POWERTEC
Powertec Generator System Inc.

Cummins

PDC165A

Prime Power: 120KW/150KVA Standby Power: 132KW/165KVA Voltage: 400VAC

Powered by Cummins 6BTAA5.9-G12 Engine

Genset Performance

- 230/400VAC，50Hz, 0.8PF, 3 Phases 4 wires
- Frequency drop   ≤3%
- Voltage regulation   ≤0.3%
- The steady state frequency   ≤0.5%
- The steady state voltage deviation   ≤±1%
- The transient frequency deviation   ≤+10% ≤-15%
- The transient voltage deviation   ≤+20% ≤-15%
- Frequency recovery time   ≤3S
- Voltage recovery time   ≤1S(Voltage±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℃ standard ambient temperature （50℃ Optional）
- Molded case 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
- S292 soundproof canopy
- Design and construction of environmental protection
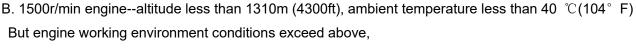- Engineering for the Genset room

Diesel Engine

- Model: 6BTAA5.9-G12
- Construction：Adopt forged steel camshaft and crankshaft, High strength cylinder block design, plenty parts cast on the Cylinders, stiffness strong, high pressure resistant capacity, longer service life.
- Advanced design and superior manufacture: Adapt to harsh severe work condition, high strength and has heavy loading work capacity.
- Fuel system: Rotator high pressure fuel pump, lower fuel consumption, and reduce noise effectively.
- Environment: The engine can work normally under the following conditions without de-rating:

A. 1800r/min engine--altitude less than 1500m (5000ft), ambient temperature less than 40 ℃(104°F).

B. 1500r/min engine--altitude less than 1310m (4300ft), ambient temperature less than 40 ℃(104°F)

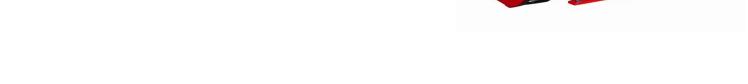But engine working environment conditions exceed above,

the engine output power will de-rate 4% as altitude increase each 300m(1000ft) at the altitude is higher than 1500m (5000ft),

Also it will de-rate 2% as temperature increase every 11 ℃(1% de-rating ,when temperature increase each 10°F).

in the ambient temperature is higher than 40℃(104°F)

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 satify tough environment.
- Rotor dynamic balancing complys for BS5625, class 2.
- Sealed with advanced lubricating grease to prolong life of bearing.

Notes: Above data of alternator comes from Stamford. Specification may alternated without advance notice.

Intelligent Control System

Standard

- 3 phases voltage: U_a, U_b, U_c
- Frequency F1
- Apparent power PR
- Power factor PF
- Coolant temperature WT

- Temperature ℃ display
- Oil pressure OP
- Engine speed

- 3 phases current: L_a, L_b, L_c
- Active power PA
- Power factor PF

- Temperature ℃ 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;.

Notes: Above data of controller comes from POWERTEC GC6110. Customized solutions is available as required
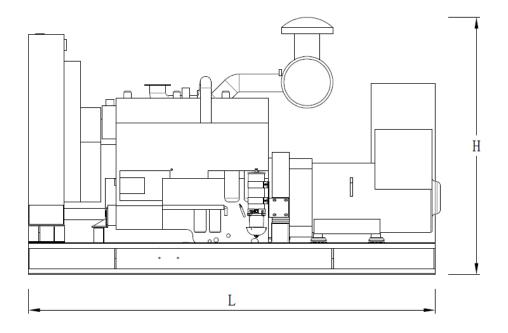
Genset

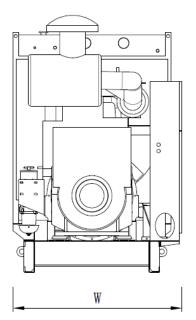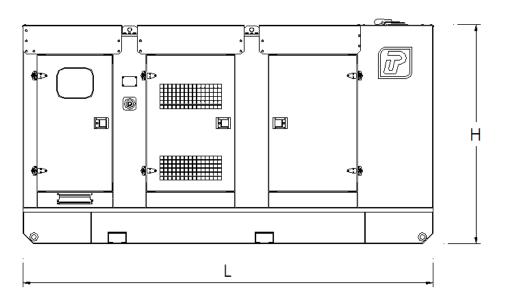|	
Model	PDC165A
Prime Rating (kw)	120
Standby Rating (kw)	132
Rate voltage(V)	400
Rate current(A)	217
Power factor	0.8
Frequency(Hz)	50

Engine

Engine Model	6BTAA5.9-G12
Gross Engine output-Prime (kw)	140
Gross Engine output-Standby (kw)	155
Bore * stroke (mm)	102*120
Cylinders and structure	6 In line
Displacement(Liter)	5.9
Compression Ratio	17.3:1
Intake way	Turbo Charge,Air-Air Intercool
Max intake resistance (KPa)	6.2
Air intake (m3/h)	493
Max exhaust back pressure (KPa)	10
Exhaust gas flow (m3/h)	1156
Exhaust temp (°C)	507
Cooling way	Water Radiator & Fan
Fan exhaust flow (m3/min)	220
Coolant capacity (L)	27
Highest water temperature(°C)	104
Minimum air opening to room (m2)	0.9/0.6
Thermostat range (°C)	82-95
Max oil temperature (°C)	121
Lubrication system oil capacity (L)	16.4
Rate load fuel consumption(L/H)	34
Standard Governor/Class	Electronic

Alternator

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	POWERTEC or DEEPSEA

Dimension and Weight

Type	Dimension (mm) （L*W*H）	Weight (kg)	Fuel Tank Capacity (L)
Open Type	2445*945*1282	1309	315
Silent Type	2920*1100*1750	1959	400

Contact Us

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