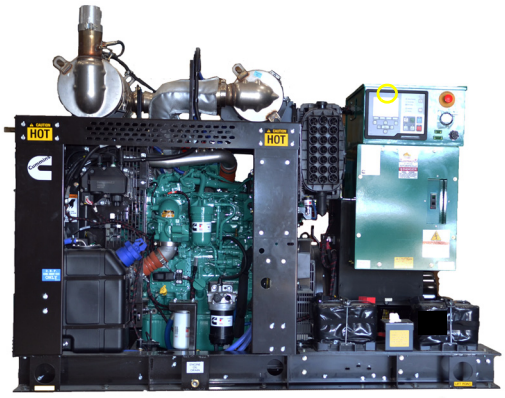
Specification sheet

Diesel Fuel Generator Set



QSB5 Engine Series
U.S. EPA Tier 4 Final
Not for Stationary Use

120 kW 60 Hz

Description

The Cummins QSB5-series commercial Generator Set (GenSet) boasts an EPA-certified, fully-integrated power generation system providing optimum performance, reliability, and versatility for mobile prime power applications.

Features

- Cost-saving EPA-Certified GenSet - No Site Emissions Testing
- Tier 4 Final emissions compliance
- SAE J1939 CANbus output
- Standard Power Command® Control (PCC) 3300 with Paralleling Capability - left or right mounted
- Protonode N34 link to Supervisory Control and Data Acquisition (SCADA)
- Remote control HMI with extension harness
- Low harmonic waveform distortion
- Electronic voltage regulation
- Bulkhead fuel and battery connections
- Low vibration for smooth operation

Warranty and Service - Backed by a one-year warranty and worldwide distributor network.

Cummins Heavy-Duty Engine - Rugged 4-cycle industrial compression-ignited engine delivers reliable power, low emissions, and quick response to load changes.

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:

- Tier 4 Final capabilities to monitor diesel exhaust fluid (DEF) level and manually activate or inhibit exhaust system cleaning
- Automatic remote starting/stopping
- Precise voltage regulation
- Alarm and status message display
- Output metering
- Auto-shutdown at fault detection

Model*	Prime Power Rating 60 Hz kW (kVa)	Emissions Compliance	Engine Data Sheet
C130D6B	120 (150)	EPA-certified Tier 4 Final	FR 94887

*EPA-certified for mobile applications, only.

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GenSet Specifications

Voltage Regulation, No Load to Full Load	±1%
Random Voltage Variation	±1% (Three-phase only.)
Frequency Regulation	Isochronous
Random Frequency Variation	±0.5%
Radio Frequency Interference	Optional PMG excitation operates in compliance with BS800 and VDE level G and N. Addition of RFI protection kit allows operation per MIL-STD-461 and VDE level K.

Engine Specifications

Base Engine	Cummins QSB5
Displacement	4.5 L (275 in^3)
Overspeed Limit	2150 rpm
Regenerative Power	6.62 kW
Cylinder Block Configuration	Cast iron
Cranking Current	630 amps at ambient temperature of -18 °C (0 °F)
Battery Charging Alternator	70 amps
Battery Type (Optional)	Group 24 (x2)
Starting Voltage	24-volt, negative ground
Standard Cooling System	See derates on Engine Data Sheet
Lube Oil Filter Types	One spin-on canister-combination full flow with bypass

Alternator Specifications

Design	Brushless, 4-pole, drip-proof revolving field
Stator	2/3 pitch
Rotor	Direct-coupled by flexible disc
Insulation System	Class H per NEMA MG1-1.65 or better
Standard Temperature Rise *	105 °C
Exciter Type	Shunt or Permanent Magnet Generator (PMG)
Phase Rotation	A (U), B (V), C (W)
Alternator Cooling	Direct-drive centrifugal blower

* For UL 1004 ratings, refer to temperature rise at 120 °C or below, and ambient temperature up to 40 °C

Full-load Amperage (FLA) at Rated Voltage

Model	Voltage								
	120/240 (1 Ph)	120/208	127/220	139/240	220/380	240/416	254/440	277/480	347/600
C130D6B	542	451	426	391	247	226	213	195	156

*Three-phase FLA based on 0.8 power factor (PF).

