Diesel Generator Set

QSK60 Series

2750 kVA Standby





Reliable and Durable

Cummins® 'QSK60 series' (Quantum leap in product technology) diesel engine with strong regrindable crankshaft, high strength connecting rod, high pressure injection full authority electronic fuel system, 2 pump 2 loop coolant system. 'QSK60 series' generating sets are more reliable and durable. Engines have clocked millions of hours operating in some of the world's most demanding conditions. Current engines are regularly upgraded with new technologies for better performance and economy. The ultimate proof of superior performance and reliability is the fact that Cummins® manufactures these engines in India.

Unmatched Warranty

Cummins® 'QSK60 series' diesel engine generating sets are a truly cost effective solution to long term power need backed by industry best, 2 years / 1000 hrs warranty, for the entire generating set. With superior experience in technology, design capability, commitment, reliability and quality we offer an unmatched 5 years or 1000 hours (including above 2 years) warranty coverage on 5 critical components (5C) of the engine – Cylinder Head, Camshaft, Crankshaft, Cylinder Block, Connecting Rod against manufacturing defect (5C warranty is offered only for India source product.

Cummins Advantage

Special features of Cummins® 'QSK60 series' engines like full authority electronic injection, low temperature aftercooler, optimised turbocharging and precision injection timing make these engines the ultimate in exceptional fuel efficiency all across the operating range.

Single Source Power Assurance

Design, manufacture and testing of engine, alternator and other accessories is done by Cummins Group of companies for optimum performance and is backed by a countrywide product the entire package.

Standard Scope

Engine: Cummins® 'QSK60 series' full authority electronic injection, water cooled engine, 16 cylinder, 4 stroke, rated at 1500 RPM, conforming to ISO 3046 /IS 13018 has the following specifications::

- Cummins Full Authority electronics
- Cummins QSK60-G23 MCRS engine
- Cummins turbocharger, pulse tuned exhaust manifold, stainless steel exhaust flexible connections (4 Turbos)
- Radiator or heat exchanger, coolant inhibitor
- Plate type lube oil cooler
- Outboard aftercoolers
- Full flow paper element filters - fuel, lube oil and bypass
- Dry type replaceable paper element air cleaner with restriction indicator
- Flywheel housing & flywheel to suit double bearing alternator
- Starting motor – Electric
- Battery charging alternator
- Cummins PowerCommand® microprocessor based genset controller
- First fill lube oil

Alternator: Stamford brushless alternator

- Seperately excited, self-regulated
- Salient pole revolving field
- P80 double bearing alternator
- VPI epoxy impregnated insulation technology
- Re-greasable deep groove double bearing
- Excitation - PMG based brushless
- Space heaters, RTD/BTD - (without scanner).

Accessories:

- Silencer suitably optimized to reduce noise
- Sturdy base rail
- 990 ltrs. free standing fuel tank
- Batteries with connecting leads and terminals

Optionals

Control Panel: PC3.3

- Bargraph For PC3.3 Panel with kW, Power factor, Frequency,Current, Voltage
- Remote HMI

AMF control panel, Battery charger, Remote/Auto start panel, Auto/ Manual synchronizing panel, Audio/Visual annunciation for faults

Control Panel: PowerCommand® PC 3.3 with 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.

AmpSentry™ - Includes integral AmpSentry™ protection, which provides a full range of alternator protection function which are matched to the alternator provided.

Power Management - Control function provides battery monitoring, testing and a smart starting control system.

Advanced Control Methodology - Three phase sensing, FET based full wave rectified voltage regulation and 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.

Reliable Design - For reliable operations in harsh environment.

