



# Diesel generator set 6L9.5 series engine

250 kVA - 350 kVA 50 Hz

225 kWe - 275 kWe 60 Hz



## 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.

## Features

**Cummins heavy-duty engine** - Rugged 4-cycle industrial diesel delivers reliable power, low emissions and fast response to load changes.

**Optional Permanent Magnet Generator (PMG)** - Offers enhanced motor starting and fault clearing short circuit capability.

**Alternator** - Low reactance 2/3 pitch windings; low wave form distortion with non-linear loads, fault clearing short-circuits capability, and class H insulation.

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

**Control system** - The PowerCommand® electronic control is standard equipment and provides total system integration, including auto remote start/stop, alarm and status message display.

**Enclosures** - Optional sound-attenuated enclosures.

**Warranty** - Backed by a comprehensive warranty and worldwide distributor network.

## 50 Hz

Genset model	Standby rating		Prime rating		Engine model	Alternators model	Genset controller
	50 Hz/kVA	50 Hz/kWe	50 Hz/kVA	50 Hz/kWe			
C275D5B	275	220	250	200	6LTAA9.5-G3	UCDI274K	PC1.2
C300D5B	300	240	275	220	6LTAA9.5-G3	S4L1D-D41	PC1.2
C330D5B	330	264	300	240	6LTAA9.5-G1	S4L1D-D41	PC1.2
C350D5B	350	280	320	256	6LTAA9.5-G1	S4L1D-E41	PC1.2

## 60 Hz

Genset model	Standby rating		Prime rating		Engine model	Alternators model	Genset controller
	60 Hz/kVA	60 Hz/kWe	60 Hz/kVA	60 Hz/kWe			
C250D6B	313	250	282	225	6LTAA9.5-G3	UCDI274K	PC1.2
C275D6B	344	275	313	250	6LTAA9.5-G1	S4L1D-D41	PC1.2

## Generator set specifications

Governor regulation class	ISO 8528
Voltage regulation, no load to full load	1%
Random voltage variation	1%
Frequency regulation	Isochronous
Random frequency variation	± 0.25%

## Engine specifications

Design	4 cycle, in-line, turbocharged and after-cooled
Bore	116.5 mm (4.59 in.)
Stroke	148 mm (5.83 in.)
Displacement	9.5 L ( 579.7in <sup>3</sup> )
Cylinder block	Cast iron, 6 cylinder
Battery capacity	96 Ah
Battery charging alternator	70 Amps
Starting voltage	24 Volts, negative ground
Fuel system	Direct injection
Fuel filter	Spin on fuel filters with water separator
Air cleaner type	Dry replaceable element
Lube oil filter type(s)	Spin-on full flow filters
Standard cooling system	122 °F (50 °C) at 50 Hz, 131 °F (55 °C) at 60 Hz ambient radiator

## Alternator specifications

Design	Brushless, single bearing, revolving field
Stator	2/3 pitch
Rotor	Direct coupled by flexible disc
Insulation system	Class H
Standard temperature rise	150-163 °C Standby
Exciter type	Self-excited or Permanent Magnet Generator (PMG)
Phase rotation	A (U), B (V), C (W)
Alternator cooling	Direct drive centrifugal blower fan
AC waveform Total Harmonic Distortion (THDV)	No load < 1.5%. Non distorting balanced linear load < 5%
Telephone Influence Factor (TIF)	TIF < 50%
Telephone Harmonic Factor (THF)	THF < 2%

## Available voltages

50 Hz Line – Line/Line – Neutral		60 Hz Line – Line/Line – Neutral	
• 220/127	• 400/230	• 208/220	• 440/255
• 380/220	• 416/240	• 220/127	• 480/277

\* Derate may be applicable at this voltage. Please consult factory for details.

## Generator set options

### Engine

- Heavy duty air filter
- Water jacket heater 220/240 V
- Fuel transfer pump
- Oil drain pump

### Battery

- Battery charger
- Battery isolator

### Alternator

- Alternator heater
- Voltage regulator - PMG
- Low temperature rise alternator

### Circuit breaker

- 4-pole main circuit breaker

### Warranty

- 2 years for Prime application
- 5 years for Standby application

### Silencer

- 25 dB residential – delivered loose

\*Note: Some options may not be available on all models - consult factory for availability.

## Control system

**PowerCommand 1.2** – The PowerCommand control system is a microprocessor-based generator set monitoring, metering and control system designed to meet the demands of today's engine driven generator sets. The integration of all control functions into a single control system provides enhanced reliability and performance compared to conventional generator set control systems. These control systems have been designed and tested to meet the harsh environment in which gensets are typically applied.

### Description

The PowerCommand generator set control is suitable for use on a wide range of generator sets in nonparalleling applications. The PowerCommand control is compatible with shunt or PMG excitation style. It is suitable for use with connectable or non reconnectable generators, and it can be configured for any frequency, voltage and power connection from 120-600 VAC Line-to-Line.

Power for this control system is derived from the generator set starting batteries. The control functions over a voltage range from 8 VDC to 30 VDC.

