

Powertec Genset

Powered by Cummins 4B Series Engine

Genset Standby Power Range: 75kva

Basic Characteristics of Diesel Generator Set

Engine

◆ All series powered by Cummins engine, modern technique, dependable performance, high combustion efficiency and low fuel consumption, long time continuous running, long working life. Conform to the standard of ISO3046.

Alternator

◆ All series adopt alternator of Marathon; Excellent excitation characteristics, Ensure that the genset can withstand high power load moment, small Voltage fluctuation, quickly recover. Conform to the standard of GB755, BS5000, IEC34-1, CSA22.2, AS2359.

Controller System

◆ All series use automatic Powertec GC6110 as controller, Integrating digital, intelligent, network technology, use for a single diesel generator set automation and monitoring system, implement a automatic starting/stopping, the data measured, Alarm protection function of the genset.

Radiator

◆ Standard 40°C ambient temperature online radiator, Closed water circulation cooling system, ensure the rated power output of under high temperature environment.



Steel welding base, inbuilt shock absorber

- ◆ Inbuilt shock absorber, perfect shock absorption performance, Easy installation and transport
- ◆ No need to install shock pad on the connection of base foundation and fixed.

The performance parameters of the diesel generator set

- ◆ 220VAC, 60HZ 0.8PF Three phase four wire output (Electronic speed)
- ◆ Frequency drop $\leq 3\%$ ◆ Voltage modulation $\leq 0.3\%$
- ◆ The steady state frequency $\leq 0.5\%$
- ◆ The steady state voltage deviation $\leq \pm 1\%$
- ◆ The transient frequency deviation $\leq +10\%$
 $\leq -7\%$
- ◆ The transient voltage deviation $\leq +20\%$
 $\leq -15\%$
- ◆ Frequency recovery time $\leq 3S$
- ◆ voltage recovery time $\leq 1S$ (voltage $\pm 3\%$)
- ◆ THF < 3
- ◆ TIF < 50 Conform to the standard of NEMA MG1-22.43

Engine Performance Parameters

Engine

- ◆ Model: **Cummins engine 4B series**
- ◆ Construction: Adopt forged steel camshaft and crankshaft, High strength cylinder block design, plenty parts cast on the Cylinders, stiffness strong, high pressure resistant capacity is high, longer service life.
- ◆ Starting system: 24VDC starting motor
- ◆ Integrated design: Cylinders、cylinder head together, decreased connection, reduced 40% parts than other same kind engine, failure rate bring down a lot.
- ◆ Fuel system: Rotator high pressure fuel pump, lower fuel consumption, and reduce noise effectively.
- ◆ Filter system: Dry core air filter with intake resistance indicator. Rotate Paper-based full flow and bypass oil filter. Rotate anti-corrosion water filter.
- ◆ Advanced design and superior manufacture: Adapt severe work condition, high strength, heavy loading work capacity.



Alternator Performance Parameters

Alternator

- ◆ Type: **Marathon**
- ◆ Brushless, 4 pole rotating magnetic field, single bearing, with protective cover.
- ◆ H class insulation
- ◆ Standard IP23 grade
- ◆ Cooling system
- ◆ AC exciter, rotate rectifying unit
- ◆ Stator winding after dip treating, Surface override epoxy insulation varnish
- ◆ Rotor and exciter get treatment of high temperature insulating resin, will be more applicable for severe environment.
- ◆ Rotor dynamic balancing accord with standard BS5625, class 2.5.
- ◆ Advanced lubricating grease seal long time bearing.



Supplied Accessories

- ◆ Silencer、bellows、exhaust bend
- ◆ Battery connect wire
- ◆ Files of original factory of engine and alternator
- ◆ Generator set manual book, certificate of conformity

Optional Items

- ◆ Silent/trailer type genset
- ◆ Oil water separator
- ◆ Heat exchanger—water tower cooling system
- ◆ Low water level, low fuel oil warning function
- ◆ Genset environmental protection
- ◆ Mains supply monitoring automatic control system
- ◆ Storage fuel tank
- ◆ BAC 06 battery charger

Standard Detection Function

- ◆ 3 phases voltage Ua,Ub,Uc
- ◆ 3 phases current La,Lb,Lc
- ◆ Frequency F1
- ◆ Active power PA
- ◆ Apparent power PR
- ◆ Power factor PF
- ◆ Coolant temperature WT
- ◆ °F/°C display
- ◆ Oil pressure OP
- ◆ kPa/Psi/Bar display
- ◆ Speed RPM
- ◆ Battery voltage V
- ◆ HC timer records 99999 hours
- ◆ The maximum cumulative times of starting can reach 999999



Standard Protection Function

Genset Protection

- ◆ Programmable alarm and status input
- ◆ Emergency stop

Engine Protection

- ◆ Stop for over speed
- ◆ Alarm for low/high battery voltage
- ◆ Alarm/Stop for low oil pressure
- ◆ Alarm for shortage of battery
- ◆ Alarm/Stop for high coolant temperature
- ◆ Stop for failure to start/jigger
- ◆ Indication for sensor fault

Alternator Protection

- ◆ Stop for over high/low voltage
- ◆ Stop for over frequency
- ◆ Alarm/stop for over current
- ◆ Stop for low frequency
- ◆ Stop for loss of voltage detection signal

Control System Components

- ◆ Control switch—manual/auto/stop/start
- ◆ Screen menu selection button
- ◆ Setting button
- ◆ Emergency stop button
- ◆ Fault status indicators
- ◆ Digital display

