

Diesel Powered Generating Sets C650 D5A



Standard Genset Features	Generator Set Performance	Generator Set Options
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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 load in the order of 5.0%.
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

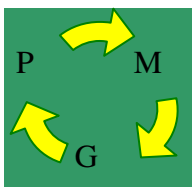
Engine Specification	Alternator Specification	Compliance Standards
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Engine Specification
KTA19G8
 In-line direct injection
 6-cylinder diesel engine.
Type
 Water cooled, four cycle, turbocharged
 and after cooled.
Construction
 Two valves per cylinder, forged steel
 crankshaft and connecting rods, cast iron
 block.
Starting
 24 volt negative earth. Battery charging
 alternator 35 amp on engine. Cranking
 current 640 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 roto
 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 perfec
 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
C650 D5A	650	590	520	472



Technical Data

Model	C650 D5A	Speed	1500 rpm
Set output	380-440 V 50 Hz	Alternator voltage regulation	±1.0%
Prime Rating	472 kW 590 kVA	Alternator insulation class	H
Standby Rating	520 kW 650 kVA	Fuel consumption (Prime)	NA
Engine Make	Cummins	Fuel consumption (Standby)	139 l/hr
Engine Model	KTA19G8	Lubrication system oil capacity	50 Litres
Cylinders	Six	Base fuel tank capacity – open set	1700 Litres
Engine build	In-line	Coolant capacity	132 Litres
Standard Governor/Class	Electronic	Exhaust temp – prime	579 °C
Aspiration and cooling	Turbocharged and Aftercooled	Exhaust gas flow – prime	1463 l/s
Bore and stroke	159 mm x 159 mm	Exhaust gas back pressure max	76 mm Hg
Compression Ratio	13.9:1	Air flow – radiator*	11.1 m³/s
Cubic capacity	18.9 Litres	Air intake – engine (Prime)	579 Litres/s
Starting/Min °C	10 °C	Minimum air opening to room	3.0 m²
Battery capacity	254 A/hr	Minimum discharge opening	2.0 m²
Gross Engine output – Prime	NA	Pusher fan head (duct allowance)*	13 mm Wg
Gross Engine output – Standby	575 kWm	Heat radiated by eng (Prime)	83 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.

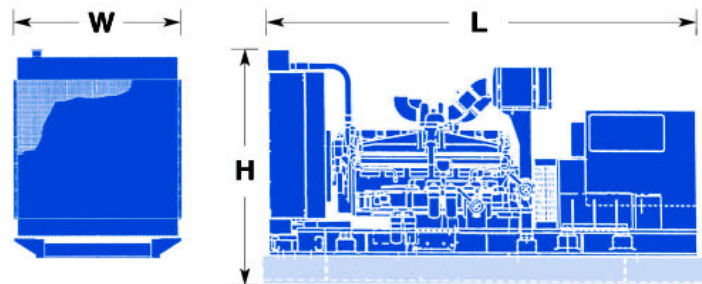
The Standby Power rating is only applicable for emergency and standby applications where the generator set serves as the back up to the normal utility source.

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)
C650 D5A	KTA19G8	3419	1285	1906	4225	4350

Specifications may change without notice

Cummins Power Generation

www.mayphatdien-vn.com

www.cumminspower.com

See your distributor for more information.

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