

## PPE220A

Prime Power: 160KW/200KVA    Standby Power:176KW/220KVA    Voltage: 400VAC

Powered by Perkins1106A-70TAG Engine

### Genset Performance

- 230/400VAC, 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 deviatio  $\leq +10\%$   $\leq -15\%$
- 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

- Perkins Engine
- Brushless synchronous alternator
- POWERTEC intelligent controller
- 40°C standard ambient temperature  
(50°C 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
- 20GP or 40HQ container type canopy
- Design and construction of environmental protection
- Engineering for the Genset room



## Diesel Engine

- Model: Perkins 1106A-70TAG
- Construction: Forged steel crankshaft, cast iron steel body and Replaceable wet cylinder liner, two/four valves per cylinder ;
- Cooling system: Thermostatically-controlled system with belt driven coolant pump and pusher fan; mounted radiator, piping and guards;
- Fuel system: Mechanically regulated embedded fuel injection pump, non-direct injection ;



Environment: The engine can work under the following conditions without modulating power:

1800r/min engine--altitude less than 1000 m, ambient temperature less than 40 °C

1500r/min engine--altitude less than 1000 m, ambient temperature less than 40 °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 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.**

## Standard

- 3 phases voltage:  $U_a, U_b, U_c$
- Frequency  $F1$
- Apparent power  $PR$
- Power factor  $PF$
- Coolant temperature  $WT$
- Temperature  $^{\circ}C$  display
- Oil pressure  $OP$
- Engine speed
- 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  $V$
- 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	PPE220A
Prime Rating (kw)	160
Standby Rating (kw)	176
Rate voltage(V)	400
Rate current(A)	288
Power factor	0.8
Frequency(Hz)	50

## Engine

Engine Model	1106A-70TAG
Gross Engine output-Prime (kw)	173.9
Gross Engine output-Standby (kw)	191.3
Bore * stroke (mm)	105*135
Cylinders and structure	6 In line
Displacement(Liter)	7
Compression Ratio	16:1
Intake way	Supercharge / Air to air intercooled
Max intake resistance (KPa)	5
Air intake (m3/h)	756
Max exhaust back pressure (KPa)	6
Exhaust gas flow (m3/h)	2094
Exhaust temp (°C)	550
Cooling way	Water Radiator & Fan
Fan exhaust flow (m3/min)	282
Coolant capacity (L)	21
Highest water temperature(°C)	112
Minimum air opening to room (m2)	1.8/1.6
Thermostat range (°C)	85-95
Max oil temperature (°C)	125
Lubrication system oil capacity (L)	16.5
Rate load fuel consumption(L/H)	45.8
Standard Governor/Class	Mechanical

## 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 GC6110
-------	-----------------



Type	Dimension (mm) (L*W*H)	Weight (kg)	Fuel Tank Capacity (L)
Open Type	2650*1050*1590	1750	250
Silent Type	2920*1100*1750	2500	400

**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)