Multi-language support

Independent of PC / laptop for setting up

Operator panel features

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

Operator / Display Functions

- 320 x 240 pixels graphic LED backlight LCD with bar graph for displaying electrical parameters
- Auto, manual, start, stop, fault reset and lamp test/panel lamp switches
- Alpha-numeric display with pushbuttons
- LED lamps indicating genset 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
- Coolant temperature / low level
- Comprehensive FAE data (where applicable)

Other Data

- Genset 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

- 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

MLD features

- Load dependent start/stop
- Run hour equalization
- Built-in Logic
- Single point MLD setting
- System monitoring
- Master-less
- Single point remote start
- Predictive Load input
- Dedicated screens

Telematics Offerings (Optional)

- Fault Code Alerts on Email & SMS
- Advisory Services
- Fuel Level Monitoring on Email & SMS
- Multiple Gensets Central Monitoring
- Automatic Reports Generation

Technical Data

Generator set specifications

Model	C2750D5
StandBy Power Rating kVA	2750
Output Voltage and Frequency	415V/ *3.3/ *6.6/ 11KV - 50Hz
Power Factor	0.8 (lag)
No. of phases	3 phase

Engine specifications

Make	Cummins
Model	QSK 60-G23
No. of cylinders	16
Aspiration	Turbocharged - LTA Aftercooled
Bore x Stroke	159 mm x 190 mm
Displacement	60.2 ltrs
Output - Standby	3202 bhp (2388 kWm)
Fuel consumption @ 75% load with Rad/HE	435.7 ltr/hr
Fuel consumption @ 100% load with Rad/HE	551.4 ltr/hr
Total wet weight (engine + radiator)	13129 kg
Length x Width x Height (engine)	2745 x 1590 x 2011 mm
Compression Ratio	14.5:1
Piston Speed	9.5 m/s
Governor / Class	Electronic / A1
Lubricating oil sytem capacity	397 L
Coolant capacity (engine + radiator)	603 L
Combustion air intake @ 100% load (+/- 5%)	163 m3/min
Exhaust Temperature	485 C

Alternator specifications

Make	Stamford-LT	Stamford-HT
Frame size / Model No.	LVSI804X2	HVSI804X2
Voltage Regulation	± 0.5%	± 0.5%
Insulation	Class H	Class F
Standard Enclosure	IP 23	IP 23
Winding Pitch	2 / 3 Pitch	2 / 3 Pitch
Stator Winding	Double layer lap, form wound	Double layer lap, form wound
Rotor Dynamically balanced with grade 2.5	Dynamically balanced with grade 2.5	Dynamically balanced with grade 2.5
Wave form distortion	No load < 1.8 %, non distorting balanced linear load < 5 %	No load < 1.8 %, non distorting balanced linear load < 5 %

**Refer to Factory for 3.3/*6.6 KV & Alternator frame*

Conformance Standards

IS/IEC 60034-1, BS 5000, IS 1460, ISO 8528, IS 13018, ISO 3046, ISO 9001

Rating Definitions

Standby Power (SP):

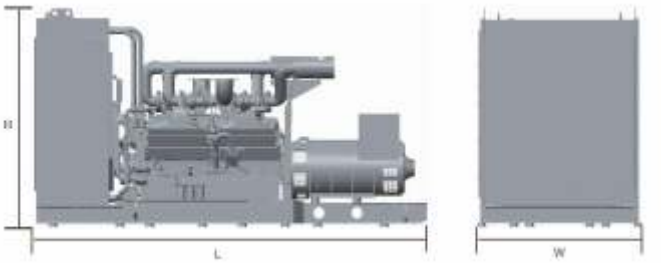
Applicable for supplying power to varying electrical load for the duration of power interruption of a reliable utility source, for maximum of 500 hours per year. Standby Power (SP) is in accordance with ISO 8528.

- Fuel consumption data is based on diesel having specific gravity of 0.85 and conforming to IS:1460
- Fuel consumption tolerance is +5%

Typical Open Genset Dimensions

Genset Model	Rating (kVA)	Length (mm)	Width (mm)	Height (mm)	Wet Weight## (kgs.)	Std. Fuel Tank Capacity Capacity (Ltrs - External)
C2750D5S	2750 kVA	7108	2512	3403	24709	990

##Approximate Weight



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PSBU/022/QSK 60-2500-2750 kVA//HD/MP/Revision-0 (04/2022)

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