



Specification sheet

Diesel Generator Set B Series

112-128 kWe, 140-160 kVA Prime



Latest technology product: Value for money

The Cummins® 'B series' engine powered diesel generator sets offer the best fuel economy, best warranty terms and lowest cost of maintenance thereby proving to be the most economical power solution. With the superior designed engine and world class Cummins Generator Technologies (Stamford) make alternator, the gensets come equipped with Cummins corporate genset controller for ease of use and monitoring generator performance.

Silent, compact and light weight

The Cummins® 'B series' DG sets are compact and lighter than any other DG set in it's class, thus giving you the advantage of optimising your valuable space.

Environment friendly power

The Cummins® 'B series' base DG sets are available with the lowest noise levels in it's range and are CPCB certified for emissions compliance, thus offering you environment friendly power.



The genset powered by the reliable Cummins® 'B series' diesel engine meets stringent exhaust emission tests as per MOEF norms without sacrificing fuel efficiency at normal operating loads.

Unmatched warranty

The Cummins® 'B series' DG sets are backed by the industry aknowledged best-in-class comprehensive warranty on the entire package including rubber components

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Lowest operating costs

All elements of the Cummins® 'B series' DG sets are designed from the start to work together to maximize efficiency, even at part loads, thus offering you the advantage of lowest operating costs.

Single source power assurance

The rugged and reliable Cummins® 'B series' DG sets are unique, because all the major components – the engine, alternator, control system and canopy are designed, manufactured and tested by Cummins India/ Channel partners (Powerica Limited). This, complemented by the largest customer support network in India, capable of providing round-the-clock service and spares support, offers you *SINGLE SOURCE POWER ASSURANCE* from the world leaders in power generation.

Standard scope

Engine: Cummins® 'B series' diesel generating sets, powered by Cummins® 'B series' engines, are rated at 1500 RPM and conform to ISO 8528 specifications. The engines are radiator cooled, four stroke and multi-cylinder, conforming to BS 5514 / ISO 3046.

The scope of supply includes:

- Electrical starter motor 12V DC
- Battery charging alternator
- Bosch fuel system
- Electronic governor, A1 Class
- Dual spin-on fuel filter
- Spin-on lube oil filter
- Turbocharger
- Charge Air Cooler (CAC)
- Silencer (Hospital grade)
- Dry type air cleaner (Heavy duty air cleaner for B160)
- Flywheel and flywheel housing
- First fill of lube oil and coolant
- Safety for low lube oil pressure
- Safety for high water temperature
- Safety for engine overspeed
- Permissible overload of 10% for one hour in 12 hours of operation

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Alternator: Stamford alternator from Cummins Generator Technologies, suitable for operation at 1500 RPM, 415 Volts, 0.8 pf (lag) suitable for 50 Hz, 3 phase, 4 wire system, conforming to BS 5000 / IS 4722. The Alternator is brushless type, screen protected, revolving field, self excited, self regulated through an AVR. The alternator has the following features:

- ± 1.0 % Voltage regulation (max) in static conditions
- IP: 23 protection with insulation class H

Mounting arrangement: Engine and alternator are mounted on a common MS fabricated base frame with AVM pads.

Control Panel: The 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:

- PC 1.1 Controller
- Aluminum bus bars with suitable capacity with in/outgoing terminals
- Indicating lamps for 'Load On' and 'Set Running'
- Instrument fuses duly wired and ferruled
- MCCB of suitable rating with overload and short circuit protections

Genset controller PC 1.1

- Basic stand-alone Genset control system
- Feature laden modular Genset control system
- Part of our modular and interchangeable control product line

PMG compatibility and extra inputs and communication capability (ModBus & CAN), are the major advantages.

