

# PYC100A

Prime Power:70KW/88KVA

Standby Power: 80KW/100KVA

Voltage: 400V

Powered by Yuchai YC4D120-D31 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
- Standard equipped with ambient temperature  $40^{\circ}\text{C}$   
Connecting radiator
- Built-in vibration isolator with high performance on  
shock absorption.
- Product standards: (1) GB/T 2820-2022 / ISO8528:2018  
(2) GB/T 4712-2008 (3) YD/T 502-2020 (4) YD/T 1051-2018

## 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.

## Standard Configuration

- Guangxi Yuchai Engine
- Brushless synchronous alternator
- POWERTEC intelligent controller
- $40^{\circ}\text{C}$  standard ambient temperature  
( $50^{\circ}\text{C}$  Optional)
- Circuit breaker (3P)
- Float battery charger
- Battery connect wire
- Steel base frame
- Silencer, bellows, exhaust bend
- Bottom fuel tank
- Manual book and files



## Diesel Engine

- Model: YC4D120-D31
- Structure: High-strength cylinder block, reinforced crankshaft, and alloy steel connecting rods make the engine more durable and have a lighter and more compact structure among similar products;
- The cylinder head is designed with an integrated water outlet pipe to reduce the sealing surface and improve sealing reliability;
- It adopts advanced and mature BOSCH electronically controlled common rail + high-efficiency supercharging technology to accurately control the fuel injection volume and sufficient air intake to ensure that the diesel engine has sufficient combustion and low emissions under different load conditions;
- Adopting a two-stage diesel filter with alarm function, the operation is more guaranteed;
- Meets the T3 emission standards for non-road vehicles and the European Stage IIIA standards.
- YC4D series engines are classic power products developed by Yu chai. They have high brand awareness and market share. It is highly recognized and has more than 500,000 units in the market. The generator sets developed on its basis use generators. The motor has the advantages of reliability and durability, energy saving and environmental protection, compact structure, strong transient loading capacity, and good maintainability;



## 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 complies for BS5625, class 2.5
- Sealed with advanced lubricating grease to prolong life of bearing.



## Standard Meters

- 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 Function

### 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               | PYC100A |
| Prime Rating (kw)   | 70      |
| Standby Rating (kw) | 80      |
| Rate current(A)     | 126     |
| Power factor        | 0.8     |
| Frequency(Hz)       | 50      |

