Specification sheet

Containerized QSK60 series Generator Set

2000-2500 kVA 50 Hz

Description

This Cummins QSK60 Series Containerized Generators is a fully integrated, robust power generation system that sets new benchmarks in performance, reliability, and efficiency for multiple applications. It is availablewith many options and can be customized based on your site and application needs.

Robust enclosure design - The enclosure is a standard 40’ high cube container which is packaged to meet harsh weather and strict acoustical standards. These CSC certified modules have a fully welded construction with steel floors.

Independent fuel tank –Large fuel tank integrated in the container with up to 6000L capacity. While offering 2000L, 4000L options, and 1000L dual wall CE fuel tank.

Stackable – These enclosed gensets can be stacked in various configurations and save space and costs.

Accessibility – Quick refuel ports from fuel tank, quick connection socket of control harness and power load cables are available for parallel gensets. Two end doors and three lateral doors are conveniently located for easy access and maintenance. Radiator cores are removable to allow for easy cleaning and maintenance.

Cooling system - Engineered to meet enhanced high limiting ambient temperature. Designed with vertical hot air discharge, QSK60 Series Containerized Generators is suitable for multiple site installations, with flexible layout and footprint saving.

Smart monitoring –HMI, PLC and PowerCommand controller provide a united one solution for automatic real-time monitoring solution, for whole system, including gensets, fuel, firefighting, motors, and louvers.

Customizable container package – Multiple options available, including Circuit Breaker, NGR(neutral grounding resistance), fuel transfer pump, and VSD motor fan.

An engine that works harder, longer - Cummins QSK60 engine is recognized for performance, reliability and durability worldwide. With its very high derating threshold for temperatures, altitudes, and humidity, the QSK60 engine ranks among the top performers in the harshest operating environments.

ISO8528-5 G3 Capable- Refer to factory for stie and configuration specific transient performance classification.

Warranty and service – Backed by a comprehensive warranty and worldwide distributor network.

Genset	Standby rating	Prime rating	Engine Model	Controller	Data Sheet
Model	**50 Hz kVA (kW)**	**50 Hz kVA (kW)**	**50 Hz**	**50 Hz**	**50 Hz**
C2000D5-PB	2063(1650)	1875(1500)	QSK60-G3	PC3.3	EA_S_CC_65
C2250D5-PB	2250(1800)	2000(1600)	QSK60-G4	PC3.3	EA_S_CC_66
C2500D5A-PB	2500 (2000)	2250 (1800)	QSK60-G8	PC3.3	EA_S_CC_49

Generator set specifications

Voltage regulation, no load to full load	± 0.5%
Random voltage variation	± 0.5%
Frequency regulation	Isochronous
Random frequency variation	± 0.25%
Electromagnetic Compatibility Performance	Emissions to EN 61000-6-2:2005 /Immunity to EN 61000-6-4:2007+A1:2011

Engine specifications

Design	4-cycle, 60 °vee, 16-cylinder diesel, turbocharged, after-cooled
Bore	159 mm (6.25 in)
Stroke	190 mm (7.48 in)
Displacement	60.2 L (3673 in^3)
Battery capacity	4*200AH
Auxiliary system battery capacity	2*200AH
Battery charging alternator	40 amps
Starting voltage	24 V negative ground
Fuel system	High Pressure Injection
Fuel filter	Triple elements, spin on fuel filters
Air cleaner type	Dry replaceable element
Lube oil filter type(s)	Four spin-on, combination full flow and bypass filters
Standard cooling system	Enhanced high ambient temperature cooling system

Alternator specifications

Design	Brushless, 4 pole, revolving field
Rotor	Flexible disc
Insulation system	Class H
Standard temperature rise	125°C-150°C
Exciter type	Permanent Magnet Generator (PMG)
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 harmonic factor (THF)	<3%

Available voltage

60 Hz Line-Neutral/Line-Line	50 Hz Line – Neutral/Line – Line			
	• 220/380	• 230/400	• 240/415	• 255/440
	• 6060/10500	• 6350/11000		

*Note: Consult factory for other voltage.

Generator set features*

Container

- • 40 feet high cube container
- • 400V AC power socket
- • Quick external interfacing connectors
- ○ NGR neutral grounding resistance cabinet
- ○ Fuel, oil, coolant leakage alarmin genset compartment
- ○ LV motorized circuit breaker

Cooling System

- ○ Enhanced high ambient temperature
- ○ Variable speed driven fans for better noise
- • Motor fan failure alarm

Fuel system

- • 6000L fuel tank
- ○ 4000L fuel tank
- ○ 2000L fuel tank
- ○ 1000L dual wall CE tank
- ○ Fuel transfer pump AC220V
- ○ Manual valves(1 filling, 1 return)
- • No fuel motorized valves
- ○ Motorized valves (1 inlet, 1 outlet)
- ○ Motorized valves (2 inlet, 1 outlet)
- • Fuel level sensor 4-20mA
- ○ Fuel tank leakage alarm

Warranty

- • Comprehensive warranty system

Ventilation system

- • Motorized inlet and outlet louvers
- • Inlet air noise reduction box
- • Temperature detection in genset compartment
- • Motor fan failure alarm
- • Motorized louver failure alarm

Fire fighting system

- ○ Fire monitoring (smoke and temp sensing)
- ○ HFC-7 gas fire extinguisher

Exhaust system

- • Built-in muffler and piping
- • Rain proof cap

Control system

- • PLC touch control screen
- • Genset PCC control cabinet
- • Dual power transfer ATS
- • Paralleling relays
- ○ No PLC and HMI option

