



# Diesel Generator Set

# X3.7 Series

82.5 kVA, 66 kWe Prime



Specification Sheet

## Latest Technology And Unmatched Performance

- The Cummins® X3.7 series rugged engine and world class Stamford alternator powered diesel generator set
- Advanced in-cylinder technology to meet latest emission norms with after-treatment device
- Best in class transient response
- High altitude capabilities
- Superior finish and aesthetics
- Compact in size with optimum power to weight ratio

## Single Source Power Assurance

- All the major components – the engine, alternator, control system and canopy are designed, manufactured, and tested by Cummins India
- Best and Largest customer support network in India, capable of providing round-the-clock service and spares support

## Environment Friendly Power

- Class defining technology engine is designed to meet stringent exhaust emission tests as per revised MoEF norms, thus offering environment friendly power
- The Cummins® diesel generator sets are available with the lowest noise levels in its range

## Lowest Operating Cost And Comprehensive Warranty

- Highly reliable and durable product
- All elements are designed to work together to maximize efficiency even at part loads, offering the advantage of lowest operating costs
- 500 hours / 18 months service interval
- Industry acknowledged best-in-class comprehensive warranty on the entire package including rubber components

## Engine

- Cummins® X3.7 series, 4 cylinder, In-line 4 stroke, radiator cooled engine
- Well-designed air handling system with
  - Dry type, Replaceable paper element air cleaner with restriction indicator
  - Air to air aftercooling
  - Optimized turbocharger for increased altitude capabilities
- Optimized fuel consumption with
  - Common rail electronic injection
  - Spin on secondary fuel filter
- Standard integral set-mounted radiator system, designed and tested for 50°C ambient temperature
- Full flow spin on lube oil filter
- First fill of lube oil and coolant
- Electrical starter motor with soft start engagement feature
- Battery charging alternator
- 1X12 V DC battery

## Alternator

- Stamford S2L1D-G41 series alternator frames from Cummins Generator Technology
- Brushless type, Screen protected, Revolving field, Self-excited alternator conforming to IS/IEC 60034-1
- Better motor starting capability
- Best in class efficiency
- Compact design with sealed bearings for longer life and lesser maintenance
- Impregnation on all wound components for better mechanical strength

## EATS

- Single module architecture
- Compact design enabling optimized genset size
- Integrated control module for engine and EATS
- Best in class Proven technology for meeting stringent emission norms

## Control Panel

Control panel is manufactured with 14/16-gauge CRCA sheet and is powder coated for weather-proof and long-lasting finish. The control panel consists of the following parts:

- PS0602 controller
- Circuit breaker with spreader bars for incoming/ outgoing termination
- Indicating lamps for 'Load ON', 'Common fault' and 'Set Running'
- Instrument fuses duly wired and ferruled
- MCCB suitable rating with short circuit protections
- AC/DC separation inside control panel for safety

## PS0602 Features

Cummins PowerStart™ PS0602 control is a microprocessor-based generator set monitoring and control system. AMF Functionality is inbuilt, and this control includes an intuitive operator interface that allows for complete generator set control as well as system metering, fault annunciation, configuration, and diagnostics.

### AMF Functionality

- Electronic Governing
- CAN (J1939) Compatible
- Sync Compatible (Capable to accept external speed signal from 3rd party sync controller)
- Intuitive operator interface which includes LED backlit 128 X 64 pixel graphic display with tactile feel soft-switches and generator set status LED lamps
- Remote start-stop
- Suitable for FAE based engine architecture
- Engine Metering: Oil pressure, Engine temperature, Starting battery voltage, Engine running hours
- AC Alternator Metering: L-L Voltage and L-N Voltage, Current (phase and total), kVA (phase and total) and Frequency. kwh, Total and per phase (kw & kVA), PF, Utility Voltage and Freq
- Engine Protection: Low lube oil pressure, High/Low coolant temperature, Battery High/Low/Weak Volts, Fail to Crank/ Start, Sensor failure, Cranking lockout, Low fuel level
- AC Alternator Protection: Over/Under Voltage, Over/Under Frequency, Loss of AC sensing
- Overspeed, Over Current, kW Overload
- Data Logging: Engine hours, Control hours and up to 5 recent fault codes
- 12 Volt DC operation
- Sleep mode
- Modbus interface (RS485 RTU)
- In Power compatible (PC based service tool)
- Certifications - Meets the requirement of relevant ISO, EN Std, Mil Std and CE standards
- Maintenance due alarm based on Engine Run Time and due date
- Exerciser scheduler