## Engine

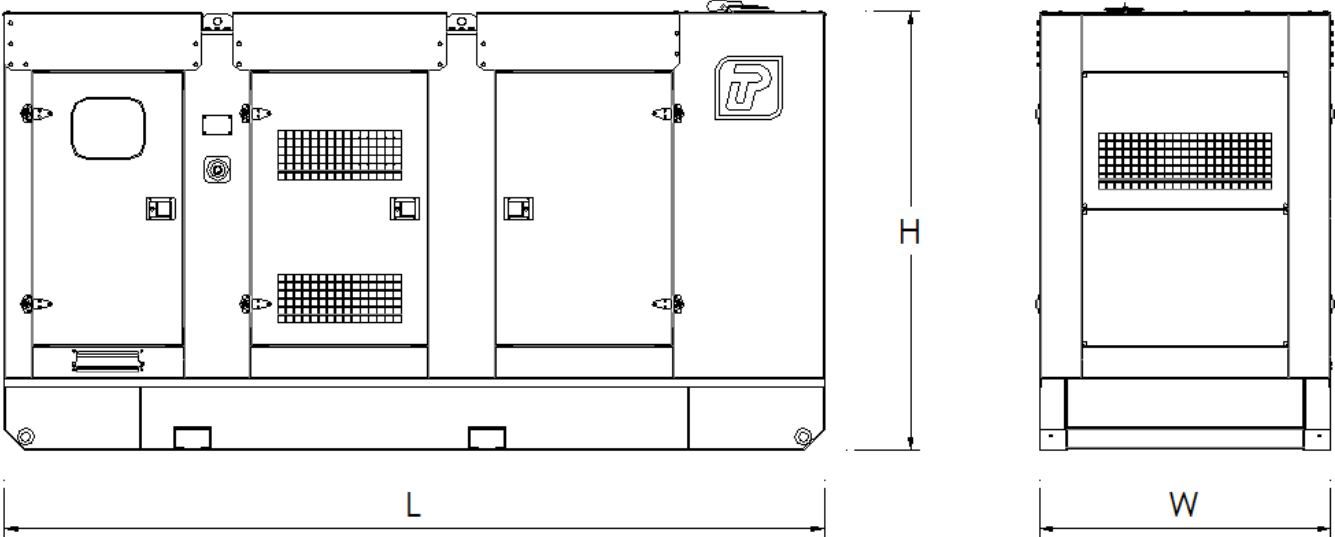
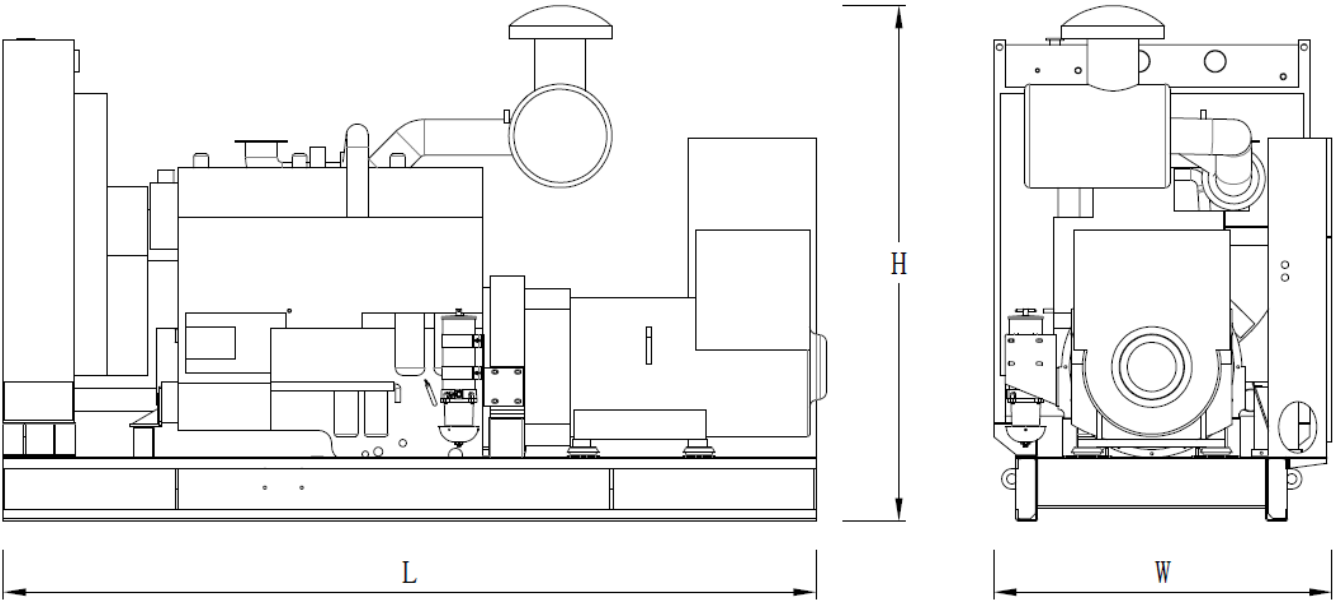
|                                     |                                                    |
|-------------------------------------|----------------------------------------------------|
| Engine Model                        | YC4D120-D31                                        |
| Gross Engine output-Prime (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                   | 16.7:1                                             |
| Intake way                          | Turbocharging/air-to-air intercooling              |
| Max intake resistance (KPa)         | 5                                                  |
| Air intake (m3/h)                   | 444                                                |
| Max exhaust back pressure (KPa)     | 10                                                 |
| Exhaust gas flow (m3/h)             | 522                                                |
| Exhaust temp (°C)                   | 510                                                |
| Cooling way                         | Water Radiator & Fan                               |
| Fan exhaust flow (m3/min)           | 176                                                |
| Coolant capacity (L)                | 23                                                 |
| 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             | Electronically controlled high voltage common rail |
| Emission                            | China Tier 3                                       |

## 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)<br>(L*W*H) | Weight<br>(kg) | Fuel Tank Capacity<br>(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)