

Generator Set

Diesel

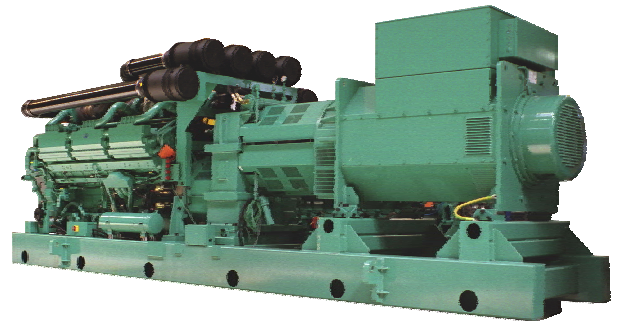
DQL Series

2045kW - 2700kW 60Hz

2015kW - 2660kW 50Hz

2556kVA - 3375kVA 60Hz

2519kVA - 3325kVA 50Hz



Description

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



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



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. Unit accepts 100% of nameplate standby rating in one step.



All low voltage models are CSA certified to product class 4215-01.



The generator set is available Listed to UL2200. The PowerCommand control is Listed UL508 - Category NITW7 for U.S. and Canadian usage.

Features

Exhaust Emissions - Engine certified to U.S. EPA Nonroad Source Emission Standards, CFR 40. Optional Selective Catalyst Reduction system available.

UL Listed Generator Set – The complete generator set assembly is available Listed to UL2200 for low voltage.

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 - The PowerCommand™ electronic control is standard and provides total genset system integration, including automatic remote starting/stopping, precise frequency, and voltage regulation, alarm and status message display, AmpSentry™ protection, output metering, auto-shutdown at fault detection, and NFPA 110 compliance.

Cooling System – Standard remote cooled configuration with a selection of optional set mounted radiators, remote radiators, or heat exchanger packages available.

Structural Steel Skid Base – Robust skid base supports the engine and alternator assembly.

Warranty and Service - Backed by a comprehensive warranty and supported by a worldwide distributor network of 170 distributors and service branches.

Model	Standby Rating		Prime Power Ratings		Continuous Ratings		Data Sheets	
	60 Hz kW (kVA)	50 Hz kW (kVA)	60 Hz kW (kVA)	50 Hz kW (kVA)	60 Hz kW (kVA)	50 Hz kW (kVA)	60 Hz	50 Hz
DQLA	2700 (3375)		2435 (3044)		2045 (2556)		D-3226	
DQLB		2660 (3325)		2400 (3000)		2015 (2519)		D-3227

Note: Standard ratings based on medium voltage configuration

Generator Set Specifications

Governor Regulation Class	ISO8528 Part 1 Class G3
Steady State Voltage Regulation, No Load to Full Load	± 1.0%
Random Voltage Variation	± 0.5%
Frequency Regulation	Isochronous
Steady State Frequency Band	≤ 1.0%
Radio Frequency Emissions Compliance	BS EN 61000-6-4:2001 Emissions-Industrial
Immunity Frequency Emissions Compliance	BS EN 61000-6-2:2001 Immunity-Industrial IEC 801.2 through IEC 801.5; MIL STD 461C, Part 9

Engine Specifications

Design	4 cycle, V-block, turbocharged and low temperature after-cooled
Bore	170.0 mm (6.69 in.)
Stroke	190.0 mm (7.48 in.)
Displacement	77.6 liters (4735 in ³)
Cylinder Block	Cast iron, 60°V 18 cylinder
Cranking Current	2600 amps at ambient temperature of 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: number 2 diesel fuel
Fuel Filter	Triple element, 10 micron filtration, spin on fuel filters with water separator
Air Cleaner Type	Dry replaceable element
Lube Oil Filter Type(s)	Six spin-on, combination full flow and by-pass filters
Standard Cooling System	Remote cooled configuration

Alternator Specifications

Design	Brushless, 4 pole, revolving field
Stator	2/3 pitch
Rotor	Two bearing, flexible disc
Insulation System	Class H on low voltage, Class F on medium and high voltage
Standard Temperature Rise	105° 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

60 Hz Line – Neutral / Line - Line		50 Hz Line – Neutral / Line – Line	
220/380	6350/11000	230/400	7621/13200
240/416	7200/12470	240/415	7976/13800
255/440	7620/13200	254/440	
277/480	7970/13800	1905/3300	
347/600		6350/11000	
2400/4160		7200/12470	

Note: Consult factory for other voltages.

Generator Set Options

Engine <input type="checkbox"/> Low exhaust emission configuration DQLA 60Hz, 5.5 g/hp-hr NO _x Data Sheet D-3228 <input type="checkbox"/> 208/240/480V Coolant heater for ambient above 4.5°C (40°F) – 10,000 Watt max. <input type="checkbox"/> 208/240/480V Coolant heater for ambient below 4.5°C (40°F) – 12,840 Watt max.	Alternator <input type="checkbox"/> 80°C rise alternator <input type="checkbox"/> 105°C rise alternator <input type="checkbox"/> 125°C rise alternator <input type="checkbox"/> 120/240V, 300 Watt anti-condensation heater <input type="checkbox"/> Temperature sensor – RTDs, 2/phase <input type="checkbox"/> Temperature sensor – alternator bearing RTDs <input type="checkbox"/> Differential current transformers	Exhaust System <input type="checkbox"/> Industrial-grade exhaust silencer <input type="checkbox"/> Residential-grade exhaust silencer <input type="checkbox"/> Critical-grade exhaust silencer Generator Set <input type="checkbox"/> Batteries <input type="checkbox"/> Battery Rack w/ hold-down – floor standing <input type="checkbox"/> PowerCommand® Network <input type="checkbox"/> Remote annunciator panel <input type="checkbox"/> Selective Catalyst Reduction System* <input type="checkbox"/> Spring isolators <input type="checkbox"/> 2 year warranty <input type="checkbox"/> 5 year warranty* <input type="checkbox"/> 10 year major components warranty*
Control Panel <input type="checkbox"/> 120/240V, 100 Watt control anti- condensation space heater <input type="checkbox"/> Paralleling configurations <input type="checkbox"/> Remote fault signal package <input type="checkbox"/> Run relay package	Cooling System <input type="checkbox"/> Radiator, 40°C ambient <input type="checkbox"/> Radiator, 50°C ambient <input type="checkbox"/> Heat exchanger cooling <input type="checkbox"/> Remote radiator*	