Features:

- Digital Full Wave SCR AVR for shunt or PMG excitation with torque matching.
- Digital Electronic Governing with temperature compensation and Smart Starting.
- SAE J1939 Interface to Full Authority Electronic (FAE) engines. (For future products considering CPCB-II)
- Engine Metering: Oil Pressure, Coolant Temperature, Battery Voltage, Engine Speed
- AC Alternator Metering: L-L Voltage and N voltage (phase and average), Current (phase and total), Volt-Amperes (phase and total), and Frequency.
- Engine Protection: Low Lube Oil Pressure, High Coolant Temperature, Over speed, DC Over/Under/Weak Volts, Fail to Crank/Start, Sensor Failure.
- AC Alternator Protection: Over/Under Voltage, Over/Under Frequency, Over Current, Short Circuit, and Loss of AC Sensing.
- Fault Codes and Description on HMI

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- Data Logging: Engine Hours, Control Hours, Engine Starts and 10 Fault Codes
- Control Set-Up without PC-based tool (InPower)
- Battle Short fault bypass function
- Configurable Glow Plug Control
- Configurable Cycle Cranking
- 12 and 24 Volt DC Operation
- Easy Wiring connectors for factory connections, terminal blocks for field connections
- Configurable Time Delay Start/Stop
- Sleep Mode Low power in Off and/or Auto
- Programmable I/O (2 inputs and 2 outputs) expandable with AUX101/102 modules
- Low Coolant Level and Low Fuel Level Fault Inputs
- Self-Configuring PCCNet Network
- Easy Upgrades / Downgrades to PCC1302, PCC2300 and PCC3300
- Modbus Interface (RS485 RTU)
- InPower Compatible (PC based service tool)
- Environmental Protection (NEMA 3R/IP53)
- NFPA110 Level 1 Compliant (with remote annunciation)
- UL508 Recognized / CSA Certified / CE Compliant

Acoustic enclosure:



The acoustic enclosure is made of 1.6 mm thick CRCA sheets in Munsel green shade and a structural/ sheet metal base frame painted in black. The walls of the enclosure are insulated with fire retardant foam so as to comply with the 75 dBA at 1 mtr sound levels specified by Ministry of Environment & Forest.

The enclosure has the following features:

- Specially designed to meet stringent MOEF/ CPCB norms of 75 dBA @ 1mtr at 75% load under free field conditions
- Single point lifting for easy handling at customer site
- Designed to have optimum serviceability
- Air inlet louvers specially designed to operate at rated load
- Made on special purpose CNC machines for consistency in quality and workmanship
- Powder coated for long lasting service life and superior finish
- With UV resistant powder coating, can withstand extreme environment
- Use of special hardware for longer life
- Insulation material meets exacting IS 8183 specifications for better sound attenuation
- Flush styling - no projections
- Fluid drains for lube oil and fuel
- Fuel filling point

Others:

- Fuel tank suitable for 8 hours of operation

Optionals

- Microprocessor / relay based AMF control panel
- Trolley mounted mobile sets
- Cold starting aid

Technical data

Generator set specifications

Model	CP140 D5P	CP160 D5P
Prime Power Rating kVA / kW	140 kVA /112 kW	160 kVA /128 kW
Current (Amps)	195	223
No. of Phases	3 Phase	3 Phase
Power Factor	0.8 (lag)	0.8 (lag)

Engine specifications

Make	Cummins	Cummins
Model	6BTAA 5.9G4	6BTAA 5.9G5
BHP	170	195
Cooling	Water Cooled	Water Cooled
Aspiration	Turbocharged Charged Air Cooled	Turbocharged Charged Air Cooled
No. of Cylinders	6	6
RPM	1500	1500
Bore (mm) x Stroke (mm)	102 x 120	102 x 120
Compression Ratio	17.6:1	16.5:1
Displacement (Ltrs.)	5.88	5.88
Fuel	HSD	HSD
Fuel Consumption (Ltr/hr) @ 75% Load with Radiator & Fan	22.9	29
Governor	Electronic	Electronic
Starting System	12 V Electrical	12 V Electrical
Lube oil Specification	CF4 15W40	CF4 15W40
Lube oil Sump Capacity (Ltrs.)	14.3	14.3
Lube oil consumption (LPH)	0.04	0.06
Total Coolant Capacity (Ltrs.)	26	26
Exhaust Pipe Size (mm)	100	100

Alternator specifications

Voltage	380 / 415	380 / 415
RPM / Frequency	1500 / 50 Hz	1500 / 50 Hz
Enclosure	IP 23	IP 23
Voltage Regulation (max)	+/- 1%	+/- 1%
Class of Insulation	H Class	H Class
Alternator Frame	UC274E	UC274F

Conformance standards

IS 4722, BS 5000, IS 1460, ISO 8528, BS 5514, ISO 3046

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. Ten percent overload capability is available in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.

