

## PDC70A

Prime Power: 50KW/63KVA

Standby Power: 55KW/69KVA

Voltage: 400V

Powered by Cummins QSB3.9-G35 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: **QSB3.9-G35**
- Structure: Use forged steel camshaft and crankshaft, high-strength cylinder design, multiple parts cast on the cylinder, high rigidity, strong high-pressure resistance, good reliability, and longer service life;
- Integrated design: The cylinder block and cylinder head adopt integrated design to prevent water and oil leakage from the engine. occurrence, the parts are about 40% less than other similar engines, and the failure rate is greatly reduced;
- Advanced design and sophisticated manufacturing: adaptable to various harsh working conditions, strong in high-intensity and heavy-load operation capabilities;
- Fuel system: adopts electronically controlled high-pressure common rail injection system;
- Lubrication system: The cylinder bore adopts a platform grid honing design, and the perfect geometric structure effectively prevents oil leakage. Advanced technologies such as new piston ring components and sealing gasket curling molding are used to reduce oil loss;
- The electronic control system can intelligently switch working modes according to the environment and operating conditions, and has self-diagnosis, alarm and remote monitoring functions;
- The engine may be operated at :  
1500 RPM up to 2000 m and 104 ° F (40 ° C) without power deration.  
For sustained operation above these conditions, derate by 4% per 300 m, and 3% per 10 ° 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 complies for BS5625, class 2.
- Sealed with advanced lubricating grease to prolong life of bearing.



## 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.

## Genset

|                     |        |
|---------------------|--------|
| Model               | PDC70A |
| Prime Rating (kw)   | 50     |
| Standby Rating (kw) | 55     |
| Rate current(A)     | 90     |
| Power factor        | 0.8    |
| Frequency(Hz)       | 50     |

## Engine

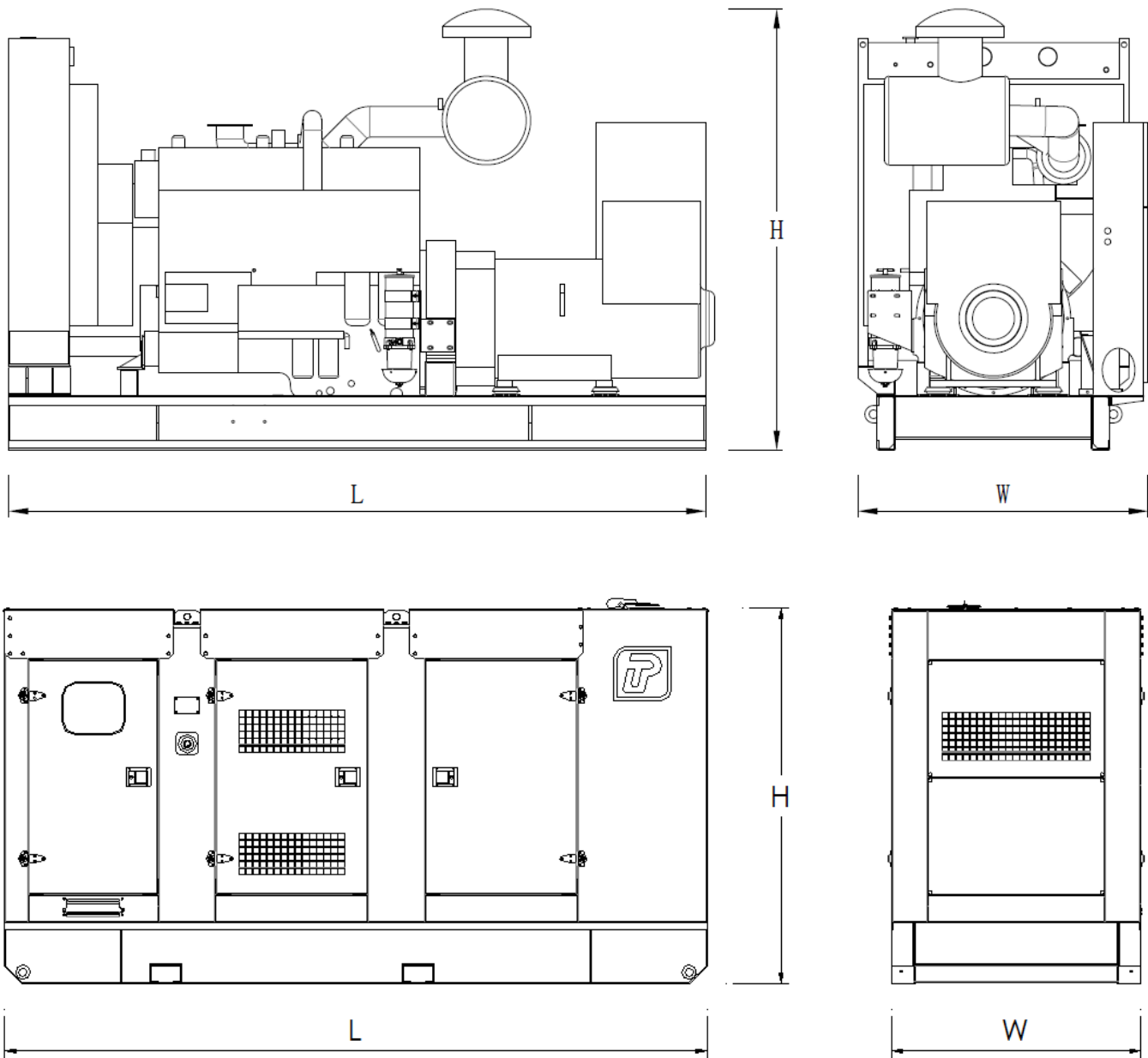
|                                     |                                                    |
|-------------------------------------|----------------------------------------------------|
| Engine Model                        | QSB3.9-G35                                         |
| Gross Engine output-Prime (kw)      | 58                                                 |
| Gross Engine output-Standby (kw)    | 64                                                 |
| Bore * stroke (mm)                  | 102*120                                            |
| Cylinders and structure             | 4 In line                                          |
| Displacement(Liter)                 | 3.9                                                |
| Compression Ratio                   | 17.3:1                                             |
| Intake way                          | Turbocharged                                       |
| Max intake resistance (KPa)         | 6.2                                                |
| Air intake (m3/h)                   | 280                                                |
| Max exhaust back pressure (KPa)     | 10                                                 |
| Exhaust gas flow (m3/h)             | 285                                                |
| Exhaust temp (°C)                   | 448                                                |
| Cooling way                         | Water Radiator & Fan                               |
| Fan exhaust flow (m3/min)           | 160                                                |
| Coolant capacity (L)                | 22                                                 |
| Highest water temperature(°C)       | 99                                                 |
| Minimum air opening to room (m2)    | 1.1/0.9                                            |
| Thermostat range (°C)               | 82-92                                              |
| Max oil temperature (°C)            | 124                                                |
| Lubrication system oil capacity (L) | 10.9                                               |
| Rate load fuel consumption(L/H)     | 14.2                                               |
| Standard Governor/Class             | Electronically Controlled High Voltage Common Rail |
| Emission                            | Euro IIIA                                          |

## 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   | 2200*870*1413             | 1099           | 110                       |
| Silent Type | 2300*900*1500             | 1649           | 160                       |

Contact Us

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