

Powertec Genset

Powered by Cummins N Series Engine

Genset Prime Power: 350kva

Basic Characteristics of Diesel Generator Set

Engine

◆ All series powered by the Cummins engine, modern technique, dependable performance, high combustion efficiency and low fuel consumption, long time continuous running, long working life, and Easy to maintain. Comply with ISO8528:2005.

Alternator

◆ All series adopt alternator of Marathon; Excellent excitation characteristics, Ensure that the genset can withstand high power load moment, small Voltage fluctuation, quickly recover. Comply with ISO8528:2005

Controller System

◆ Adopt digitized,intelligent,network technology Powertec-GC6110 controller.For a single diesel genset automation and monitoring system,including function of auto-starting and stopping,data measuring, warning, etc.Brand option: Deepsea/Comap,etc.

Radiator

◆ Standard 40°C ambient temperature online radiator, Closed water circulation cooling system, ensure the rated power output of under high temperature environment.



Steel welding base, inbuilt shock absorber

- ◆ Inbuilt shock absorber, perfect shock absorption performance, Easy installation and transport
- ◆ No need to install shock pad on the connection of base foundation and fixed.

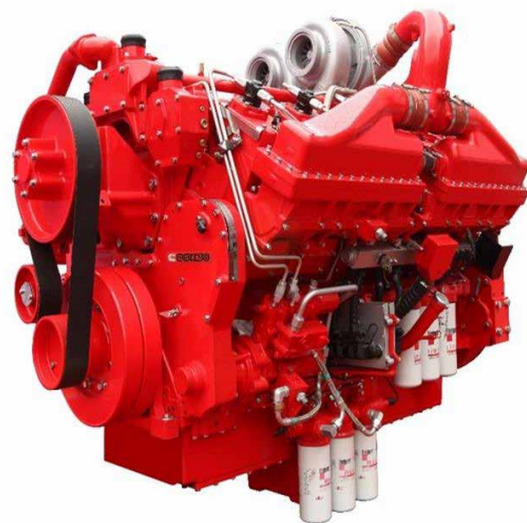
The performance parameters of the diesel generator set

- ◆ 220VAC, 50HZ 0.8PF Three phase four wire output (Electronic speed)
- ◆ Frequency drop $\leq 3\%$ ◆ Voltage modulation $\leq 0.3\%$
- ◆ 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 $\leq 1S$ (voltage $\pm 3\%$)
- ◆ THF < 3
- ◆ TIF < 50 Conform to the standard of NEMA MG1-22.43

Engine Performance Parameters

Engine

- ◆ Model: **Cummins engine N series**
- ◆ Construction: Replaceable wet type cylinder block, well heat Dissipation, easy for change, high universality of parts, high Series, easy for maintenance, cylinder block and cylinder head Adopt in-built pressure lubricating oil, compact constructure, low failure rate.
- ◆ Starting system: 24VDC starter 40A-70A battery charger
- ◆ Intake and exhaust: High efficiency Holset waste gas Supercharger improved burning, pressure type pulse exhaust pipe can take full advantage of exhaust energy, enhance engine efficiency, air to air cooling guarantee fuel economy and better discharge.
- ◆ Fuel system: Cummins patented technology PT fuel system, optimize burning, upsurge power, STC distribution system ensure perfect burning. Adopt low voltage oil supply system, deploy fuel one way loop,safe and reliable.
- ◆ Filter system: Dry core air filter with intake resistance indicator. Rotate Paper-based full flow and bypass oil filter.Rotate anti-corrosion water filter.



Alternator Performance Parameters

Alternator

- ◆ Type: **Marathon**
- ◆ Brushless, 4 pole rotating magnetic field, single bearing, with protective cover.
- ◆ H class insulation
- ◆ Standard IP23 grade
- ◆ Cooling system
- ◆ AC exciter, rotate rectifying unit
- ◆ Stator winding after dip treating, Surface override epoxy insulation varnish
- ◆ Rotor and exciter get treatment of high temperature insulating resin, will be more applicable for severe environment.
- ◆ Rotor dynamic balancing accord with standard BS5625,class 2.5.
- ◆ Advanced lubricating grease seal long time bearing.



Supplied Accessories

- ◆ Silencer、bellows、exhaust bend
- ◆ Battery connect wire
- ◆ Files of original factory of engine and alternator
- ◆ Generator set manual book, certificate of conformity

Optional Items

- ◆ Silent/trailer type genset
- ◆ Oil water separator
- ◆ Heat exchanger—water tower cooling system
- ◆ Low water level, low fuel oil warning function
- ◆ Genset environmental protection
- ◆ Mains supply monitoring automatic control system
- ◆ Storage fuel tank
- ◆ BAC 06 battery charger

Standard Detection Function

- ◆ 3 phases voltage U_a, U_b, U_c
- ◆ 3 phases current I_a, I_b, I_c
- ◆ Frequency F_1
- ◆ Active power PA
- ◆ Apparent power PR
- ◆ Power factor PF
- ◆ Coolant temperature WT
- ◆ °F/°C display
- ◆ Oil pressure OP
- ◆ kPa/Psi/Bar display
- ◆ Speed RPM
- ◆ Battery voltage V
- ◆ HC timer records 99999 hours
- ◆ The maximum cumulative times of starting can reach 999999