Rated Load Fuel Consumption in Gallons per Hour (L/h)

Model	Fuel Type	100%Load	75% Load	50% Load	25% Load
C130D6B	Diesel	8.72 (33)	6.36 (24)	4.37 (16.5)	2.38 (9)

PowerCommand® 3.3 Control System

An integrated microprocessor based generator set control system providing **Tier 4 Final capabilities to monitor diesel exhaust fluid (DEF) level and manually activate or inhibit exhaust system cleaning,** voltage regulation, engine protection, alternator protection, operator interface and isochronous governing. Refer to document S-1570 for more detailed information on the control.

Masterless Load Demand (MLD) capability- digital paralleling system allows two or more diesel generator sets to synchronize with each other in a default 10 seconds or less.

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 PCCNet and Modbus® interface.

Regulation compliant - Prototype tested: UL, CSA and CE compliant.

Service - InPower™ PC-based service tool available for detailed diagnostics, setup, data logging and fault simulation.

Multi-language support - English, Spanish, French (standard); other languages (optional).

Operator Panel Features

Operator/Display Panel

- Displays paralleling breaker status.
- 320 x 240 pixels graphic LED backlight LCD.
- Provides direct control of the paralleling breaker.
- Alphanumeric display with pushbuttons.
- Auto, manual, start, stop, fault reset, and lamp test/panel lamp switches.
- LED lamps indicating GenSet running, remote start, not in auto, common shutdown, common warning, manual run mode, auto mode and stop.

Paralleling Control Functions

- First Start Sensor System selects first genset to close to bus.
- Phase Lock Loop Synchronizer with voltage matching.
- Sync check relay.
- Isochronous kW and kVar load sharing.
- Load govern control for utility paralleling.
- Extended Paralleling (baseload/peak shave) Mode.
- Digital power transfer control, for use with a breaker pair to provide open transition, closed transition, ramping closed transition, peaking and base load functions.

Other Control Features

- 150 watt anti-condensation heater.
- DC distribution panel.
- AC auxiliary distribution panel.

Alternator Data

- Line-to-neutral and line-to-line AC volts.
- Three-phase AC current.
- Frequency.
- kW, kVar, and power factor kVa (three-phase and total).
- Winding temperature (optional).
- Bearing temperature (optional).

Engine Data

- DC voltage and engine speed.
- Lube oil pressure and temperature.
- Coolant temperature.
- Comprehensive FAE data.

Other Display Data

- GenSet model data.
- Start attempts, starts, running hours, kW hours.
- Load profile (operating hours at % load in 5% increments).
- Fault history – up to 32 events.
- Data logging and fault simulation (requires InPower™).
- Air cleaner restriction indication.
- Exhaust temperature in each cylinder.

Standard Control Functions

Digital Governing

- Temperature dynamic governing.
- Integrated digital electronic isochronous governing.

Digital Voltage Regulation

- Configurable torque matching.
- 3-phase, 4 wire line-to-line sensing.
- Integrated digital electronic voltage regulator.

AmpSentry™ AC Protection

- AmpSentry™ protective relay.
- Over current and short circuit shutdown.
- Over current warning.
- Single and three-phase fault regulation.
- Low oil pressure warning and shutdown.
- High coolant temperature warning and shutdown.
- Low coolant level warning and shutdown.
- Low coolant temperature warning.
- Over and under voltage shutdown.
- Over and under frequency shutdown.
- Overload warning with alarm contact.
- Reverse power and reverse var shutdown.
- Field overload shutdown.
- Fuel-in-rupture-basin warning or shutdown.
- Full authority electronic engine protection.
- AMM arc flash provision

Engine Protection

- Cranking lockout; overspeed shutdown; and battleshort.
- Sensor failure indication.
- Low fuel level warning or shutdown.
- Fail to start (overcrank) and fail to crank shutdown.
- Full authority electronic engine protection.
- Battery voltage monitoring, protection, and testing.

