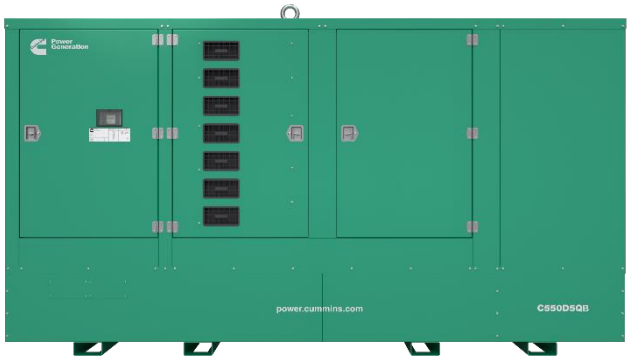
Q RANGE DIESEL GENERATOR SET

C550D5QB



DESCRIPTION

This **Cummins®** commercial generator set is a fully integrated power generation system, providing optimum performance, reliability, and versatility for Stationary Standby and Prime Power applications.

STANDARD FEATURES

Cummins engine – Rugged 4 cycle industrial diesel delivers reliable power, and fast response to load changes.

Alternator - Stamford S series self-excited alternator.

Cooling system - Integral set-mounted radiator system, designed and tested for rated ambient temperatures simplifies facility design requirements for rejected heat.

Control system - The PowerCommand® control, microprocessor-based generator set monitoring and control system.

Open and enclosed genset versions available.

Warranty - Backed by a comprehensive warranty and wide distributor and dealer network.

Coolant heater - The enclosed version is fitted as standard with a 230V coolant heater to ensure that the engine starts during low ambient temperatures by circulating warmed coolant through the engine. Optional for open versions.

Enhanced battery system - Including a flooded/SLI technology battery, charger and disconnector as standard.

GENERAL DATA

GENSET	C550D5QB diesel generator set						
ENGINE	M15-G8						
CONTROLLER	PC2.2						
	Model	Phases	Voltage (V)	Frequency (Hz)	ESP Power (kVA/kW)	PRP Power (kVA/kW)	Current ESP (A)
ALTERNATOR	S5L1S-D4	3	400/230	50	550 / 440	500 / 400	794

FUEL CONSUMPTION

	STANDBY (kVA/kW)				PRIME (kVA/kW)			
RATINGS	**550 / 440**				**500 / 400**			
LOAD	1/4	1/2	3/4	Full	1/4	1/2	3/4	Full
l/h	27.3	50.7	76.1	103.1	24.3	45.2	67.7	91.8

SPECIFICATIONS

GENERATOR SET SPECIFICATIONS	
Governor type	Electronic (PGI)
Performance class	Genset models have been tested in accordance with ISO 8528-5. Consult factory for transient performance information
Voltage regulation, no load to full load	± 1%
Random voltage variation	± 1%
Frequency regulation	Isochronous
Random frequency variation	± 0.25%
Electromagnetic Compatibility Performance	Emissions to EN 61000-6-4:2007+A1:2011 Immunity to EN61000-6-2: 2005
Coolant Heater **	230VAC, 2250W
Fuel tank capacity	995 l
Autonomy @ 75%PRP (usable)	14h
Guaranteed sound power level - Lw(A) (Enclosed)	106 dB(A)
Sound pressure level - Lp(A) (Enclosed): @1m @7m	 85 dB(A)* 75 dB(A)*

*Estimated ** Optional Open set version

ENGINE SPECIFICATIONS		
	Standby Rating	**Prime Rating**
Engine manufacturer	Cummins	
Engine model	M15-G8	
Design	4 cycle, in-line, Turbocharged and Charge Air Cooled	
Displacement, l	14.5	
Rated speed, rpm	1500	
Lube oil capacity, l (Total system with combo filters)	52 (57)	
Gross engine power output, kWm	504	504
Bore, mm	135	
Stroke, mm	169	
Cylinder block	Cast iron, 6 cylinder	
Battery charging alternator, A	90	
Starting voltage, VDC	24	
Fuel system	XPI	
Fuel filter	Spin-on fuel filters with water separator and fuel feed pump integrated	
Air cleaner type	Dry replaceable element with restriction indicator	
Lube oil filter type(s)	Spin-on full flow filter	
Standard cooling system	55 ºC ambient radiator	

