Generator Set
Diesel
6BTA5.9 Series Engine
109kW - 120kW 50Hz
122kW - 135kW 60Hz

Description

This Cummins Power Generation commercial generator set is a fully integrated power generation system, providing optimum performance, reliability and versatility for standby and prime applications.

This generator set is designed and manufactured in facilities certified to ISO9001.

This generator set is available with CE Certification.

The Prototype Test Support (PTS) program verifies the performance integrity of the generator set design. Cummins Power Generation products bearing the PTS symbol meet the prototype test requirements of NFPA 110 for Level 1 systems.

Features

• CE Listed Generator Set - The complete generator set assembly is available Listed to CE.

• Exhaust Emissions - Optional Engine certification to U.S. EPA Nonroad Source Emission Standards, CFR 40 on all 60 Hz models.

• 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 - Several alternator sizes Offer selectable motor starting capability with low reactance 2/3 pitch windings; low waveform distortion with non-linear loads, fault clearing short-circuit capability and class H insulation.

• Control System - The PowerCommand® electronic control is standard equipment and provides total genset system integration, including automatic remote starting/stopping, precise frequency and voltage regulation, alarm and status message display, output metering, auto-shutdown at fault detection.

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

• Structural Steel Skid Base - Robust skid base supports the engine, alternator and radiator.

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

	Standby		Prime		Continuous		DataSheet	
Model	50 Hz kW (kVA)	60 Hz kW (kVA)	50 Hz kW (kVA)	60 Hz kW (kVA)	50 Hz kW (kVA)	60 Hz kW (kVA)	50 Hz	60 Hz
C135D6	NA	135 (169)	NA	122 (153)	NA	NA		
C150D5	120 (150)	NA	109 (136)	NA	NA	NA		

Generator Set Specifications

Governor Regulation Class	ISO8528
Voltage Regulation, No Load to Full Load	± 1%
Random Voltage Variation	± 1%
Frequency Regulation	Isochronous
Random Frequency Variation	± 0.25%
Radio Frequency Emissions Compliance	In compliance with BS 800 and VDE levels G and N.

Engine Specifications

Design	4 cycle, in-line, Turbo Charged
Bore	102 mm (4.02 in.)
Stroke	120 mm (4.72 in.)
Displacement	5.88 litre (359.0 $in.^3$)
Cylinder Block	Cast iron, 6 cylinder
Battery Capacity	100 A/hr
Battery Charging Alternator	65 amps
Starting Voltage	12 volt, 60Amp negative ground
Fuel System	Direct injection
Fuel Filter	Spin on fuel filters with water separator
Air Cleaner Type	Dry replaceable element with restriction indicator
Lube Oil Filter Type(s)	Spin on full flow filter
Standard Cooling System	122°F (50°C) ambient radiator

Alternator Specifications

Design	Brushless single bearing, revolving field
Stator	2/3 pitch
Rotor	Single bearing, flexible disc
Insulation System	Class H
Standard Temperature Rise	125 - 163°C Standby
Exciter Type	Self Excited
Phase Rotation	A (U), B (V), C (W)
Alternator Cooling	Direct drive centrifugal blower fan
AC Waveform Total Harmonic Distortion	No load < 1.5%. Non distorting balanced linear load < 5%
Telephone Influence Factor (TIF)	<50 per NEMA MG1-22.43
Telephone Harmonic Factor (THF)	<2%

Available Voltages

50 Hz Line – Neutral / Line - Line		60 Hz Line – Neutral / Line - Line	
254/440	110/190	277/480	120/208
240/416		254/440	
230/400		240/416	
220/380		220/380	
127/220		139/240	
115/200		127/220	

Note: Consult factory for other voltages.

Generator Set Options

Engine
- Compliance - CE Certification (Guarding)
- H/D Air Cleaner
- Coolant Heater

Fuel System
- Fuel Tank Deletion
- Steel Fuel Tank (Replaces Plastic)

Exhaust Options
- Exhaust Silencer - Industrial (9dB), in line
- Exhaust Silencer - Residential (25dB), in line
- Exhaust Bellows
- Installation Kit - Industrial Silencer
- Installation Kit - Residential Silencer

Miscellaneous Options
- Coolant Heater 240V
- Battery Charger
- Auto Start - AMF Module (Loose)
- 4 Pole MCCB
- Packing -Export Box
- Silenced enclosure

Warranty
- Warranty - 2 Year Extended Prime AppIn
- Warranty - 5 Year Extended Standby AppIn

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

Control System

PowerCommand™1301 - Generator Set Control

Description

The PowerCommand™ 1301 Control is a microprocessor-based generator set monitoring, and control system. The control provides a simple operator interface to the generator set, digital voltage regulation, digital engine speed governing, start / stop control, and protective functions

The PowerCommand™ 1301 generator set control is suitable for use on a wide range of generator sets in non-paralleling applications

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

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

Major Features

12 or 24 VDC Battery Operation.
Digital Engine Speed Governing (optional) to provide isochronous frequency regulation.
Digital Voltage Regulation Full wave rectified single phase (line to line) sensing.
Generator Set Monitoring. Monitors status of all critical engine and alternator conditions functions.
Engine Starting includes relay drivers for start, fuel shut off (FSO), and glow plug.
Configurable Inputs and Outputs. Two discrete inputs and two dry contact relay outputs.
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
Advanced Serviceability using InPower™, a PC-based software service tool.

