RG		3296	1503	1204

Electrical power panel specifications

Model voltage	**120 V duplex receptacles**	**240 V twist**	**Load lug connection (stud diameter)**	**Load lug circuit breakers**
208/480 V	2 (20 amp)		1/2	3000 amp
600 V	2 (20 amp)		1/2	1600 amp

Site derating factors

Standby application: The engine may be operated at 1800 rpm up to 2000 ft (600 m) and 104 °F (40 °C) without power deration. For sustained operation above the conditions, derate by 3% per 1000 ft (300 m) and 13% per 18 °F (10 °C).

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

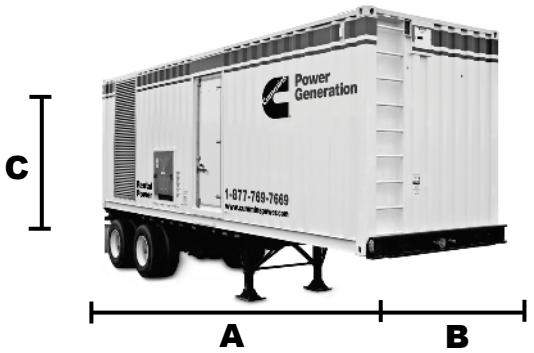
Ratings definitions

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)
C1000D6RG	**9119** (359)	**2438** (96)	**2896** (114)	**15594** (34600)	**21182** (46698)	**6450** (1704)
With chassis	**9119** (359)	**2438** (96)	**4064** (160)	**18724** (41280)	**24212** (53378)	**6450** (1704)

Note: Optional cold weather package adds 54 kg (120 lbs).
Optional Transport Canada fuel tank capacity 1300 gal.

Fuel consumption

		Standby				Prime			
60 Hz Ratings, kW (kVA)		**1000 (1250)**				**900 (1125)**			
	Load	¼	½	¾	Full	¼	½	¾	Full
	US Gal/hr	19.1	35.8	54.1	72.2	17.3	32.1	47.5	63.9
	L/hr	72.3	135.5	204.8	273.3	65.5	121.5	179.8	241.9

Specifications

Model	KW rating		Sound level at full load	Tier rating	Hours of operation (75% load)	
	Standby	Prime	dB(A) @ 7 m	Standby	Standby	Prime
C1000D6RG	1000	900	75 dBa	TPEM (Tier II)	31	35
					With Transport Canada fuel tank	
					24	27

Accessories

	Part Number
30 ft. Air Ride Chassis	0410-1379
Fueling Ladder	0410-1372
Access Ladder*	0410-1371
Folding Ladder	0410-1362

* One access ladder provided with purchase of unit

Codes and standards

Below certifications are for generator set only

This generator set is designed in facilities certified to ISO 9001 and manufactured in facilities certified to ISO 9001 or ISO 9002.

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 previously certified to U.S. EPA Nonroad Source Emissions Standards, 40 CFR 89, Tier 2. The engine used in this generator set may be used in mobile applications in accordance with the EPA Transition Program for Equipment Manufacturers (TPEM); this provision has specific limitations (see 40 CFR, 1039.625).

North America
1400 73rd Avenue N.E.
Minneapolis, MN 55432
USA
Phone 763 574 5000
Fax 763 574 5298

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