ALTERNATOR SPECIFICATIONS	
Alternator manufacturer	Stamford
Alternator model	S5L1S-D4
Voltage, VAC	400/230
Design	Brushless, single bearing, revolving field
Stator	2/3 pitch
Insulation system	Class H
Standard temperature rise	Standby 50 Hz – 163 ºC/27 ºC ambient
Exciter type	Self-excited
Winding	311
Phase rotation	A (U), B (V), C (W)
Alternator cooling	Direct drive centrifugal blower fan

BATTERY SYSTEM	
Design	Lead acid, flooded/SLI technology battery
Number of batteries	2
Battery Voltage, VDC	2x12
Battery Capacity, Ah	2x140
Battery Charger	Standard. 12/24VDC, 4A
Battery Disconnector	Standard

INTAKE AIR SYSTEM*	
	Standby Rating
Combustion Air, m3/min	33
Maximum air cleaner restriction, kPa	6.2

*Engine based data

EXHAUST SYSTEM*	
	Standby Rating
Exhaust gas flow at rated load, m3/min	74.6
Exhaust gas temperature, ºC	459
Maximum exhaust back pressure, kPa	10

*Engine based data

COOLING SYSTEM	
Ambient design, ºC (open genset)	55
Ambient design, ºC (enclosed genset)	49
Fan load, kWm	10.8
Coolant capacity (with radiator), l	83.1
Cooling system air flow, m^3/sec @ 12.7 mm H_20 (open genset)	7.7

FUEL FLOW	
Maximum fuel flow, L/h	282
Maximum fuel inlet restriction, mm Hg (clean filter)	149.9
Maximum fuel inlet temperature, °C	70

TRANSPORTATION, STORAGE & HANDLING	
Lifting configuration*	Multi-point (2) - Enclosed
Forklift lifting	Enclosed and Open versions

*See outline drawing for details

GENERATOR SET OPTIONS

OPTIONAL COMPONENTS	OPEN VERSION	ENCLOSED VERSION
		
Genset fitted		
Coolant Heater	o	●
Loose options		
Residential Muffler	o	●
Industrial Muffler	o	-
Optional Warranty	o	o
QSOL availabilty		
Genset Literature in other Languages	●	●

● Standard; o Optional; - Not Available

Note: other options upon request, please contact your Sales Representative for availability and/or for any additional customization request.

WARRANTY

All components and subsystems are covered by an express limited warranty, please consult details in Global Commercial Warranty Statement depending on your application. Other optional and extended factory warranties and local distributor maintenance agreements are available.

CONTROL SYSTEM

PowerCommand 2.2 – The PowerCommand control system is an integrated microprocessor-based generator set control system providing voltage regulation, engine protection, alternator protection, operator interface and isochronous governing.

MAJOR FEATURES

- Digital voltage regulation - Single phase full wave SCR type regulator compatible with either shunt or PMG systems.
- AmpSentry™ – Includes integral AmpSentry protection which provides a full range of alternator protection functions that are matched to the alternator provided.
- Power management – Control function provides battery monitoring and testing features and smart starting control system.
- Advanced control methodology – Three phase sensing, full wave rectified voltage regulation, with a PWM output for stable operation with all load types.
- Communications interface – Control comes standard with PCC Net and Modbus interface for interconnecting to customer PLC/BMS.
- Advance Serviceability – InPower™ PC-based Software service tool available for detailed diagnostics, setup, data logging and fault simulation.
- Easily upgradeable – PowerCommand controls are designed with common control interfaces.
- Environmental protection – The control system is designed and tested for reliable operation in harsh environment.
- English and symbology-based language support.
- 12 and 24 VDC battery operation.

OPERATOR PANEL FEATURES

- 128 x 128 pixels graphic LED backlight LCD.
- Auto, manual, start, stop, fault reset and lamp test/panel lamp switches.
- Alpha-numeric display with pushbuttons.
- LED lamps indicating genset running, remote start, not in auto, common shutdown, common warning, manual run mode, auto mode and stop mode.

Alternator data: 3-phase AC Volt and Current; 1-phase Volt and Currrent; Frequency; kW, kvar, power factor, kVA.
Engine data: DC voltage; Engine speed; Lube oil pressure and temperature; Coolant temperature; Comprehensive FAE data (where applicable).

Other data: Start attempts, running hours, kW/h; Load profile; Fault history; Data logging (requires InPower™)

Operator and Service adjustments – The HMI includes provisions for adjustment of generator set control functions. Adjustments are protected by a password.

