

# PYC100A

Prime Power: 70KW/88KVA Standby Power: 80KW/100KVA Voltage: 400VAC

Powered by Yuchai YC4D120-D31 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 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
- Built-in vibration isolator with high performance on shock absorption.

## Standard Configuration

- Guangxi Yuchai 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
- Silent type/Trailer
- Standardized container
- Design and construction of environmental protection; engineering for the Genset room.



## Diesel Engine

- Model: PYC80A-YC4D105-D34
- Construction: High strength cylinder block, reinforced crankshaft and alloy steel connecting rod make the engine more durable and have lighter and more compact structure in similar products.
- Intake: Turbo charged
- The engine body and other main structures have been long tested to ensure the high reliability of the whole machine.
- Integrated cylinder head and water outlet main pipe design, reduce sealing cover and improve sealing reliability.
- Advanced and mature electronic common rail + high efficiency booster technology is adopted to accurately control the fuel injection volume. Adequate intake to ensure that the diesel engine under different loads, full combustion, less emissions;
- Good filter transient state and strong loading capacity, which can meet the requirement of G3 grade of genset performance.
- Two-stage fuel filter with alarm function is adopted to ensure the operation;
- Meet non-road country T3 and European S3A standards;



### Engine Operating Environment Description:

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
- The stator winding is impregnated and the surface is covered with moisture-proof epoxy insulating paint.
- 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 °C display
- Oil pressure OP
- Engine speed
- 3 phases current:  $I_a, I_b, I_c$
- 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;.

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

## Genset

Model	PYC100A
Prime Rating (kw)	70
Standby Rating (kw)	80
Rate voltage(V)	400
Rate current(A)	126
Power factor	0.8
Frequency(Hz)	50

## Engine

Engine Model	YC4D120-D31
Gross Engine output-Prime (kw)	80
Gross Engine output-Standby (kw)	88
Bore * stroke (mm)	108*115
Cylinders and structure	4 In line
Displacement(Liter)	4.214
Compression Ratio	17.5:1
Intake way	Turbocharging
Max intake resistance (KPa)	5
Air intake (m3/h)	456
Max exhaust back pressure (KPa)	10
Exhaust gas flow (m3/h)	540
Exhaust temp (°C)	500
Cooling way	Water Radiator & Fan
Fan exhaust flow (m3/min)	294
Coolant capacity (L)	30
Highest water temperature(°C)	97
Minimum air opening to room (m2)	1.5/1.0
Thermostat range (°C)	80-90
Max oil temperature (°C)	120
Lubrication system oil capacity (L)	13
Rate load fuel consumption(L/H)	21.9
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 GC7110.2
-------	-------------------



Type	Dimension (mm) (L*W*H)	Weight (kg)	Fuel Tank Capacity (L)
Open Type	2231*924*1477	1348	200
Silent Type	2920*1100*1750	2098	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)