

Diesel Powered Generating Sets C825 D5A



Standard Genset Features

Cummins water cooled Diesel engine,
Oil and fuel filter fitted, water separator
Lube-oil drain valve fitted
Electric starter & Charge alternator 24 v D.C.
Electronic governor
Normal duty air filter
Single bearing alternator, class H/H Standard
voltage 400/230 volts 50 Hz Exciter/Voltage reg
- Torque Match as standard PCC2100 with
Bargraph as standard
Steel base frame with A/V mounting,
Engine, Alternator, Chassis & Control Box
Munsell Jade Green
Radiator
Packing under shrunk plastic film
Operation & Maintenance manual
Standard set of labels

Generator Set Performance

Voltage Regulation
Maintains voltage output to within $\pm 1.0\%$.
At any power factor between 0.8 and 1.0
At any variations from No load to Full load
At any variations from Cold to Hot
At speed droop variations up to 4.5%.
Frequency Regulation
Isochronous under varying loads from no
load to 100% full load when electronic
governor is fitted
Random Frequency Variation
Will not exceed $\pm 0.25\%$ of its mean value for
constant loads – no load to full load.
Waveform
Total harmonic distortion open circuit voltage
waveform in the order of 1.8%. Three-phase
balanced load in the order of 5.0%.
Telephone Influence Factor (TIF)
TIF better than 50.
THF to BS 4999 Part 40 better than 2%.
Alternator Temperature Rise
Class H insulation.
Radio Interference
In compliance with BS 800 and VDE levels
G and N.

Generator Set Options

Fuel options
Fuel Tank

Exhaust Options
Exhaust Silencer - Industrial In-Line
Exhaust Bellows
Exhaust Silencer - Residential , In-Line
Installation Kit - Industrial Silencer
Installation Kit - Residential Silencer

Voltage Connections
240/416V, 230/400V, 220/380V,
127/220V, 115/200V, 110/190V

Miscellaneous Options
3 pole or 4 pole Circuit Breaker
Optional Set mounted starting batteries
Coolant Heater 240V
Battery Charger 240V, 5A or 10A
Automatic Transfer Switches
Packing - Export Box

Engine Specification

VTA28G6
40° Vee
12-cylinder diesel engine
Type
Water cooled, four cycle, turbocharged
and after cooled.
Construction
Two valves per cylinder, forged steel
crankshaft and connecting rods, cast iron
block.
Starting
24 volt negative earth. Battery charging
alternator 35 amp on engine. Cranking
current 1280 amps at 0°C.
Fuel System
24 volt fail safe actuator. Spin-on paper
element fuel filters with fuel pump
injection system with integral electronic
governor. Dual flexible fuel lines and
connectors. Standard fuel water separator
Filters
Air cleaner with dry element.
Spin-on full flow lube oil filter
Cooling
40°C ambient temperature standard
Stone guard. Drain Tap

Alternator Specification

Type
Brushless single bearing, revolving field,
pole, drip proof, screen protected.
Class H Insulation, IP23 Protection
Fully interconnected damper winding.
AC exciter and rotating rectifier unit.
Epoxy coated stator winding.
Rotor and exciter impregnated with tropica
grade insulating oil and acid resisting
polyester resin. Dynamically balanced rotor
BS 5625 grade 2.5.
Sealed for life bearings
Layer wound mechanically wedged rotor

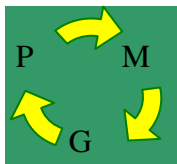
Exciter
Triple dipped in moisture, oil and acid
resisting polyester varnish and coated with
anti-tracking varnish.

Output windings with 2/3 pitch for improved
harmonics and paralleling ability.
Close coupled engine/alternator for perfect
alignment.

Compliance Standards

To BS4999/5000 pt 99,
VDE 0530, UTE5100,
NEMA MG1-22, CEMA,
IEC 34, CSA A22.2,
AS1359, BSS 5514,
ISO 3046 and ISO 8528

Model name	kVA		kWe	
	Standby	Prime	Standby	Prime
C825 D5A	825	750	660	600



Technical Data

Model	C825 D5A	Speed	1500 rpm
Set output	380-440 V 50 Hz	Alternator voltage regulation	±1.0%
Prime Rating	600 kWe 750 kVA	Alternator insulation class	H
Standby Rating	660 kWe 825 kVA	Fuel consumption (Prime)	147 l/hr
Engine Make	Cummins	Fuel consumption (Standby)	162 l/hr
Engine Model	VTA28G6	Lubrication system oil capacity	83 Litres
Cylinders	Twelve	Base fuel tank capacity – open set	1400 Litres
Engine build	40° Vee	Coolant capacity	162 Litres
Standard Governor/Class	Electronic	Exhaust temp – prime	464°C
Aspiration and cooling	Turbocharged and Aftercooled	Exhaust gas flow – prime	2000 l/s
Bore and stroke	140 mm x 152 mm	Exhaust gas back pressure max	76 mm Hg
Compression Ratio	13.0:1	Air flow – radiator*	18.0 m³/s
Cubic capacity	28 Litres	Air intake – engine (Prime)	914 Litres/s
Starting/Min °C	10°C	Minimum air opening to room	5.4 m²
Battery capacity	254 A/hr	Minimum discharge opening	3.6 m²
Gross Engine output – Prime	656 kWm	Pusher fan head (duct allowance)*	13 mm Wg
Gross Engine output – Standby	722 kWm	Heat radiated by eng (Prime)	90 kWm

PRIME POWER

Prime Power is available continuously during the period of power outage in a variable load application. Variable load should not exceed a 70% average of the prime power rating during any 24 hour period. A 10% overload capability is available for a period of 1 hour within a 12 hour period of operation.

STANDBY POWER

The Standby Power is applicable for supplying emergency power for the duration of a utility power interruption. No overload, utility parallel or negotiated outage operation capability is available at this rating.

In installations served by unreliable utility sources (where outages last longer or occur more frequently), where operation is likely to exceed 200 hours per year, the prime power rating should be applied.

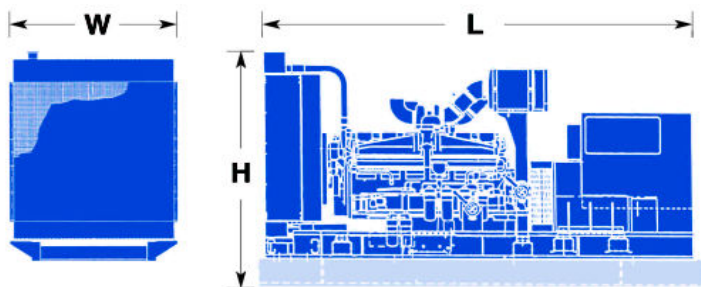
The Standby Power rating is only applicable for emergency and standby applications where the generator set serves as the back up to the normal utility source.

All ratings are based on the following reference conditions:

- Ambient temperature : 27°C

- Altitude above sea level : 150 metres

- Relative humidity : 60%



Dimensions and Weights

Open Version

Model	Engine	Length (mm)	Width (mm)	Height (mm)	Dry weight without tank (Kg)	Wet weight without tank (Kg)
C825 D5A	VTA28G6	4080	1756	2181	6278	6568

Specifications may change without notice

Cummins Power Generation

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See your distributor for more information.

