

## PDC165A

Prime Power: 120KW/150KVA

Standby Power: 132KW/165KVA

Voltage: 400V

Powered by Cummins QSB5.9-G33 Engine

### Genset Performance

- 230/400V, 50Hz, 0.8PF, 3 Phases 4 wires
- Frequency drop  $\leq 3\%$
- Voltage regulation  $\leq 0.3\%$
- The steady state frequency  $\leq 0.5\%$
- The steady state voltage deviation  $\leq \pm 1\%$
- The transient frequency deviation  $\leq +10\% \leq -15\%$
- The transient voltage deviation  $\leq +20\% \leq -15\%$
- Frequency recovery time  $\leq 3S$
- Voltage recovery time  $\leq 1S(\text{Voltage} \pm 3\%)$
- THF (Telephone Harmonic Factor)  $< 3$
- TIF (Telephone Influence Factor)  $< 50$   
Comply to Standard NEMA MG1-22.43
- Built-in vibration isolator with high performance on shock absorption.

### Standard Configuration

- Cummins Engine
- Brushless synchronous alternator
- POWERTEC intelligent controller
- 40°C standard ambient temperature  
(50°C Optional)
- Circuit breaker (3P)
- Float battery charger
- Battery connect wire
- Steel base frame
- Silencer, bellows, exhaust bend
- Manual book and files

### Optional Items

- Starting batteries
- Fuel tank
- Oil-water separator
- Sensor for low coolant level, low fuel/oil level
- Automatically monitoring & controlling system of city power
- Coolant heater
- Oil heater
- Heat exchanger--Water cooled tower system
- Soundproof canopy
- Trailer
- Soundproof canopy
- Design and construction of environmental protection engineering for the Genset room

## Diesel Engine

- Model: **QSB5.9-G33**
- Structure: Use forged steel camshaft and crankshaft, high-strength cylinder design, multiple parts cast on the cylinder, high rigidity, strong high-pressure resistance, good reliability, and longer service life;
- Integrated design: The cylinder block and cylinder head adopt integrated design to prevent water and oil leakage from the engine. occurrence, the parts are about 40% less than other similar engines, and the failure rate is greatly reduced;
- Advanced design and sophisticated manufacturing: adaptable to various harsh working conditions, strong in high-intensity and heavy-load operation capabilities;
- Fuel system: Three-stage fuel filtration ensures a balanced level of particle dispersion, protects the main components of the fuel system, and maximizes engine life;
- Lubrication system: The cylinder bore adopts a platform grid honing design, and the perfect geometric structure effectively prevents oil leakage. Advanced technologies such as new piston ring components and sealing gasket curling molding are used to reduce oil loss;
- The electronic control system can intelligently switch working modes according to the environment and operating conditions, and has self-diagnosis, alarm and remote monitoring functions;
- The engine may be operated at :  
1500 RPM up to 2000 m and 104 ° F (40 ° C) without power deration.  
For sustained operation above these conditions, derate by 4% per 300 m, and 3% per 10 ° C.



## Alternator

- Optional brands: **Stamford / Marathon / Faraday / Engga / Mecc Alt**
- Brushless, 4 pole rotating magnetic field, single bearing with protective cover.
- Insulation: H Class.
- IP Class: IP23
- Cooling system
- AC exciter, rotate rectifying
- Rotor and exciter made with high temperature insulating resin, to satisfy tough environment.
- Rotor dynamic balancing complies for BS5625, class 2.
- Sealed with advanced lubricating grease to prolong life of bearing.



## Standard

- 3 phases voltage: Ua, Ub, Uc
- Frequency F1
- Apparent power PR
- Power factor PF
- Coolant temperature WT
- Temperature °C display
- Oil pressure OP
- Engine speed
- 3 phases current: La, Lb, Lc
- Active power PA
- Power factor PF
- Temperature °C display
- KPa/Psi/Bar display
- Battery voltage V
- Running Hour
- Starting timer:(999999)



## Standard Protection

### Genset Protection

- Programmable I/O signal
- Emergency stop

### Engine Protection

- Stop for over speed
- Low oil pressure
- High Coolant temperature
- Sensor fail
- Alarm for low/high battery voltage
- Low battery voltage
- Fail to start/Cranking fail

### Alternator Protection

- Over Voltage
- Over current
- Voltage signal lost
- Over Voltage
- Over frequency
- Under frequency

### Control System Components

- Manual/auto/stop/start
- Setting button
- Fault status indicators
- Screen menu selection button
- Emergency stop button
- Digital displayer



## Communication Interface

(Option)

- International standard MODBUS communication protocol RS232/ RS485 is suitable for remote control and monitor; It is easy integrated with SCADA.

