



# POWERTEC Generator Set

## Powered by Dongfeng Cummins 6LTAA9.5-G3 Engine

Model: PDC300B Prime Power: 220KW/275KVA Standby Power: 240KW/300KVA

### Genset Fundamental Characteristics

- ◆ 230/400VAC, 50HZ 0.8PF 3 Phases, 4 wires output
- ◆ 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  $\leq +10\% \leq -15\%$
- ◆ 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
- ◆ Standard equipped with ambient temperature 40°C Connecting radiator
- ◆ Inbuilt shock absorber has high performance on shock absorption.  
It's easy to be transported and installed without embedding and  
Fixing rubber shock pad between the genset and ground

### Genset Standard Configuration

- ◆ Cummins Engine
- ◆ Brushless synchronous alternator
- ◆ POWERTEC intelligent controller
- ◆ 40°C standard ambient temperature  
Water radiator
- ◆ Modularized case circuit breaker (3P)
- ◆ Float Battery Charger
- ◆ Battery connect wire
- ◆ Steel base frame(include shock absorbers )
- ◆ Silencer、bellows、exhaust bend
- ◆ Manual book and files

### Genset Optional Configuration

- ◆ 24V Starter Batteries
- ◆ Daily Fuel Tank
- ◆ Oil-water separator
- ◆ Warning function of low water level, low fuel oil
- ◆ Automatically monitoring & controlling system of city power
- ◆ Coolant heater
- ◆ Oil heater
- ◆ Heat exchanger--Water cooling Tower System
- ◆ Soundproof Canopy/ Trailer
- ◆ ISO container
- ◆ Design and construction of environmental protection  
Engineering for the Genset room



## Performance Description of Diesel Engine

- ◆ Model: **Dongfeng Cummins 6LTAA9.5-G3**
- ◆ Description: Cummins 6LTAA9.5G engine is a mechanical fuel system Provide heavy performance. The electronic controller is to Keep engine steady speed. With design of the 24-valve and larger flow Ejector, the engine is one of the highest power-to-weight ratios in similar Products.It is manufactured in accordance with CE certificate.
- ◆ Starting system: 24VDC starting motor
- ◆ Advanced 4-Valve structure: 4 valves in each cylinder to improve power and efficiency through faster response and fuel economy
- ◆ Fuel system: Bosch P7100 mechanical fuel injection pump has high injection pressure to optimizes engine performance, which establishes an unparalleled reputation for reliability.
- ◆ Electronic fuel shut-off valve: increase the safety of engine of mechanical fuel system.
- ◆ Turbocharger: Holset HE400 and HE500 non-exhaust valve turbochargers are used to improve power fuel economy and reduce smoke and noise levels.
- ◆ Coolpac integrated design: The product comes with cooling pack and air filter kit, which can provide Complete power pack. Each component is specially developed by rigorous testing of G-Drive products to ensure efficient performance, durability and reliability.
- ◆ Engine Operating Environment Description:  
The engine can work under the following conditions without modulating power:  
A. 1800r/min engine--altitude less than 1000m, ambient temperature less than 40 °C  
B. 1500r/min engine--altitude less than 1000m, ambient temperature less than 40 °C  
If engine operating environment exceed above condition, when altitude is higher than 1500m ,engine power will drop 4% as altitude increase each 300m.When ambient temperature is higher than 40°C(104° F) ,engine power will drop 3% -5% as temperature increase each 11°C(1% dropping ,when temperature increase each 10° F ) The engine allows continuous operation with a maximum altitude of 4,500m.