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

Control System

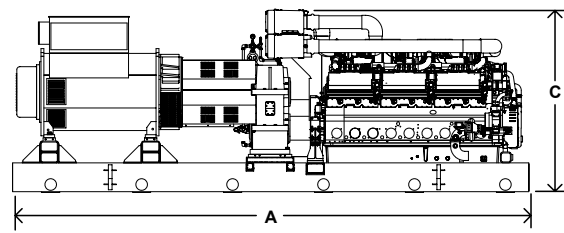
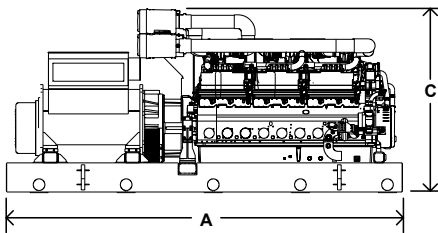
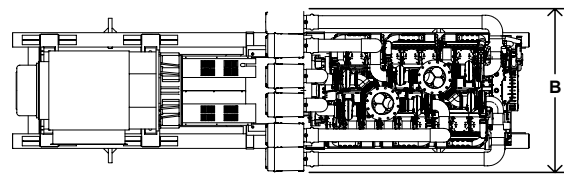
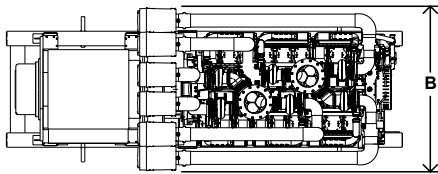


Optional Features Shown

PowerCommand® Digital Generator Set Control	
Operator Panel Features	
<ul style="list-style-type: none"> • Analog AC Metering Panel. Provides color-coded display of generator set output voltage, current, frequency, power factor, and kW. All phases of voltage and current are simultaneously displayed. Easy to see output status from a distance. • Graphical Data Display. Allows operator to view all engine and alternator data; perform operator adjustments for speed, voltage, and time delays; view fault history; and set-up and adjust the generator set. (Set up requires password access.) A portion of the display is allocated to display system status, including alarm and shutdown conditions. Display is controlled by sealed membrane switches. Up to 9 lines of data can be displayed, with approximately 26 characters per line. • LED Status Lamps. The status lamps indicate: Remote Start Command (green), Not in Auto (red-flashing), Warning (amber), and Shutdown (red). • Off/Manual/Auto Mode Select Switch and Run/Stop Switch. Mode selection switches allow remote automatic starting, or manual starting from the operator panel. Panel includes an LED lamp to indicate manual mode operation. • Exercise Switch. Automated exercise function in the control allows an operator to initiate an exercise period and have it automatically completed by the control. • Fault Reset Switch. Allows the operator to reset the control after a warning or shutdown condition. LED lamp with switch indicates that a fault is present on the system. • Panel Lamps and Switch. Operator panel can be illuminated by a series of high-intensity LED lamps, controlled by a membrane switch on the panel. Panel lamps include a time delay to automatically switch off after a preset time period. • Emergency Stop Switch. Provides positive and immediate shut down of the generator set. • NEMA3R/IP53 Construction. Operator panel is a sealed design with membrane switches for most functions. Mechanical switches are oil-tight design. Plug interfaces are provided to the generator set control. Display panel labeling is configurable for language. 	
Standard Features	Optional Features
<ul style="list-style-type: none"> • Integrated Isochronous governing and fuel control system. • Integrated 3-Phase sensing voltage regulation system, with automatic single and 3-phase fault regulation. • Integrated AC protective functions, include over/under voltage, short circuit, over current (warning and shutdown), and overload. • Integrated Engine management system, including configurable cycle-cranking functions and configurable start sequence. • Comprehensive warning and shutdown protection, including customer-configurable warning and shutdown conditions. • Comprehensive data displays, including 3-phase AC voltage, current, power factor, kW, and kVA; engine oil pressure, coolant temperature, DC volts, and other service functions; operating history (load and fault conditions); and system setup information. 	<ul style="list-style-type: none"> • Integrated Digital Paralleling Controls, including options for semi-automatic, automatic and utility paralleling applications. • LonMark Compliant network interface. • Control Anti-condensation heater. • Key-type mode selector switch. • Relay outputs for genset running, common warning, and common shutdown. • Exhaust Temperature Alarm. • Alternator Temperature Alarms(s).

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. (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.



DQLA

DQLB

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)
DQLA	5458 (214.88)	2251 (88.62)	2535 (99.80)	22740 (50133)	23000 (50600)
DQLB	7158 (281.81)	2251 (88.62)	2535 (99.80)	23270 (51194)	25390 (55858)

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



See your distributor for more information.

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Important: Back feed to a utility system can cause electrocution and/or property damage. Do not connect to any building's electrical system except through an approved device or after building main switch is open.