## Genset

Model	PDC165A
Prime Rating (kw)	120
Standby Rating (kw)	132
Rate current(A)	217
Power factor	0.8
Frequency(Hz)	50

## Engine

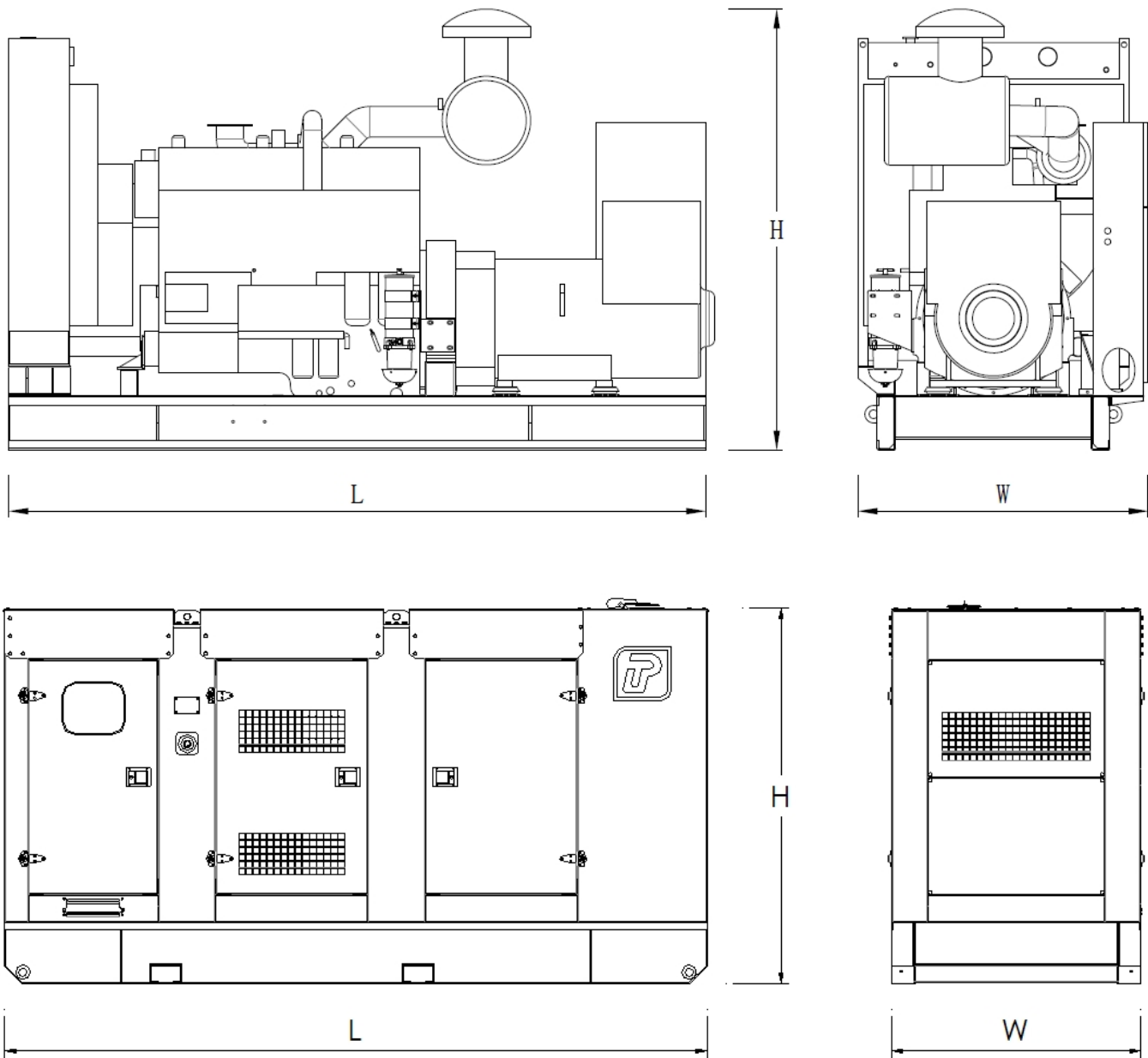
Engine Model	QSB5.9-G33
Gross Engine output-Prime (kw)	159
Gross Engine output-Standby (kw)	175
Bore * stroke (mm)	102*120
Cylinders and structure	6 In line
Displacement(Liter)	5.9
Compression Ratio	17.3:1
Intake way	Turbocharged and Charge Air Cooled
Max intake resistance (KPa)	6.2
Air intake (m3/h)	595
Max exhaust back pressure (KPa)	10
Exhaust gas flow (m3/h)	612
Exhaust temp (°C)	539
Cooling way	Water Radiator & Fan
Fan exhaust flow (m3/min)	190
Coolant capacity (L)	26.4
Highest water temperature(°C)	104
Minimum air opening to room (m2)	1.3/1.1
Thermostat range (°C)	82-92
Max oil temperature (°C)	124
Lubrication system oil capacity (L)	16.4
Rate load fuel consumption(L/H)	37.9
Standard Governor/Class	Electronically Controlled High Voltage Common Rail
Emission	MEP Stagelll

## Alternator

Rated Voltage(V)	230/400
Output Way	3 Phases, 4 wires
Rated power factor	0.8
Exciter	Brushless, Self-exciter
Max voltage regulation	±1%
Phase	3
Protection class	IP21-23
Insulation class	H

## Controller

Brand	POWERTEC
-------	----------



Type	Dimension (mm) (L*W*H)	Weight (kg)	Fuel Tank Capacity (L)
Open Type	2400*920*1455	1309	200
Silent Type	2920*1100*1750	2059	300

Contact Us

**Powertec Generator System Inc.**

**Add:** Danshui Yanna Industry Zone, Huiyang, Huizhou, Guangdong, China  
**Tel:** +86 752-3911119 / 3911118  
**Fax:** +86 752-3911110  
**Web:** [www.powertec.com.cn](http://www.powertec.com.cn)  
**Email:** [powertec@powertec.com.cn](mailto:powertec@powertec.com.cn)