## Performance Description Alternator

- ◆ Optional Alternator: **Stamford / Marathon/ Faraday/Engga/Mecc Alt**
- ◆ Brushless, 4 pole rotating magnetic field, single bearing with protective cover
- ◆ Insulation: H Class.
- ◆ Standard IP23 grade
- ◆ Cooling system
- ◆ AC exciter, rotate rectifying unit
- ◆ Surface of stator winding is covered with damp-proof epoxy Insulation varnish after impregnation proceeding
- ◆ Rotor and exciter is proceeded with high temperature insulating resin, will be more applicable for harsh environment.
- ◆ Rotor dynamic balancing comply to standard BS5625,class 2.5
- ◆ Sealed with advanced lubricating grease prolongs life of bearing.

**Notes: Above data of alternator comes from Stamford. Proper specification is subject to the practice alternator if customers choose other alternator**



## Standard Detection Function

- ◆ 3 phases voltage  $U_a, U_b, U_c$
- ◆ Frequency  $F_1$
- ◆ Apparent power  $PR$
- ◆ Coolant temperature  $WT$
- ◆ Oil pressure  $OP$
- ◆ Speed  $RPM$
- ◆ HC timer 99999 hours records
- ◆ Maximum cumulative times of starting can reach 999999
- ◆ 3 phases current  $I_a, I_b, I_c$
- ◆ Active power  $PA$
- ◆ Power factor  $PF$
- ◆ Temperature  $^{\circ}C$  display
- ◆  $KPa/Psi/Bar$  display
- ◆ Battery voltage  $V$



