

PDC105A

Prime Power: 76KW/95KVA

Standby Power: 83KW/104KVA

Voltage: 400V

Powered by Cummins 4BTA3.9-G13 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 $\leq +10\% \leq -7\%$
- 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.
- Product standards: (1) GB/T 2820-2022 / IS08528:2018
(2) GB/T 4712-2008 (3) YD/T 502-2020 (4) YD/T 1051-2018

Standard Configuration

- Cummins Engine
- Brushless synchronous alternator
- POWERTEC intelligent controller
- 40°C standard ambient temperature (50°C Optional)
- 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
- Design and construction of environmental protection engineering for the Genset room



Diesel Engine

- Model: **Cummins 4BTA3.9-G13**
- Structure: Using forged steel camshaft and crankshaft, high-strength cylinder design, many parts are cast on the cylinder, with high rigidity, strong high-pressure resistance and longer service life;
- Integrated design: the cylinder block, cylinder head and other parts are "multi-purpose in one piece", reducing the number of connecting parts; 40% fewer parts than other similar engines, greatly reducing the failure rate .
- Advanced design and sophisticated manufacturing: adaptable to harsh working conditions and strong in high-intensity and heavy-load operation capabilities;
- Fuel system: The rotor high-pressure fuel pump consumes less fuel and effectively reduces noise.
- Lubrication system: The cylinder liner with platform texture honing design has a perfect geometric structure to effectively prevent oil leak;



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 2.5
- Sealed with advanced lubricating grease to prolong life of bearing.



Standard

- 3 phases voltage: Ua, Ub, Uc
- Frequency F1
- Apparent power PR
- Power factor PF
- Coolant temperature WT
- Temperature °C display
- Oil pressure OP
- Engine speed
- 3 phases current: La, Lb, Lc
- 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;.

Genset

Model	PDC105A
Prime Rating (kw)	76
Standby Rating (kw)	83
Rate voltage(V)	400
Rate current(A)	137
Power factor	0.8
Frequency(Hz)	50

Engine

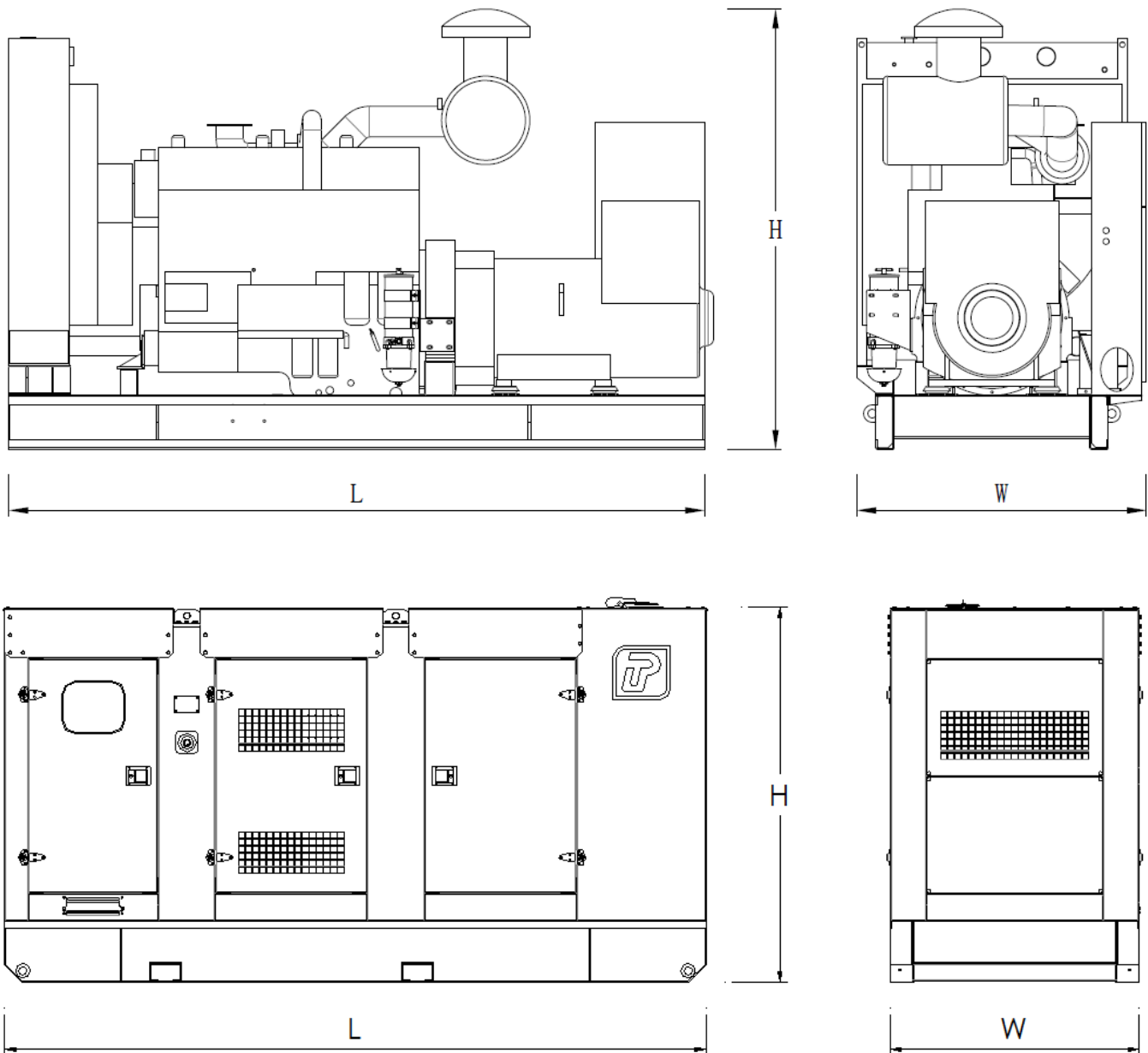
Engine Model	4BTA3.9-G13
Gross Engine output-Prime (kw)	87
Gross Engine output-Standby (kw)	97
Bore * stroke (mm)	102*120
Cylinders and structure	4 In line
Displacement(Liter)	3.9
Compression Ratio	18.0:1
Intake way	Turbocharged/water-Air intercooler
Max intake resistance (KPa)	6.2
Air intake (m3/h)	284
Max exhaust back pressure (KPa)	10
Exhaust gas flow (m3/h)	511
Exhaust temp (°C)	404
Cooling way	Water Radiator & Fan
Fan exhaust flow (m3/min)	240
Coolant capacity (L)	22
Highest water temperature(°C)	104
Minimum air opening to room (m2)	1.1/0.9
Thermostat range (°C)	83-95
Max oil temperature (°C)	121
Lubrication system oil capacity (L)	11
Rate load fuel consumption(L/H)	18.8
Standard Governor/Class	Electronic

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
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Type	Dimension (mm) (L*W*H)	Weight (kg)	Fuel Tank Capacity (L)
Open Type	2300*835*1385	1080	110
Silent Type	2920*1100*1750	1830	300

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