## Silencer

- Aftertreatment integrated Silencer meeting stringent sound emission standards laid down by MoEF / CPCB

## Mounting Arrangement

- Engine and alternator are mounted on a common MS fabricated base frame with AVM pads
- Skid mounted radiator
- Base frame with an integral fuel tank is provided with drain plug, air vent, inlet and outlet connection, level indicator and provision for cleaning

## Optional

- Alternator: PMG and Space heater

### Acoustic Enclosure

- Specially designed to meet stringent MoEF/ CPCB norms of 75 dBA@1mtr at 75% load under free field conditions
- The acoustic enclosure is made CRCA sheets in Munsell green shade and a structural/sheet metal base frame painted in black
- 11 tank pretreatment process and UV resistant powder coating of all parts to withstand extreme environment
- High quality noise absorbent and fire-retardant grade acoustic
- Insulation material (Foam and Rockwool) complying to IS 8183
- Top lifting for easy handling at customer site
- External fuel and DEF filling provision

### Remote Monitoring System

- Compact and robust device
- Real time DG status and monitoring
- 4G compatible
- Compatible for 12/24 V DC
- Reports and Notification - Alerts and Warning
- Isolated RS 485 interface
- Device location using triangulation

### Battery Charger

- 6A, 240VAC
- SMPS based Battery Charger, FLOAT and BOOST mode
- Protections: Short Circuit and Overload

## Technical Data

### Generator Set Specification

Model	CI 82.5D5P
Duty	Prime
Power Rating kVA / kW <sub>e</sub>	82.5/66
No. of Phases	3 Phase
Output Voltage (VAC)	415
Power Factor	0.8 (lagging)
Current (3 phase) (A)	115
Frequency (Hz) and RPM	50 and 1500

### Engine Specification

Make	Cummins®
Model	X3.7-G12
Required Certified Power for Rated kVA (bhp)	108
Cooling	Liquid Cooled (EG Compleat 50:50)
Aspiration	Turbocharger Intercooled
No. of cylinders	4, In-line
Bore (mm) x Stroke (mm)	96 x 127
Compression ratio	18:01
Displacement (liter)	3.7
Fuel	High Speed Diesel
Performance class of generator set	ISO 8528-5 G3
Starting system voltage	12 V DC Electrical
Lube oil specification	CK4 -15W40
Total lubrication system capacity (litre)	10
Total coolant capacity (litre)	13.5
Exhaust pipe size (inch)	3
Total wet weight (Engine +Radiator)* (kg)	455
Length x Width x Height (Engine) (mm)	862 x 716 x 900
Mean Piston speed (m/s)	6.35
Combustion air intake @100% load (±5%) (cfm)	151
Exhaust Temperature (°C)	475 @100% load

## Alternator Specification

Make	Stamford (CGT)
Alternator frame	S2L1D-G41
Enclosure	IP 23
Voltage regulation (Max.)	±0.5%
Class of Insulation	H Class
Winding Pitch	2/3
Stator Winding	Double layer concentric
Rotor	Dynamically Balanced
Waveform distortion/ Total Harmonic Distortion	No load < 1.5%, Non distorting balanced linear load < 5 %
Maximum Unbalanced Load across phases	less than or equal to 25%
Telephonic Harmonic factor	< 2%

## Rating Definitions

Prime Power (PRP):  
Applicable for supplying power to varying electrical load for unlimited hours. Prime Power (PRP) is in accordance with ISO 8528.

## Conformance Standards

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

## Typical Enclosed Genset Dimensions

Genset Model	Rating (kVA)	Length (mm)	Width (mm)	Height (mm)	Wet Weight *(kg)	Standard Fuel tank Capacity** (litre)
CI 82.5D5P	82.5	2950	1150	1550	1625	167

\*Approximate weight | \*\*Total tank capacity including dead stock

## Authorized Representative



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