

# Diesel Powered Generating Sets C110-D5

Standard Genset Features	Generator Set Performance	Generator Set Options
<p>Cummins water cooled Diesel engine, Oil and fuel filter fitted, water separator,, Lube-oil drain valve fitted Electric starter &amp; Charge alternator 12 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 std PCC2100 without Bargraph as standard 3 pole C/B Bolted steel base frame with A/V mounting, Fork lift pockets in baseframe Single skin plastic fuel tank Tank capacity of min 8 hours operation at 70% standby load Loose 9 dB(A) silencer Set mounted starting batteries Engine &amp; Alternator Munsell Jade Green Chassis, Controller box and radiator black Packing under shrunk plastic film Operation &amp; Maintenance manual Standard set of labels</p>	<p><b>Voltage Regulation</b> Maintains voltage output to within <math>\pm 1.0\%</math>. 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%. <b>Frequency Regulation</b> Isochronous under varying loads from no load to 100% full load when electronic governor is fitted. <b>Random Frequency Variation</b> Will not exceed <math>\pm 0.25\%</math> of its mean value for constant loads – no load to full load. <b>Waveform</b> Total harmonic distortion open circuit voltage waveform in the order of 1.8%. Three-phase balanced load in the order of 5.0%. <b>Telephone Influence Factor (TIF)</b> TIF better than 50. THF to BS 4999 Part 40 better than 2%. <b>Alternator Temperature Rise</b> Class H insulation.  <b>Radio Interference</b> In compliance with BS 800 and VDE levels G and N.</p>	<p><b>Mechanical Options</b> Compliance - CE Certification (Guarding)  <b>Fuel options</b> Fuel Tank deletion Steel Fuel Tank replacing Plastic Fuel Tank  <b>Exhaust Options</b> Exhaust Silencer - Industrial (9 dB), In-Line Exhaust Bellows Exhaust Silencer - Residential (35 dB), In-Line Installation Kit - Industrial Silencer Installation Kit - Residential Silencer  <b>Warranty</b> Warranty - 5 Year Extended Standby Appln Warranty - 2 Year Extended Prime Appln  <b>Voltage Connections</b> 254/440V 240/416V 230/400V 220/380V 127/220V 115/200V 110/190V  <b>Miscellaneous Options</b> Coolant heater -240V Battery Charger 240V,5A AUTO START - AMF Module (Loose) Packing - Export Box 4 POLE MCCB</p>

Engine Specification	Alternator Specification	Compliance Standards
<p>4ISBeG1 In-line direct injection 4-cylinder diesel engine. Type Water cooled, four cycle, turbocharged and after cooled. Construction Four valves per cylinder, forged steel crankshaft and connecting rods, cast iron block. Starting 12 volt negative earth. Battery charging alternator 37 amp on engine. Cranking current 625 amps at 0°C. Fuel System 12 volt fail safe actuator. Spin-on paper element fuel filter with Stanadyne fuel pump injection system with integral mechanical governor. Dual flexible fuel lines and connectors. Standard fuel water separator. Filters Air cleaner with dry element and restriction indicator. Spin-on full flow lube oil filter. Cooling 50°C radiator as std Stone guard. Oil cooler. Drain Tap</p>	<p>Type Brushless single bearing, revolving field, pole, drip proof, screen protected. Class H Insulation. IC 01 cooling system. Fully interconnected damper winding. AC exciter and rotating rectifier unit. Epoxy coated stator winding. Rotor and exciter impregnated with tropical 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.</p>	<p>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</p>

Model name	kVA	PRP	kWe	PRP
C110 D5	110	100	88	80

## Technical Data

<b>Model</b>	C110-D5	<b>Speed</b>	1500 rpm
<b>Set output</b>	380-440 V 50 Hz	<b>Alternator voltage regulation</b>	±1.0%
<b>Prime Rating</b>	80 kWe 100 kVA	<b>Alternator insulation class</b>	H
<b>Standby Rating</b>	88 kWe 110 kVA	<b>Fuel consumption (Prime)</b>	22 l/hr
<b>Engine Make</b>	Cummins	<b>Fuel consumption (Standby)</b>	25 l/hr
<b>Engine Model</b>	4ISBeG1	<b>Lubrication system oil capacity</b>	13.0 Litres
<b>Cylinders</b>	Four	<b>Base fuel tank capacity – open set</b>	112 Litres
<b>Engine build</b>	In-line	<b>Coolant capacity</b>	19.5 Litres
<b>Standard Governor/Class</b>	Electronic	<b>Exhaust temp – prime</b>	553°C
<b>Aspiration and cooling</b>	Turbocharged And Charged Air cooled	<b>Exhaust gas flow – prime</b>	273.3 l/s
<b>Bore and stroke</b>	102 mm x 120 mm	<b>Exhaust gas back pressure max</b>	76 mm Hg
<b>Compression Ratio</b>	17.3:1	<b>Air flow – radiator*</b>	3.38 m <sup>3</sup> /s
<b>Cubic capacity</b>	3.9 Litres	<b>Air intake – engine (Prime)</b>	84.3 Litre/s
<b>Starting/Min °C</b>	Unaided/-12°C	<b>Minimum air opening to room</b>	0.7 sq m
<b>Battery capacity</b>	100 A/hr	<b>Minimum discharge opening</b>	0.5 sq m
<b>Gross Engine output – Prime</b>	93kWm	<b>Pusher fan head (duct allowance)*</b>	10 mm Wg*
<b>Gross Engine output – Standby</b>	102kWm	<b>Heat radiated by eng (Prime)</b>	N/A

### PRIME POWER (PRP)

Prime power is available for an unlimited number of annual operating hours in variable load applications, in accordance with ISO8528-1.

A 10% overload capability is available for a period of 1 hour within a 12-hour period of operation, in accordance with ISO 3046-1.

### STANDBY POWER RATING (ESP)

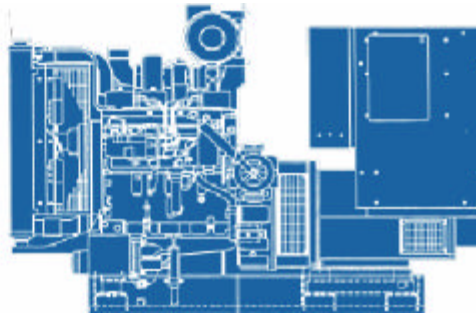
The Standby Power Rating is applicable for supplying emergency power for the duration of a utility power interruption. No overload, utility parallel or negotiated outage operation capability is available at this rating.

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 – 27oC      - Altitude above sea level – 150 metres      - Relative humidity – 60%



## Dimensions and Weights

Model	Engine	Length (mm)	Width (mm)	Height (mm)	Set weight wet (Kg)	Set weight dry (Kg)	Enclosed Set (Kg)
C110-D5	4ISBeG1	1950	1046	1293	1326	1211	1811

Specifications may change without notice

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