STANDARD CONTROL FUNCTIONS

- Digital electronic Isochronous governor
- Integrated digital electronic voltage regulator
- Alternator AC warnings and shutdowns
- AmpSentry™ protective relay
- Engine warnings and shutdowns
- Battery warnings
- Full authority electronic engine protections (where applicable).
- Control functions: Start and cooldown delay, Real clock, Exerciser, Data logging, Cycle cranking and load shed.
- Battle short mode.
- Fail to start/crank
- Low fuel level warning

FIELD CONTROL INTERFACE

Input signals to the base control include:

- Remote start.
- Local and Remote emergency stop.
- Configurable inputs: Control includes (4) input signals from customer.

Output signals from the PowerCommand control include:

- Configurable relay outputs: Control includes (4) relay output contacts rated at 2 A.

Warranty

- Warranty and service backed by a comprehensive warranty and worldwide distributor service network.

Note: Please, refer to PC2.2 product literature for additional Information on Control System.

PowerCommand 2.2 control operator/Display panel

RATINGS DEFINITIONS

Emergency Standby Power (ESP):

Applicable for supplying power continuously to varying electrical loads for the duration of power interruption of a reliable utility source. Emergency Standby Power (ESP) is in accordance with ISO 8528-1 and ISO 3046-1, obtained and corrected in accordance with ISO 15550

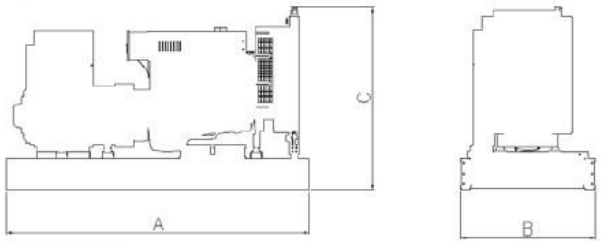
Limited-Time Running Power (LTP):

Applicable for supplying power to a constant electrical load for limited hours. Limited Time Running Power (LTP) is in accordance with ISO 8528-1.

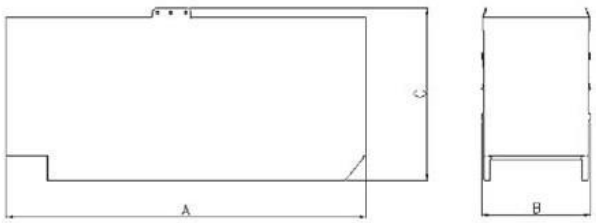
Prime Power (PRP):

Applicable for supplying power to varying electrical load for unlimited hours. Prime Power (PRP) is in accordance with ISO 8528-1. Ten percent overload capability is available in accordance ISO 3046-1, obtained and corrected in accordance with ISO 15550.

OPEN



ENCLOSED



This outline drawing is to provide representative configuration details for model series only.
Do not use for installation design

DIMENSIONS

MODEL	OPEN					ENCLOSED				
	Length "A" mm	Width "B" mm	Height "C" mm	Dry wt.* kg	Wet wt.* kg	Length "A" mm	Width "B" mm	Height "C" mm	Dry wt.* kg	Wet wt.* kg
C550D5QB	3500	1750	2120	4039	4154	4530	1780	2640	5228	5343

* Note: Weights represent a set with standard features. Wet weights do not include fuel.

REFERENCE DOCUMENTS

Additional documents are available for consult in Seismic™ (cummins.seismic.com) for detailed technical Information.

CODES AND STANDARDS

ISO 9001 ISO 14001	This product was manufactured in a facility whose quality management system is certified to ISO 9001 and its Health Safety Environmental Management Systems certified to ISO 14001.	CE	This generator is available as CE marked
		UKCA	This generator is available as UKCA marked
2000/14/EC	All enclosed products are designed to meet EU Noise Directive 2000/14/EC.	**ISO 8528**	This generator set has been designed to comply with ISO 8528 standards.
2014/30/EU 2006/42/EC 2011/65/EU 2014/35/EU	All products are designed to meet or exceed EU legislation on Electromagnetic Compatibility (EMC), Machinery Safety, Restriction of the use of certain hazardous substances (RoHS) and Electrical Equipment for use within certain voltage limits.		

For more information, please contact your local Cummins distributor or visit cummins.com
Power Onward ™.