Generator set data sheet

Model:	C100D6C
Frequency:	60 Hz
Fuel type:	Diesel
KW rating:	100 standby 90 prime
Emissions level:	EPA Tier 3, Stationary emergency

Exhaust emission data sheet:	EDS-2029
Exhaust emission compliance sheet:	EPA-3042
Sound performance data sheet:	MSP-1303
Cooling performance data sheet:	MCP-1403
Prototype test summary data sheet:	PTS-450

Fuel consumption

	Standby				Prime			
	kW (kVA)				kW (kVA)			
Ratings	100 (125)				90 (113)			
Load	1/4	1/2	3/4	Full	1/4	1/2	3/4	Full
US gph	2.80	4.80	6.90	8.90	2.40	4.30	6.40	7.70
L/hr	10.60	18.17	26.12	33.69	9.08	16.28	24.23	29.15

Engine

	Standby rating	Prime rating
Engine manufacturer	Cummins Inc.	
Engine model	QSB5-G13	
Configuration	Cast iron, in-line, 4 cylinder	
Aspiration	Turbocharged and charge air cooled	
Gross engine power output, kWm (bhp)	129 (173)	113 (152)
BMEP at set rated load, kPa (psi)	1965 (285)	1696 (246)
Bore, mm (in)	107 (4.21)	
Stroke, mm (in)	124 (4.88)	
Rated speed, rpm	1800	
Piston speed, m/s (ft/min)	7.44 (1464)	
Compression ratio	17.3:1	
Lube oil capacity, L (qt)	12.2 (12.9)	
Overspeed limit, rpm	2250	

Fuel flow

Maximum fuel flow, L/hr (US gph)	133 (35.0)
Maximum fuel inlet restriction with clean filter, mm Hg (in Hg)	127 (5.0)

Air

	Standby rating	Prime rating
Combustion air, m3/min (scfm)	9.995 (353)	10.11 (357)
Maximum air cleaner restriction with clean filter, kPa (in H2O)	1.25 (5)	

Exhaust

Exhaust flow at set rated load, m^3/min (cfm)	24.9 (878)	22.4 (790)
Exhaust temperature, °C (°F)	489 (913)	431 (808)
Maximum back pressure, kPa (in H_2O)	10 (40.18)	10 (40.18)
Available exhaust back pressure with CPG sound level 2 enclosure muffler, kPa (in H_2O)	0 (0)	1.0 (4)
Available exhaust back pressure with CPG weather enclosure muffler, kPa (in H_2O)	1.0 (4)	2.0 (8)

Standard set-mounted radiator cooling

Ambient design, ° C (° F)	50 (122)	
Fan load, kW_m (HP)	5.22 (7)	
Coolant capacity (with radiator), L (US Gal)	16 (4.2)	
Cooling system air flow, m^3/min (scfm)	218.04 (7700)	
Total heat rejection, MJ/min (Btu/min)	12.22 (11584)	11.33 (10736)
Maximum cooling air flow static restriction, kPa (in H_2O)	0.12 (0.5)	

Weight[2]

Unit wet weight kgs (lbs)	1106 (2439)

Notes:

[1] For non-standard remote installations contact your local Cummins Power Generation representative.

[2] Weights represent a set with standard features. See outline drawing for weights of other configurations.

Derating factors

Standby	Engine power available to 1295 m (4250 ft) and ambient temperatures up to 40° C (104° F). Above these conditions, derate at 17.5% per 300 m (1000 ft) until 1700 m (5600 ft) and then derate at 2.2% per 300 m (1000 ft). Also derate 16.1% per 10° C (18° F)
Prime	Engine power available to 1448 m (4750 ft) and ambient temperatures up to 40° C (104° F). Above these conditions, derate at 17.5% per 300 m (1000 ft) until 1700 m (5600 ft) and then derate at 2.3% per 300 m (1000 ft). Also derate 18.8% per 10° C (18° F)

Ratings definitions

Emergency standby power (ESP):	Limited-time running power (LTP):	Prime power (PRP):	Base load (continuous) power (COP):
Applicable for supplying power to varying electrical load for the duration of power interruption of a reliable utility source. Emergency Standby Power (ESP) is in accordance with ISO 8528. Fuel Stop power in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.	Applicable for supplying power to a constant electrical load for limited hours. Limited Time Running Power (LTP) is in accordance with ISO 8528.	Applicable for supplying power to varying electrical load for unlimited hours. Prime Power (PRP) is in accordance with ISO 8528. Ten percent overload capability is available in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.	Applicable for supplying power continuously to a constant electrical load for unlimited hours. Continuous Power (COP) is in accordance with ISO 8528, ISO 3046, AS 2789, DIN 6271 and BS 5514.

Alternator data

Standard Alternators	Single phase[2]		Three phase[1]				
Maximum temperature rise above 40 °C ambient	120 °C	120 °C	120 °C	120 °C	120 °C	120 °C	120 °C
Feature code	BB88-2[3]	BB90-2	B946-2	B986-2	B943-2	B952-2	BB86-2
Alternator data sheet number	ADS-209	ADS-207	ADS-207	ADS-207	ADS-207	ADS-207	ADS-207
Voltage ranges	120/240	120/240	120/208	120/240	277/480	347/600	127/220
Voltage feature code	R104-2	R104-2	R098-2	R106-2	R002-2	R114-2	R020-2
Surge kW	112.4	111.6	116.1	116.1	117.5	117.5	116.7
Motor starting kVA (at 90% sustained voltage) Shunt			360	360	360	360	360
Motor starting kVA (at 90% sustained voltage) PMG			423	423	423	423	423
Full load current amps at standby rating	417	417	347	301	150	120	328

Alternator data

Standard Alternators	Single phase[2]	Three phase[1]				
Maximum temperature rise above 40 °C ambient	105 °C	105 °C	105 °C	105 °C	105 °C	105 °C
Feature code	BB91-2	BB93-2	BB94-2	BB95-2	BB92-2	BB85-2
Alternator data sheet number	ADS-208	ADS-208	ADS-208	ADS-207	ADS-207	ADS-207
Voltage ranges	120/240	120/208	120/240	277/480	347/600	127/220
Voltage feature code	R104-2	R098-2	R106-2	R002-2	R114-2	R020-2
Surge kW	113.2	118.1	118.1	117.5	117.5	116.7
Motor starting kVA (at 90% sustained voltage) Shunt		422	422	360	360	360
Motor starting kVA (at 90% sustained voltage) PMG		497	497	423	423	423
Full load current amps at standby rating	417	347	301	150	120	328

Notes:
[1] Single phase power can be taken from a three phase generator set at up to 2/3 set rated 3-phase kW at 1.0 power factor
[2] Full single phase output up to full set rated 3-phase kW at 1.0 power factor
[3] Reconnectable option

Formulas for calculating full load currents:

Three phase output

$$\frac{\text{kW} \times 1000}{\text{Voltage} \times 1.73 \times 0.8}$$

Single phase output

$$\frac{\text{kW} \times \text{SinglePhaseFactor} \times 1000}{\text{Voltage}}$$

Warning: Back feed to a utility system can cause electrocution and/or property damage. Do not connect to any building's electrical system except through an approved device or after building main switch is open.

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