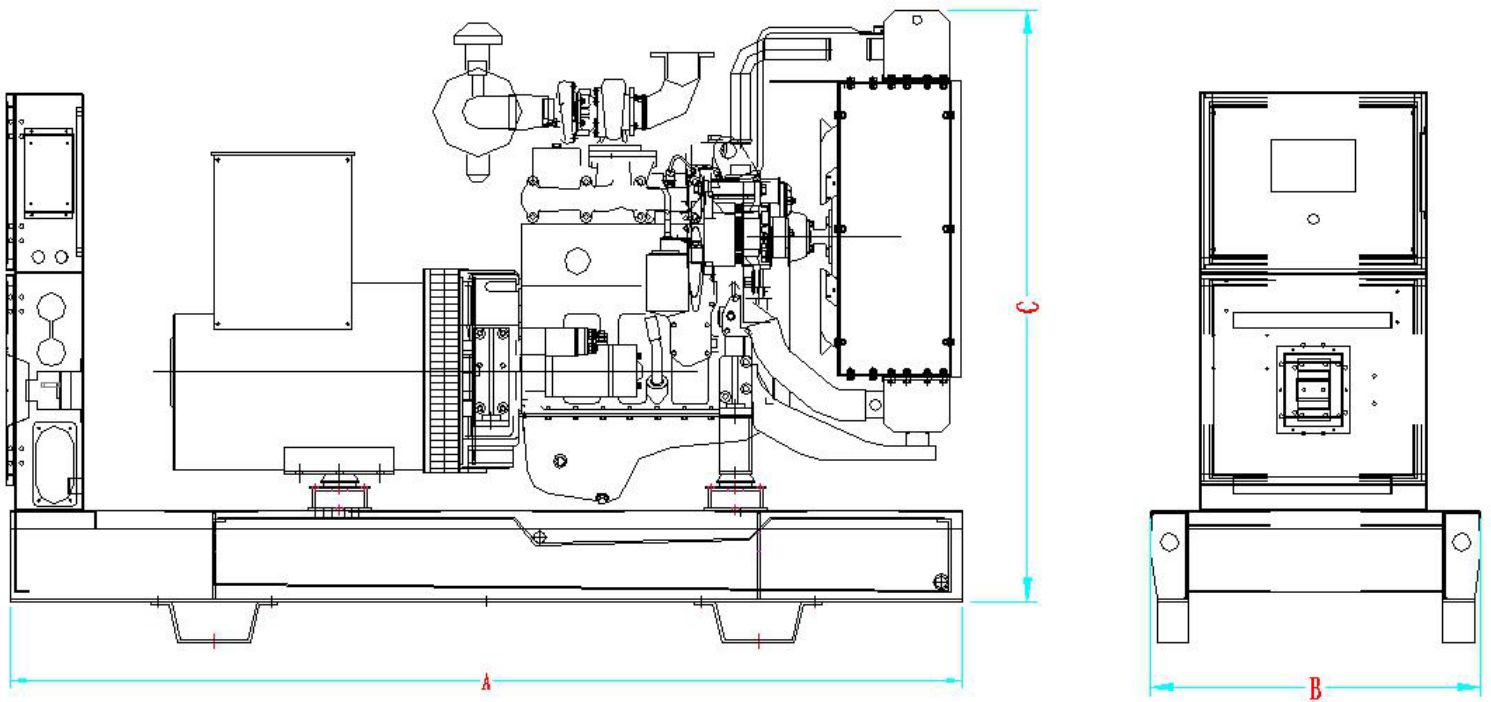


Communication Interface (optional function)

- ◆ Adopt international standard MODBUS communication protocol with error detection as well as RS232/ RS485 (RS485 is opto-isolated type)
- ◆ Realize functions including remote control, telemetry and telesignalling, which are facilitate to monitor gensets.

Genset	Model	PDC60S-60
	Prime Rating (kva)	69
	Standby Rating (kva)	75
	Prime current(A)	99
	Frequency(hz)	60
Engine	Engine Model	4BTA3. 9-G2
	Gross Engine output-Prime (kva)	75
	Gross Engine output-Standby (kva)	81
	Bore * stroke (mm)	102*120
	Cylinders and build	4-Inline
	Cubic capacity(L)	3. 9
	Compression Ratio	17. 3:1
	Intake way	Turbo- charging, air to air after cooled
	Max intake resistance (kPa)	6. 2
	Air intake (m ³ /h)	354
	Max exhaust back pressure (kPa)	10. 2
	Exhaust gas flow(m ³ /h)	888
	Exhaust temp(°C)	497
	Cooling way	Radiator and fan
	Fan exhaust flow (m ³ /min)	158
	Coolant capacity (L)	24
	Highest water temperature(°C)	104
	Minimum air opening to room (m ²)	0. 9/0. 5
	Thermostat range (°C)	82-95
	Max oil temperature (°C)	121
Lubrication system oil capacity (L)	11	
Fuel consumption(L/H)	14. 2	
Standard Governor/Class	electrical	
Alternator	Prime voltage(V)	220
	Prime power factor	0. 8
	Exciter	Brushless, Self-exciter
	Max voltage regulation	± 1%
	phase	3 phase
	Protection class	IP21
	Insulation class	H
Battery	Rated capacity (AH)	2X80AH 12V (Optional)

Dimension and Weight



Model	Fuel tank capacity (L)	Gross weight (kg)	Net Weight (kg)	Dimension A (mm)	Dimension B (mm)	Dimension C (mm)
PDC60S-60	110	880	808	2080	790	1340



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