

Cummins Power Generation C500 D5e Diesel Generator Set



> Specification sheet

C500 D5e

50Hz

Our energy working for you.™



Made by Cummins Power Generation

Cummins Power Generation commercial diesel generator sets integrate the universal design, production and testing standard of Cummins, providing fully reliable and integrated power generation systems with optimum performance for applications in standby power, prime power and continuous operation.

In accordance with the standard of ISO8528-2005 and GB/T2820-2009 AC Generator Sets Driven by Reciprocating Internal Combustion Engine.

Certified to ISO9001 and ISO9002 for generator set design and manufacture.

Cummins provides full quality assurance and is responsible for the warranty of generator sets including engine, alternator and control system.

National specialized service network ensures 24 hours after-sale service and the supply of parts and accessories.

Standard Features of Generator Set

Engine: Cummins QSX15 series engine.

Type: Four-stroke, water cooled, turbocharged and air-to-air aftercooled.

Structure: Cast steel crankshaft, connecting rod, cast iron cylinder block.

Cooling system: Built-in water circulating pump and thermostat improves working efficiency of engine.

Filter: Cummins Fleetguard series high-precision filter.

Alternator: Stamford HC series alternator.

Type: Revolving magnetic field, single bearing, 4 pole, brushless, drip proof structure, in accordance with GB755, BS5000, and IEC34-1.

Stator: Taper slot structure, 2/3 pitch windings, effectively suppressing waveform distortion of third harmonic current and output voltage under non-linear load.

Rotor: Flexible driving disc connected to engine directly, perfect damper winding reduces parallel oscillation.

Cooling system: Directly drive centrifugal blower fan.

Control System: PowerCommand® control system based on microprocessor.

Short-Circuit Protection: Schneider breaker, AmpSentry™ patent protection, PowerCommand® controller.

Base Frame: Bolted steel base frame with A/V mounting, complex seismic structure and bottom oil tank.

Radiator: Standard genset mounted radiator.

Standard Accessories: Exhaust elbow, exhaust bellows, exhaust silencer, etc.

Genset model	Standby Power		Prime Power		Engine	Alternator	Control System
	kVA	kW	kVA	kW			
C500 D5e	500	400	450	360	QSX15-G8	HCI544C	PCC2100

230/400VAC, 50Hz, 0.8PF (lagging) 3phase

Our energy working for you.™

www.cumminspower.com

© 2012 Cummins Power Generation Inc. All rights reserved. "Cummins Power Generation" and "Cummins" are registered trademarks of Cummins.

"PowerCommand" is the registered trademark of Cummins Power Generation. "Our energy working for you.™" is the trademark of Cummins Power Generation. Specifications are subject to change without notice.
EA_S_CC_16 V4(2014/01)



Generator Set Specifications

	Standby	Prime
Voltage regulation (no load to full load)	±1%	
Steady-state voltage variation	±1%	
Frequency regulation (no load to full load)	Isochronous	
Steady-state frequency variation	±0.25%	
EMC compatibility	BS EN 61000-6-4 / BS EN 61000-6-2	
Fuel consumption, L/hr@100% load	103	93
Battery starting capacity, A/hr	180*2	
Total coolant capacity (with engine and water tank), L	104	
Bottom oil tank capacity, L	NA	

Engine Specifications

Model	QSX15-G8
Configuration	Cast iron, in-line, 6-cylinder
Displacement, L	15
Compression ratio	17.0:1
Aspiration	Turbocharged and air-to-air aftercooled
Fuel system	Direct injection
Bore* stroke, mm	137*169
Rated speed, rpm	1500
Governor type	Electronic
Starting voltage	24V, negative ground
Battery charging alternator	24V,35A
Cold starting current, CCA	1425 (-18°C)
Lube oil capacity, L	91
Combustion air (standby), m ³ /s	0.61
Coolant capacity, L	24
Maximum fuel flow, L/hr	424
Maximum fuel inlet resistance, mmHg	127

Alternator Specifications

Protection class	IP23
Insulation system	Class H
Standard temperature rise	Standby, 150°C (at 40°C ambient temperature)
Exciting type	Self-exciting
AC waveform total harmonic distortion	<1.5% no load, <5% 3-phase balanced linear load
Telephone influence factor (TIF)	<50 (per NEMA MG1-22.43)
Telephone harmonic factor (THF)	<2%

Exhaust Specifications

	Standby	Prime
Exhaust gas flow at rated load, L/S	1370	1255
Exhaust gas temperature, °C	515	488
Maximum exhaust backpressure, kPa	10	

Cooling System Specifications

Radiator ambient design, °C	40
Minimum air inlet(outlet) area, m ²	2.08 (1.6)
Radiator tank capacity, L	80
Radiator cooling air flow (standby), m ³ /s	8.8
Total heat rejection, kW	41.2
Maximum cooling air flow static resistance, Pa	124.5

Our energy working for you.™

www.cumminspower.com

© 2012 Cummins Power Generation Inc. All rights reserved. "Cummins Power Generation" and "Cummins" are registered trademarks of Cummins.

"PowerCommand" is the registered trademark of Cummins Power Generation. "Our energy working for you.™" is the trademark of Cummins Power Generation. Specifications are subject to change without notice.
EA_S_CC_16 V4(2014/01)



PowerCommand® 2100

The PowerCommand® control system is a microprocessor based generator set monitoring, and control system.