Standard Protection Function

Genset Protection

- ◆ Programmable alarm and status input
- ◆ Emergency stop

Engine Protection

- ◆ Stop for over speed
- ◆ Alarm for low/high battery voltage
- ◆ Alarm/Stop for low oil pressure
- ◆ Alarm for shortage of battery
- ◆ Alarm/Stop for high coolant temperature
- ◆ Stop for failure to start/jigger
- ◆ Indication for sensor fault

Alternator Protection

- ◆ Stop for over high/low voltage
- ◆ Stop for over frequency
- ◆ Alarm/stop for over current
- ◆ Stop for low frequency
- ◆ Stop for loss of voltage detection signal

Control System Components

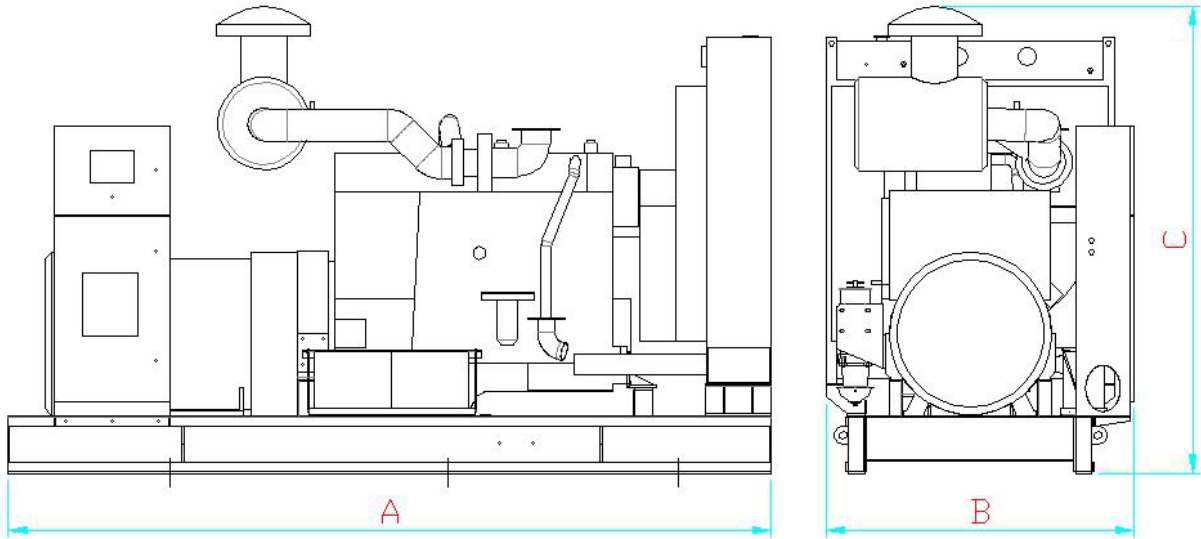
- ◆ Control switch—manual/auto/stop/start
- ◆ Screen menu selection button
- ◆ Setting button
- ◆ Emergency stop button
- ◆ Fault status indicators
- ◆ Digital display



Communication Interface (optional function)

- ◆ Adopt international standard MODBUS communication protocol with error detection as well as RS232/ RS485 (RS485 is opto-isolated type)
- ◆ Realize functions including remote control, telemetry and telesignalling, which are facilitate to monitor gensets.

| | | |
|-------------------------------------|---|-------------------------------|
| Genset | Model | PCN280S3 |
| | Prime Rating (kva) | 313 |
| | Standby Rating (kva) | 350 |
| | Prime current(A) | 451 |
| | Frequency(hz) | 50 |
| Engine | Engine Model | NTA855-G1B |
| | GrossEngine output-Prime (kva) | 355 |
| | Gross Engine output-Standby (kva) | 401 |
| | Bore * stroke (mm) | 140*152 |
| | Cylinders and build | 6 in-line |
| | Cubic capacity(L) | 14 |
| | Compression Ratio | 14:1 |
| | Intake way | Turbocharged/water-air cooled |
| | Max intake resistance (kPa) | 3.74 |
| | Air intake (m ³ /h) | 1350 |
| | Max exhaust back pressure (kPa) | 10 |
| | Exhaust gas flow (m ³ /h) | 3528 |
| | Exhaust temp (°C) | 485 |
| | Cooling way | Radiator fan |
| | Fan exhaust flow (m ³ /min) | 708 |
| | Coolant capacity (L) | 81.4 |
| | Highest water temperature(°C) | 96 |
| | Minimum air opening to room (m ²) | 2.2/1.5 |
| | Thermostat range (°C) | 82-94 |
| | Max oil temperature (°C) | 121 |
| Lubrication system oil capacity (L) | 36.7 | |
| Fuel consumption(L/H) | 71.4 | |
| Standard Governor/Class | Electronic governor | |
| Alternator | Prime voltage(V) | 220 |
| | Prime power factor | 0.8 |
| | Exciter | Brush less, Self-exciter |
| | Max voltage regulation | ±1% |
| | phase | 3 phase |
| | Protection class | IP21 |
| | Insulation class | H |
| Battery | Rated capacity (AH) | 2X200AH 12V (Optional) |



| Model | Gross weight (kg) | Net weight (kg) | Dimension A (mm) | Dimension B (mm) | Dimension C (mm) |
|----------|-------------------|-----------------|------------------|------------------|------------------|
| PCN280S3 | 2682 | 2478 | 3200 | 1238 | 1760 |

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