### Major features

- 128 x 128 pixels graphic LED backlight LCD.
- Digital voltage regulation. Single phase full wave SCR type regulator compatible with either shunt or PMG systems.
- Digital engine speed governing (where applicable).
- Generator set monitoring and protection.
- Advanced over-current protection.
- Modbus® interface for interconnecting to customer equipment.
- Warranty and service. Backed by a comprehensive warranty and worldwide distributor service network.
- Certification. Suitable for use on generator sets that are designed, manufactured, tested and certified to relevant UL, NFPA, ISO, IEC Mil Std., CE, UKCA and CSA standards.

### Base control functions

#### HDMI capability.

**Operator adjustments** - The HMI includes provisions for many set up and adjustment functions.

**Data logs** - Includes engine run time, controller on time, number of start attempts.

**Fault history** - Provides a record of the most recent fault conditions with control hours time stamp. Up to 10 events are stored in the control non-volatile memory.

#### Alternator data

- Voltage (single or three phase Line-to-Line and Line-to Neutral).
- Current (single or three phase).
- kVA (three phase and total).
- Frequency.

#### Engine data

- Starting battery voltage.
- Engine speed.
- Engine temperature.
- Engine oil pressure.

**Service adjustments** – The HMI includes provisions for adjustment of generator set control functions.

Adjustments are protected by a password. Functions include:

- Engine speed governor adjustments.
- Voltage regulation adjustments.
- Cycle cranking.
- Configurable fault set up.
- Configurable output set up.
- Meter calibration.
- Units of measurement.

### Protective functions

**Protective functions include:**

- Battle short mode.
- Configurable alarm and status inputs.
- Emergency stop.
- Hydro mechanical fuel system engine protection.
- Overspeed shutdown.
- Low lube oil pressure warning.
- High lube oil temperature warning/shutdown.
- High engine temperature warning/shutdown.
- Low coolant temperature warning.
- Sensor failure indication.
- Full authority electronic engine protection.
- General engine protection.
- Low and high battery voltage warning.
- Weak battery warning.
- Fail to start (overcrank) shutdown.
- Fail to crank.
- Cranking lockout.

### Alternator protection

- High AC voltage shutdown (59).
- Low AC voltage shutdown (27).
- Overcurrent warning/shutdown.
- Under frequency shutdown (81 u).
- Over frequency shutdown/warning (81 o).
- Loss of sensing voltage shutdown.
- Field overload shutdown.

### Field control interface

**Input signals to the base control include:**

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

**Output signals from the PowerCommand control include:**

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



PowerCommand 1.2 control operator/display panel

## 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 ISO 8528. Fuel stop power in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.

### Limited-Time Running Power (LTP):

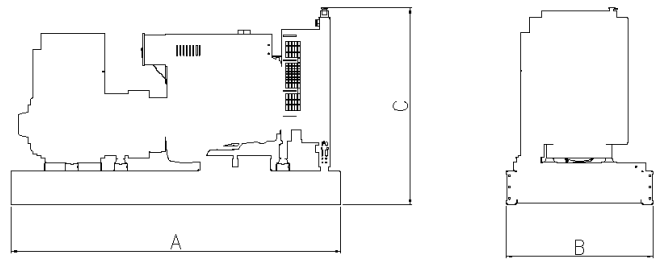
Applicable for supplying power to a constant electrical load for limited hours. Limited-Time Running Power (LTP) is in accordance with ISO 8528.

### Prime Power (PRP):

Applicable for supplying power to varying electrical load for unlimited hours. Prime Power (PRP) is in accordance with ISO 8528. Ten percent 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) in accordance with ISO 8528, ISO 3046, AS 2789, DIN 6271 and BS 5514.



This outline drawing is to provide representative configuration details for model series only.




See respective model data sheet for specific model outline drawing number.

**Do not use for installation design**

Model	Standby rating					Prime rating				
	Dim "A" mm	Dim "B" mm	Dim "C" mm	Dry wt.* kg	Wet wt.* kg	Dim "A" mm	Dim "B" mm	Dim "C" mm	Dry wt.* kg	Wet wt.* kg
C275D5B	2800	1100	1871	2282	2738	4256	1424	2216	3640	4190
C300D5B	2800	1100	1871	2495	2951	4256	1424	2216	3853	4403
C330D5B	2800	1100	1871	2495	2951	4256	1424	2216	3853	4403
C350D5B	2800	1100	1871	2579	3035	4256	1424	2216	3937	4487
C250D6B	2800	1100	1871	2282	2738	4256	1424	2216	3670	4190
C275D6B	2800	1100	1871	2500	2955	4256	1424	2216	3860	4407

\* Note: Weights represent a set with standard features. See outline drawings for weights of other configurations.

## Codes and standards

	This generator set is designed in facilities certified to ISO 9001 and manufactured in facilities certified to ISO 9001 or ISO 9002.	ISO 8528	This generator set has been designed to comply with ISO 8528 standards.
2000/14/EC	All enclosed products are designed to meet 2000/14/EC or exceed EU noise legislation 2000/14/EC step 2006.		The CE marking is only valid when equipment is used in a fixed installation application. Material compliance declaration is available upon request.
			The UKCA marking is only valid when equipment is used in a fixed installation application. Material compliance declaration is available upon request.

For more information contact your local Cummins distributor or visit [power.cummins.com](http://power.cummins.com)

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