The control provides an operator interface to the genset, digital voltage regulation, digital governing and generator set protective functions.

The PowerCommand® 2100 generator set control is suitable for use on a wide range of generator sets in nonparalleling applications.

The PowerCommand® 2100 can be configured for any frequency, voltage and power connection configuration from 120 to 600 VAC for 50 Hz or 60 Hz operation.

Power for the control is derived from the generator set starting batteries. The control functions over a voltage range from 8 VDC to 35 VDC.

Major features

- 12 or 24 VDC battery operation.
- Digital engine speed governing (optional) to provide isochronous frequency regulation.
- Digital voltage regulation with 3-phase sensing.
- AmpSentry™ protection for true alternator overcurrent protection.
- Digital AC output metering with optional analog metering.
- Battery monitoring system to sense and warn against a weak battery condition.
- Digital alarm and status message display.
- Generator set monitoring – Displays status of all critical engine and alternator generator set functions.
- Smart starting control system – Integrated fuel ramping to limit black smoke and frequency overshoot.

Control system

Includes all functions to locally or remotely start and stop, and protect the generator set.

Control switch – RUN/OFF/AUTO

OFF mode – the generator set is shut down and cannot be started.

RUN mode – the generator set will execute its start sequence.

AUTO mode – the generator set can be started with a start signal from a remote device.

LED indicating lamps – includes LED indicating lamps for the following functions:

- Generator set running.
- Not-in-auto mode.
- Common warning.
- Five LED indicating lamps that are configurable for colour and function.
- Low oil pressure warning.
- High engine temperature warning.
- Low oil pressure shutdown.
- Overspeed shutdown.
- Fail to start.

Emergency stop switch

Immediate shut down of the generator set on operation.

Base engine protection

- Overspeed shutdown.
- Low oil pressure warning/shutdown.
- High engine temperature warning/shutdown.
- Underspeed/sensor fail shutdown.
- Fail to start/fail to crank.
- Low/high battery voltage.

Options

- Analog AC metering panel.
- Key type mode selector switch.
- Exhaust temperature monitoring.
- PowerCommand network.
- CAN engine interface (optional on some models).
- Refer to the PowerCommand Controls Technical Bulletin for detailed information (S1409d).



Our energy working for you.™

www.cumminspower.com

© 2012 Cummins Power Generation Inc. All rights reserved. "Cummins Power Generation" and "Cummins" are registered trademarks of Cummins.

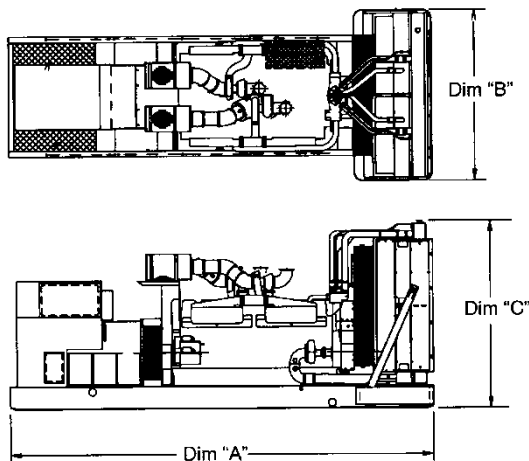
"PowerCommand" is the registered trademark of Cummins Power Generation. "Our energy working for you.™" is the trademark of Cummins Power Generation. Specifications are subject to change without notice.
EA_S_CC_16 V4(2014/01)



Standard Generator Set

Model	Dim "A" (mm)	Dim "B" (mm)	Dim "C" (mm)	Weight* Dry Weight(kg)
C500 D5e	3524	1500	2035	4550

Standard Outline Drawings of Generator Set



The outlines are for illustrative purposes only, not used for installation design.

Please refer to genset outline drawing for exact representation of this model for installation design.

Ratings Definitions:

Emergency Standby Power (ESP):

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 GB.T2820/ISO 8528. The effective oil limited power is in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.

Limited-time Running Power (LTP):

Applicable for supplying power to a constant electrical load for limited hours. Limited-time Running Power (LTP) is in accordance with GB.T2820/ISO 8528.

Prime Power (PRP):

Applicable for supplying power to varying electrical load for unlimited hours. Prime Power (PRP) is in accordance with GB.T2820/ISO 8528. A 10% overload capability is available in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.

Base Load (Continuous) Power (COP):

Applicable for supplying power continuously to a constant electrical load for unlimited hours. Continuous Power (COP) is in accordance with GB.T2820/ISO 8528, ISO 3046, AS 2789, DIN 6271 and BS 5514.

East Asia, Cummins Power Generation

NO.2, Rongchang East Street, Beijing Economic-Technological Development Area, Beijing, P.R.China.

Post code: 100176

Tel: 86 (10) 5902 3000

Fax: 86 (10) 5902 3199

Email: EastAsia.CumminsPower@cummins.com

Cumminshotline(China): 400-810-5252

Our energy working for you.™

www.cumminspower.com

© 2012 Cummins Power Generation Inc. All rights reserved. "Cummins Power Generation" and "Cummins" are registered trademarks of Cummins.

"PowerCommand" is the registered trademark of Cummins Power Generation. "Our energy working for you.™" is the trademark of Cummins Power Generation. Specifications are subject to change without notice.
EA_S_CC_16 V4(2014/01)