Control Functions

- Data logging and cycle cranking.
- Load shed and remote emergency stop.
- Time delay start and cooldown.
- Configurable inputs and outputs (20).
- Real time clock for fault and event time stamping.
- Exerciser clock and time of day start/stop.

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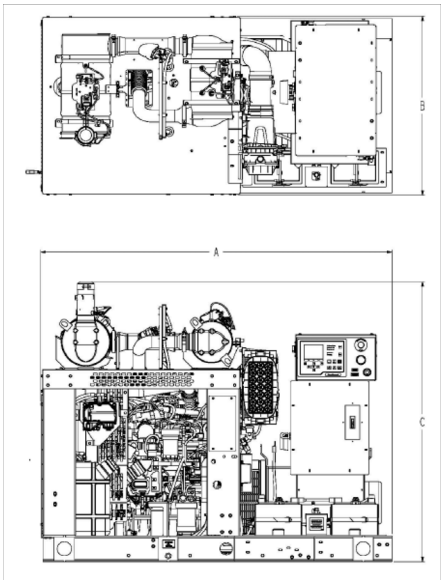
GenSet options and accessories

Engine - 750 W/110 V coolant heater

Generator Set

- Batteries
- Battery charger
- Battery heater
- Protonode N34
- Remote HMI
- Containment pan
- Fuel lift pump
- Audible alarm
- Remote coolant drain
- Enclosure



This outline drawing is for reference only.
Do not use for installation design.

All models	Dim "A" mm (in.)	Dim "B" mm (in.)	Dim "C" mm (in.)
Open Set	2184 (86)	1092 (43)	1727 (68)
Closed Set	2184 (86)	1219 (48)	1854 (73)

NOTE: Consult drawings for applicable weights. Contact the factory for additional information. See enclosure Specification Sheet for enclosure dimensions.

Optional Enclosure

Cummins Inc. provides the option of protecting your Cummins Generator Set (GenSet) with black protective steel enclosures to protect the GenSet from harsh weather conditions. These enclosure kits are designed to enclose the entire GenSet while allowing ample air flow for cooling.

Weather-protective enclosures (F001-WPE) provide protection from climate conditions. The enclosure is appropriate for applications where sound reducing enclosures are not required.

Quality Construction - 12-gauge, low carbon, hot-rolled ASTM A1011 steel construction (posts and panels)

Features and Benefits

- Stainless steel hardware
- Compact footprint
- Zinc phosphate pretreatment, e-coat primer and super durable powder topcoat paint minimizes corrosion and color fade
- Removable panels or hinged doors provide easy GenSet access - two recessed doors per side for service access
- Rain collar and rain cap
- Enclosure attaches directly to GenSet skid base
- Designed for ambient temperatures up to 49 °C (120 °F)
- Fixed louvers
- Solid/sealed roof prevents water accumulation
- Fuel and electrical stub-up area within enclosure perimeter
- External E-Stop

Refer to the Sound Data Sheet for specific capabilities.

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Codes and Standards

Meets U.S. EPA Tier 4 Final emissions.

This product has been manufactured under the controls established by a Bureau Veritas Certification approved management system that conforms with ISO 9001:2015.

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 is in accordance with ISO 3046, AS 2789, DIN 6271, and BS 5514.

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) is in accordance with ISO 8528, ISO 3046, AS 2789, DIN 6271, and BS 5514.

Warning: Backfeed to a utility system can cause electrocution and/or property damage. Do not connect GenSets to any building electrical system except through an approved device or after the building main disconnect is open. Neutral connection must be bonded in accordance with National Electrical Code.

Specifications are subject to change without notice.

Sales and Service

Cummins Sales and Service
875 Lawrence Drive
DePere, Wisconsin 54115

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