

Specification sheet

Diesel generator set QSK23 series engine

750 kVA - 820 kVA 50 Hz
Data Center Continuous



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.

Features

Data Center Continuous (DCC) -

Applicable for supplying power continuously to a constant or varying electrical load for unlimited hours in a data center application.

Uptime Complaint - Meets the requirement of a Tier III and IV data center site by being rated to run for unlimited hours of operation when loaded to 'N' demand for the engine generator set

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 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 – 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.

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

Model	50 Hz kVA (kW)	Emissions compliance TA Luft – EU Stage	Data sheets
C825 D5	750 (600)	4g TA Luft	DS32-CPGK-DC
C900D5	820 (850)	4g TA Luft	DS33-CPGK-DC

Generator set specifications

Genset performance class	ISO 8528 G2
Voltage regulation, no load to full load	± 0.5%
Random voltage variation	± 0.5%
Frequency regulation	Isochronous
Random frequency variation	± 0.25%
EMS compatibility	EN 61000-6-4 / EN 61000-6-2

Engine specifications

Design	4 cycle, in-line, turbo charged and after cooled
Bore	169.9 mm (6.69 in.)
Stroke	169.9 mm (6.69 in.)
Displacement	23.15 liter (1413 in ³)
Cylinder block	Cast iron, 6 cylinder
Battery capacity	1800 amps at ambient temperature 0 °F to 32 °F (-18 °C to -0 °C)
Battery charging alternator	35 amps
Starting voltage	24 volt, 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)	Fleetguard dual venturi spin on, combination full flow and bypass
Standard cooling system	122 °F (50 °C) ambient radiator

Alternator specifications

Design	Brushless, 4 pole, revolving field
Stator	2/3 pitch
Rotor	Single bearing, 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 (THDV)	No load <1.5%. Non distorting balanced linear load <5%
Telephone influence factor (TIF)	< 50% per NEMA MG1-22.43
Telephone harmonic factor (THF)	<3%

Available voltages

50 Hz line - neutral / line - line

- | | |
|-----------|-----------|
| • 110/190 | • 220/380 |
| • 115/200 | • 230/400 |
| • 120/208 | • 240/416 |
| • 127/220 | • 255/440 |

Generator set options and accessories

Engine

- Heavy duty air filter
- Water jacket heater 220/240 v

Cooling

- Antifreeze 50/50 (Ethylene glycol)

Alternator

- Alternator heater

Circuit breaker

- 3 pole main circuit breaker
- 4 pole main circuit breaker

Warranty

- 2 years for prime application
- 5 years for standby application

Silencer

- 9 dB attenuation critical silencer
- 25 dB residential – delivered loose

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

Control system

PowerCommand® 2100 – The PowerCommand® control system 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® 2100 generator set control is suitable for use on a wide range of generator sets in nonparalleling applications.

The PowerCommand® Control can be configured for any frequency, voltage and power connection configuration from 120 to 600 VAC for 50 Hz or 60 Hz 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 with 3-phase sensing.
- AmpSentry™ protection for true alternator overcurrent protection.
- Digital AC output metering with optional analog 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.

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:

- Generator set running
- Not-in-auto mode
- Common warning
- Five LED indicating lamps that are configurable for colour and function
- Low oil pressure warning
- High engine temperature warning
- Low oil pressure shutdown
- Overspeed shutdown
- Fail to start

Emergency stop switch

Immediate shut down of the generator set on operation.

Base engine protection

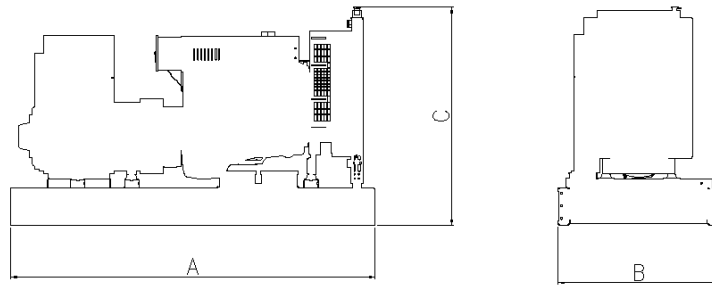
- Overspeed shutdown
- Low oil pressure warning / shutdown
- High engine temperature warning / shutdown
- Underspeed / sensor fail shutdown
- Fail to start / fail to crank
- Low / high battery voltage

Options

- Analog AC metering panel
- Key type mode selector switch
- Exhaust temperature monitoring
- PowerCommand network
- CAN engine interface (optional on some models)
- Refer to the PowerCommand Controls Technical Bulletin for detailed information (S1409d)



PowerCommand® 2100 control panel / display panel



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
C825D5	4266	1879	2052	6387	6528
C900D5	4266	1879	2052	6539	6680

* **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.



This generator set is available with CE certification.

ISO 8528

This generator set has been designed to comply with ISO 8528 regulation.

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