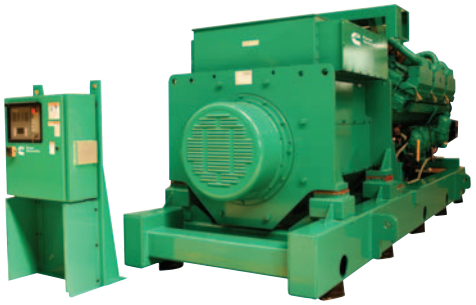
Diesel Generator set
QSK78 series engine



> Specification sheet
3000kVA - 3325kVA 50Hz
2336kW - 2500kW 60Hz

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Description

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

CE	This generator set is available with CE certification.
2000/14/EC	All enclosed products are designed to meet or exceed EU noise legislation 2000/14/EC step 2006.
ISO8528	This generator set has been designed to comply with ISO8528 regulation.
ISO 9001	This generator set is designed in facilities certified to ISO9001 and manufactured in facilities certified to ISO9001 or ISO9002.

Features

Cummins® Heavy-Duty Engine - Rugged 4-cycle industrial diesel delivers reliable power, low emissions and fast response to load changes.

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-circuits capability, and class F or H insulation.

Control System - Standard PowerCommand® electronic control provides total system integration including remote start/stop, precise frequency and voltage regulation, alarm and status message display, AmpSentry protection, output metering, auto-shutdown.

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

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

	Standby Rating		Prime Rating		Datasheet	
Model	**50Hz kVA (kW)**	**60Hz kW (kVA)**	**50Hz kVA (kW)**	**60Hz kW (kVA)**	**50Hz**	**60Hz**
2660 DQLB	3325 (2660)	N/A	3000 (2400)	N/A	DS54-CPGK	N/A
2500 DQLC	N/A	2500 (3125)	N/A	2336 (2920)	N/A	DS88-CPGK

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Generator Set Specifications

Governor Regulation Class	ISO8528 G2
Voltage Regulation, No Load to Full Load	± 0.5%
Random Voltage Variation	± 0.5%
Frequency Regulation	Isochronous
Random Frequency Variation	± 1%
EMC Compatibility	BS EN 61000-6-4 / BS EN 61000-6-2

Engine Specifications

Design	4 cycle, V-black, turbo Charged and low temperature after-cooled
Bore	170 mm (6.69 in.)
Stroke	190 mm (7.48 in.)
Displacement	77.6 liters 4735 in.3)
Cylinder Block	Cast iron, 60°V 18 cylinder
Battery Capacity	2600 amps at ambient temperature 0°F to 32°F (-18°C to 0°C)
Battery Charging Alternator	40 amps
Starting Voltage	24-volt, negative ground
Fuel System	Direct injection
Fuel Filter	Triple element, 10 micron filtration, spin on with fuel separator
Air Cleaner Type	Dry replaceable element
Lube Oil Filter Type(s)	Six spin-on, combination full flow and bypass filters
Standard Cooling System	Remote cooled configuration

Alternator Specifications

Design	Brushless, 4 pole, revolving field
Stator	2/3 pitch
Rotor	Direct coupled by flexible disc
Insulation System	Class H
Standard Temperature Rise	125° C Standby
Exciter Type	PMG (Permanent Magnet Generator)
Phase Rotation	A (U), B (V), C (W)
Alternator Cooling	Direct drive centrifugal blower fan
AC Waveform Total Harmonic Distortion	< 5% no load to full linear load. < 3% for any single harmonic
Telephone Influence Factor (TIF)	<50% per NEMA MG1-22.43
Telephone Harmonic Factor (THF)	<3%

Available Voltages

50Hz Line – Neutral / Line – Line		**60Hz Line – Neutral / Line – Line**	
• 220/380	• 1905/3300	• 219/380	• 2400/4160
• 230/400	• 3640/6300	• 254/440	• 7200/12470
• 240/415	• 3810/6600	• 277/480	• 7620/13200
• 254/440	• 6350/11000	• 347/600	• 7970/13800

Generator Set Options

Engine
- 208/240/480 V coolant heater for ambient above 4.5 °C (40 °F) - 10,000 W max.
- 208/240/480 V coolant heater for ambient below 4.5 °C (40 °F) - 12,840 W max.
- Eliminator - centrifugal oil cleaner

Control panel
- 120/240 V, 100 W control anti-condensation space heater
- Paralleling configurations
- Remote fault signal package
- Run relay package

Alternator
- 80 °C rise alternator
- 105 °C rise alternator
- 125 °C rise alternator
- 120/240 V, 300 W anticondensation heater
- Temperature sensor - RTDs, 2/phase
- Temperature sensor – alternator bearing RTD
- Differential current transformers

Exhaust system
- Industrial grade exhaust silencer
- Residential grade exhaust silencer
- Critical grade exhaust silencer

Cooling system
- Radiator, 40 °C ambient
- Radiator, 50 °C ambient
- Remote radiator

Generator set
- Batteries
- Battery rack w/hold-down - floor standing
- PowerCommand Network
- Remote annunciator panel
- Vibration isolators
- 2 year warranty
- 5 year warranty
- 10 year major components warranty

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

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Control System - PCC3200

The PowerCommand™ 3200 Control 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™ 3200 generator set control is suitable for use on a wide range of generator sets in nonparalleling and paralleling applications.

The PowerCommand™ Control can be configured for any frequency, voltage and power connection configuration from 120 to13,800 VAC 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

- Digital Full Authority Electronic Engine Controls for Cummins HPI-PT fuel systems.
- Digital Voltage Regulation with 3-phase sensing.
- AmpSentry™ Protection for true alternator overcurrent protection.
- Analog and Digital AC Output 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.
- 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.

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::

Not-in-auto mode
Common wiring
Shutdown
Remote start command
Panel lamps and switch. Operator panel can be illuminated by a series of high-intensity LED Lamps
Fault Reset Switch. Allows the operator to reset the control after a warning or shutdown condition.
Emergency Stop Switch. Immediate shut down of the generator set on operation.
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

Integrated PowerCommand Digital Paralleling Controls
Key Type Mode Selector Switch
Exhaust Temperature Monitoring
PowerCommand Network
Alternator Temperature Alarm(s).
Refer to the PowerCommand Controls Technical Bulletin for detailed information (S1444)

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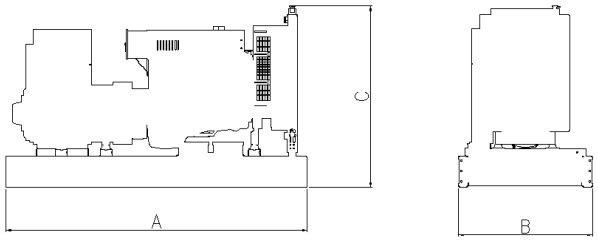
Ratings Definitions

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	Dim "A" mm	Dim "B" mm	Dim "C" mm	Set weight* dry kg	Set weight* wet kg
2660 DQLB	7158	2251	2535	25157	25800
2500 DQLC	7158	2251	2535	25157	25800

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

Cummins Power Generation

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