- Fuel consumption data is based on diesel having specific gravity of 0.85 and conforming to IS:1460
- Oil consumption data is based on oil having specific gravity of 0.89 and meeting CH4 API categories
- Fuel consumption tolerance is +5%

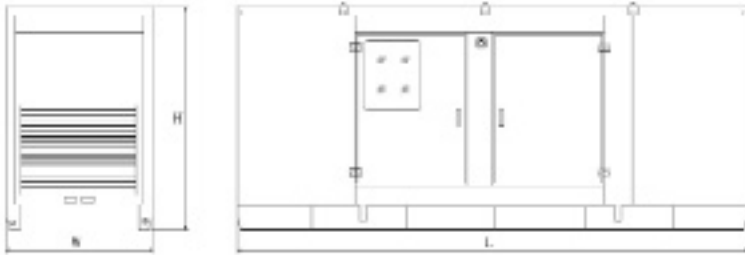
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Typical enclosed genset dimensions*

Genset Model	Rating (kVA)	Length (mm)	Width (mm)	Height (mm)	Weight (kgs.) (Wet)
CP140 D5P	140	4000	1150	1700	2291
CP160 D5P	160	4500	1500	1850	3028



Powerica Limited

9th Floor, Bhaktawar, Nariman Point.

Mumbai 400 021

Tel.: (022) 665 62525

Fax.: (022) 4001 2692/ 2756 6239

Email: atp@powericaltd.com Web: www.powericaltd.com

Powerica Ltd. - Regional and branch offices:

Location:	Tel:	Fax:
Ahmedabad	(079) 2646 8550	(079) 2646 8550
Aurangabad	(0240) 6601921	(0240) 6601922
Bangalore	(080) 4123 5741/ 2/ 4123 5777	(080) 2225 8649
Chennai	(044) 2826 0281/ 4214 4394-96/ 2826 0281	(044) 2826 0281/ 4214 4394-6
Coimbatore	(0422) 249 5125/ 249 6126	(0422) 249 5125
Goa	(0832) 243 8587/245 4381	(0832) 243 8587/ 245 4381
Gurgaon	(0124) 411 1051/ 2	(0124) 411 1051
Hospet	(0839) 423 0216	
Hubli	(0836) 227 1262	(0836) 227 1013
Hyderabad	(040) 4477 3000 / 4477 3009	(040) 4477 3010
Kochi	(0484) 235 3595/ 236 5906	(0484) 236 5906
Kolhapur	(0231) 661 1501	(0231) 661 1502
Kolkatta	(033) 2287 0331/ 3022 2331	(033) 2287 0331
Madurai	(0452) 420 0081/ 2	(0452) 420 0082
Mumbai	(022) 6656 2525	(022) 4315 2515
Nagpur	(0712) 6464 492/ 645 4117	(0712) 252 6868
Nasik	(0253) 329 9349/ 257 6779	(0253) 257 6779
Pune	(020) 4146 4800	(020) 4146 4899
Vijaywada	(0866) 257 0792/ 257 9435/ 662 2752	(0866) 662 2752
Vishakapatnam	(0891) 273 9793	(0891) 273 9794

Cummins India Limited

Power Generation Business Unit,

35A/1/2, Erandawana, Pune 411 038. India

Tel.: (91) 020-3024 8600 Fax: (91) 020-6602 8090

Cummins Power Generation Offices

Location:	Tel:	Fax:
Bangalore:	(080) 2361 3831/ 2361 1958	(080) 2361 4552
Chennai:	(044) 2446 8110/ 2446 8113	(044) 2491 1120
Gurgaon:	(0124) 391 0900/ 01	(0124) 391 0916
Hyderabad:	(040) 2766 3017/ 2767 8891	(040) 2767 8892
Jaipur:	(0141) 236 4944	(0141) 403 8794
Kolkata:	(033) 2287 8065/ 2287 2481	(033) 2290 3839
Lucknow:	(0522) 230 5049/ 230 5059	(0522) 230 5035
Mohali:	(0172) 224 0371/ 72/ 73	(0172) 224 0371/ 72/ 73
Vadodara:	(0265) 232 4207/ 654 0390	(0265) 308 3010

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