## Standard Protection Function

### Genset Protection

- ◆ Programmable alarm and status input
- ◆ Emergency stop

### Engine Protection

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

### Alternator Protection

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

### Control System Components

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



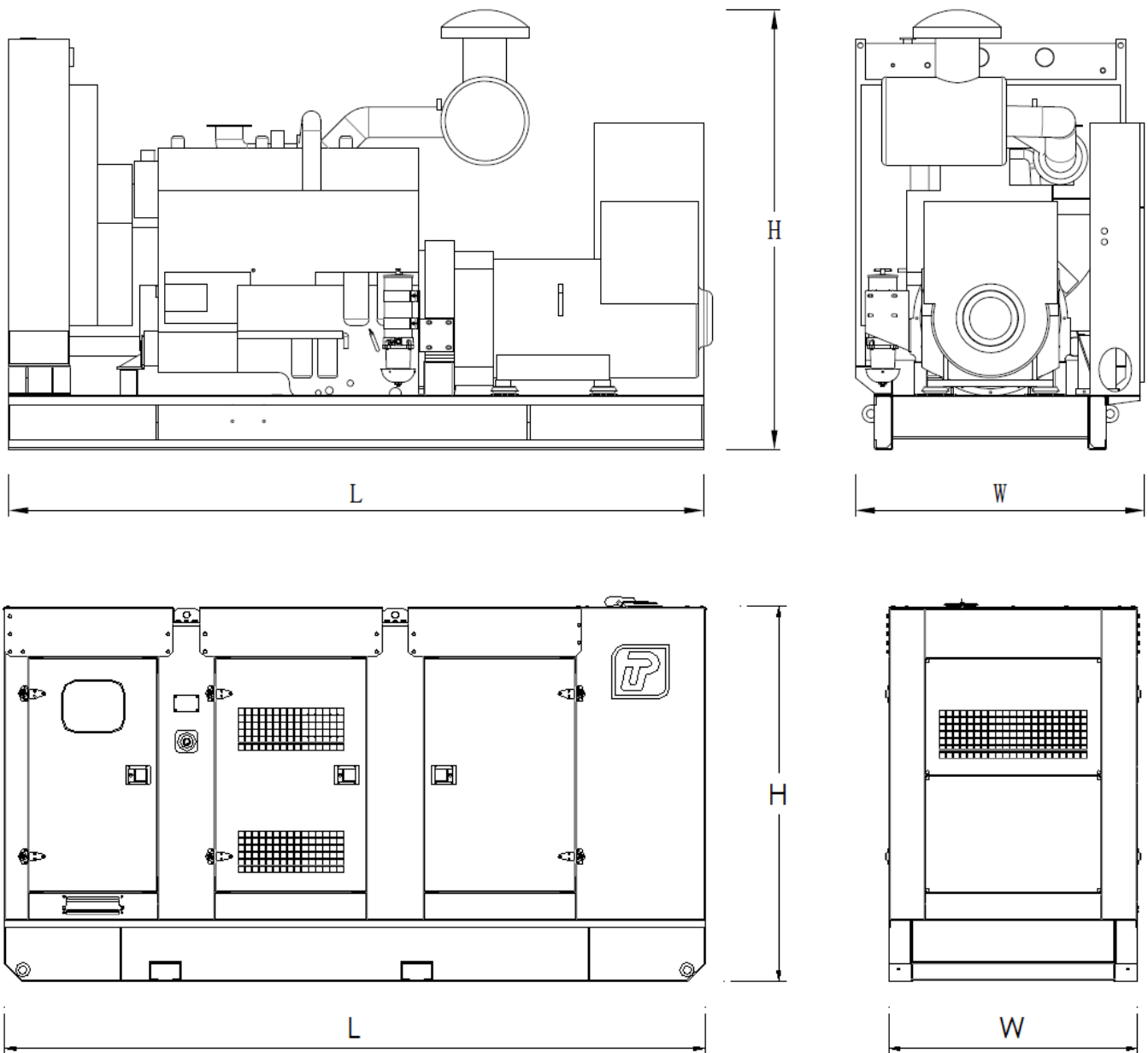
## Communication Interface

(optional function)

- ◆ International standard MODBUS communication protocol with error detection as well as RS232/ RS485 (RS485 is opto-isolated type) has functions of remote control, telemetry and telesignalling, which are facilitate to monitor genset.

**Notes:** Above data of controller comes from POWERTEC GC6110. Proper specification is subject to customers' practice controller if other controller is selected.

Genset	Model	PDC300B
	Prime Rating (kw)	220
	Standby Rating (kw)	240
	Prime current(A)	397
	Frequency(hz)	50
Engine & Alternator	Engine Model	6LTAA9.5-G3
	Gross Engine output-Prime (kw)	250
	Gross Engine output-Standby (kw)	280
	Bore * stroke (mm)	116*148
	Cylinders and structure	6 in line
	Displacement(Liter)	9.5
	Compression Ratio	16.6:1
	Intake way	Turbocharged/ Air-Air intercooler
	Max intake resistance (KPa)	6.2
	Air intake (m3/h)	800
	Max exhaust back pressure (KPa)	10
	Exhaust gas flow (m3/h)	2250
	Exhaust temp (°C)	533
	Cooling way	Water Radiator & Fan
	Fan exhaust flow (m3/min)	474
	Coolant capacity (L)	55.5
	Highest water temperature(°C)	100
	Minimum air opening to room (m2)	2.5/2.0
	Thermostat range (°C)	82-95
	Max oil temperature (°C)	121
	Lubrication system oil capacity (L)	28.1
	Fuel consumption(L/H)	58
	Standard Governor/Class	Electronic
	Optional Alternator Model	Marathon--- MP-220-4A Engga----- EG280-230N Stamford---- S4L1D-D41 Faraday----- FD4MS1-4
	Rated Voltage(V)	400/230
	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 and Model	POWERTEC GC6110



Type	Dimension mm (L*W*H)	Weight KG	Fuel Tank Capacity L
Open Type	2900*1067*1528	2060	430
Silent Type	3950*1400*2115	3352	600

Notes: Above data are for reference only. Specific size is subjected to actual measurement.

### Contact Way

### Powertec Generator System Co., Ltd

Add: Danshui Yanna Industry Zone, Huiyang, Huizhou, Guangdong, China

Tel: 0752-3911119 / 0752-3911118

FAX: 0752-3911110

Web: [www.powertec.com.cn](http://www.powertec.com.cn) Email: [sales@powertecgs.com](mailto:sales@powertecgs.com)