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; as well as resets faults.
- 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

Status Indications - The control has a lamp driver for external fault/status indication. Functions include:
- The lamp flashes during preheat (when used) and while the generator set is starting.
- READY TO LOAD - flashing until the set is at rated voltage and frequency, then on continuously.
- Fault conditions are displayed by flashing a two-digit fault code number.

LED Indicating Lamps - (optional display) includes LED indicating lamps for the following functions:
- Not in Auto
- Remote Start
- Warning
- Shutdown
- Auto
- Run

Remote Emergency Stop Switch Input. Immediate shut down of the generator set on operation.
Base Engine Protection
- Overspeed Shutdown
- Low Oil Pressure Shutdown
- High Engine Temperature Shutdown
- Underspeed/Sensor Fail Shutdown
- Fail to Start
- Battery Charging Alternator Fail Warning

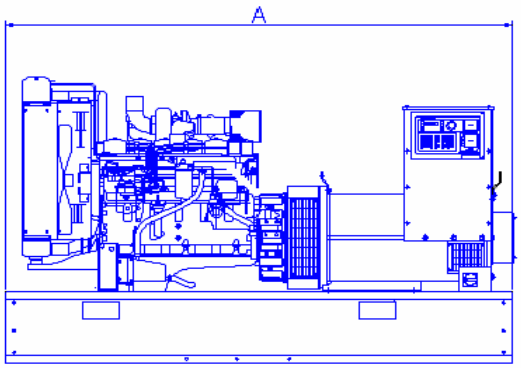
Options

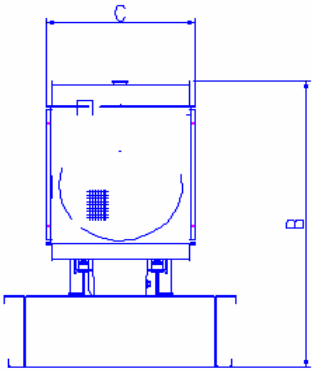
Digital Engine Speed Governing to provide isochronous frequency regulation.
Operator Display Panel an easy to use operator display of critical parameters and operating history.

Refer to the PowerCommand Controls Technical Bulletin for detailed information (TBA)

Ratings Definitions

Standby	Prime (Unlimited Running Time):	Base Load (Continuous):
Applicable for supplying emergency power for the duration of normal power interruption. No sustained overload capability is available for this rating. This rating is applicable to installations served by a reliable normal utility source. This rating is only applicable to variable loads with an average load factor of 80 percent of the standby rating for a maximum of 200 hours of operation per year and a maximum of 25 hours per year at 100% of its standby rating. The standby rating is only applicable to emergency and standby applications where the generator set serves as the back up to the normal utility source. No sustained utility parallel operation is permitted with this rating. (Equivalent to Fuel Stop Power in accordance with ISO3046, AS2789, DIN6271 and BS5514). Nominally Rated.	Applicable for supplying power in lieu of commercially purchased power. Prime power is the maximum power available at a variable load for an unlimited number of hours. A 10% overload capability is available for limited time. (Equivalent to Prime Power in accordance with ISO8528 and Overload Power in accordance with ISO3046, AS2789, DIN6271, and BS5514). This rating is not applicable to all generator set models.	Applicable for supplying power continuously to a constant load up to the full output rating for unlimited hours. No sustained overload capability is available for this rating. Consult authorized distributor for rating. (Equivalent to Continuous Power in accordance with ISO8528, ISO3046, AS2789, DIN6271, and BS5514). This rating is not applicable to all generator set models.





This outline drawing is to provide representative configuration details for model series only. Do not use for installation design, see respective model data sheet for specific outline drawing number.

Model	Dim "A" mm (in.)	Dim "B" mm (in.)	Dim "C" mm (in.)	Set Weight* Dry kg (lbs)	Set Weight* Wet kg (lbs)
C135D6	2404 (946)	1472 (580)	1100 (433)	1167	1216
C150D5	2404 (946)	1472 (580)	1100 (433)	1167	1216

*Note: Weights represent a set with standard features. See outline drawings for weights of other configurations. Weights are calculated using the largest alternator frame size.

See your distributor for more information.

Cummins Power Generation
Manston Park, Columbus Avenue
Manston, Ramsgate
Kent CT12 5BF, UK
Telephone: +44 (0) 1843 255000
Fax: +44 (0) 1843 255902
E-Mail: cpg.uk@cummins.com
Web: www.cumminspower.com