Genset

- • Battery
- • Battery charger
- • High/ Low fuel level waring or shutdown
- • Low coolant level warning and shutdown
- ○ Exhaust temperature detection
- ○ Alternator winding RTD
- ○ Alternator bearing RTD
- ○ Specify 2/3rd pitch Alternator
- ○ Auxiliary generator for HV(motor power supply)

• Represent Standard Configuration ○ Represent Optional Configuration

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

PowerCommand 3.3 control system with Masterless Load Demand (MLD)

The PowerCommand control system is an integrated microprocessor based generator set control system providing voltage regulation, engine protection, alternator protection, operator interface and isochronous governing. Masterless Load Demand-capable generators are equipped with an additional s-CAN network connection that allows sharing of information amongst paralleled generator sets. MLD has been designed for hassle-free installation, commissioning and operation.

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.

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

Reliable design – The control system is designed for reliable operation in harsh environments.

Multi-language support

Operator panel features

Operator panel features – Operator panel, in addition to the alternator, displays the Utility/AC Bus data.

Operator/display functions

- 320 x 240 pixels graphic LED backlight LCD
- Auto, manual, start, stop, fault reset and lamp test/panel lamp switches
- Alpha-numeric display with pushbuttons
- LED lamps indicating generator set running, remote start, not in auto, common shutdown, common warning, manual run mode, auto mode and stop

Paralleling control functions

- Digital frequency synchronization and voltage matching
- Isochronous kW and kVar load sharing controls
- Droop kW and kVar control
- Sync check
- Extended paralleling (Peak Shave/Base Load)
- Digital power transfer control (AMF) provides load transfer operation in open or closed transition or soft (ramping) transfer mode

Alternator data

- Line-to-Neutral and Line-to-Line AC volts
- 3-phase AC current
- Frequency
- kW, kVar, power factor kVA (three phase and total)

Engine data

- DC voltage
- Engine speed
- Lube oil pressure and temperature
- Coolant temperature
- Comprehensive FAE data (where applicable)

Other data

- Generator set model data
- Start attempts, starts, running hours, kW hours
- Load profile (operating hours at % load in 5% increments)
- Fault history
- Data logging and fault simulation (requires InPower)

Standard control functions

Digital governing (optional)

- Integrated digital electronic isochronous governor
- Temperature dynamic governing

Digital voltage regulation

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

AmpSentry AC protection

- AmpSentry protective relay
- Over current and short circuit shutdown
- Over current warning
- Single and three phase fault regulation
- Over and under voltage shutdown
- Over and under frequency shutdown
- Overload warning with alarm contact
- Reverse power and reverse var shutdown
- Field overload

Engine protection

- Battery voltage monitoring, protection and testing
- Over speed shutdown
- Low oil pressure warning and shutdown
- High coolant temperature warning and shutdown
- Low coolant level warning or shutdown
- Low coolant temperature warning
- Fail to start (over crank) shutdown
- Fail to crank shutdown
- Cranking lockout
- Sensor failure indication
- Low fuel level warning or shutdown
- Fuel-in-rupture-basin warning or shutdown
- Full authority electronic engine protection

Control functions

- Time delay start and cool down
- Real time clock for fault and event time stamping
- Exerciser clock and time of day start/stop
- Data logging
- Cycle cranking
- Load shed
- Configurable inputs and outputs (4)
- Remote emergency stop

Masterless Load Demand (MLD)

- Improved fuel efficiency of multi-gen systems reduces fleet operation costs
- Run-hour equalization feature lowers onsite support costs
- Supports large fleet operation up to 16 generator sets
- Change system settings from any one display and broadcast to all generator sets
- View information about the entire system from any one display

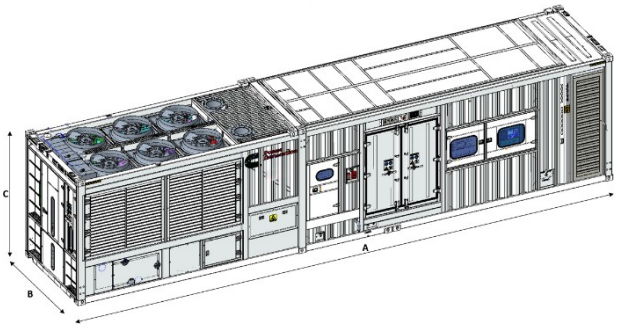
Ratings definitions

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 3046-1, obtained and corrected in accordance with ISO 15550.

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 8528, ISO 3046-1 and corrected in accordance with ISO 15550.



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.

Weight and dimension

Model	Length (mm) Dim "A"	Length (mm) Dim "B"	Length (mm) Dim "C"	Set Weight* dry kg	Set Weight* wet kg
C2000D5-PB	12192	2438	2896	31212	31646
C2250D5-PB	12192	2438	2896	31412	31846
C2500D5A-PB	12192	2438	2896	31612	32046

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

Codes and standards

ISO 9001	This product was manufactured in a plant whose quality management system is registered as being in conformity with ISO 9001.	**ISO 8528**	This generator set has been designed to comply with ISO 8528 standards.
CE	This generator set is available as CE marked.*	UKCA	This generator set is available as UKCA marked.*

Notes:* Some features may not be available on all specifications, consult factory for availability.

For more information contact your local Cummins distributor

Power Generation

EA_T_CC_21_EN (09/23)