

POWERTEC Generator Set

Powered by Perkins 2806C-E18TAG1A Engine

Model: PPE650 Prime Power: 473KW/595KVA Standby Power: 520KW/650KVA

Genset Fundamental Characteristics

- ◆ 230/400VAC, 50HZ 0.8PF 3 Phases, 4 wires output
- ◆ 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 $\leq +10\%$ $\leq -15\%$
- ◆ The transient voltage deviation $\leq +20\%$ $\leq -15\%$
- ◆ Frequency recovery time $\leq 3S$
- ◆ Voltage recovery time $\leq 1S$ (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
- ◆ Inbuilt shock absorber has high performance on shock absorption.
It's easy to be transported and installed without embedding and
Fixing rubber shock pad between the genset and ground

Genset Standard Configuration

- ◆ Perkins Engine
- ◆ Brushless synchronous alternator
- ◆ POWERTEC intelligent controller
- ◆ 40°C standard ambient temperature
Water radiator
- ◆ Modularized case circuit breaker (3P)
- ◆ Float Battery Charger
- ◆ Battery connect wire
- ◆ Steel base frame(include shock absorbers)
- ◆ Bellows、exhaust bend
- ◆ Manual book and files

Genset Optional Configuration

- ◆ 24V Starter Batteries
- ◆ Daily Fuel Tank
- ◆ Oil-water separator
- ◆ Warning function of low water level, low fuel oil
- ◆ Automatically monitoring & controlling system of city power
- ◆ Coolant heater
- ◆ Oil heater
- ◆ Heat exchanger--Water cooling Tower System
- ◆ Soundproof Canopy/ Trailer
- ◆ ISO container
- ◆ Design and construction of environmental protection
Engineering for the Genset room

Performance Description of Diesel Engine

- ◆ Model: **Perkins 2806C-E18TAG1A**
- ◆ Construction: Excellent power-to-weight ratio and compact assembly size leads the power density to an optimal level, simplify the engine installation and decrease transportation cost. Designment of the engine has been taken full account of maintenance, greatly simplifies maintenance procedures
- ◆ Intake: Turbocharged
- ◆ Fuel system: Mechanical starting and electronic control unit fuel injector equipped with full-range electronic controller; the speed Governor is isochronous and speed is adjustable to meet ISO8528-5 Standard
- ◆ Lubrication system: Wet oil tank with oil injector and dip stick; Built in oil cooler and filter pipe jacking
- ◆ Cooling system: Gear-driven circulating pump; embedded belt-driven pusher fan; radiator with air-to-air pressurized cooler (independent supply)
- ◆ Filtration system: Embedded Air Filter; EcoPlus Fuel Filter with replaceable elements and primary Oil/Water separator; replaceable full flow EcoPlus oil filter
- ◆ Electrical equipment: 24V starter and 24V, 70A alternator (DC output); electronic control module (installed on the engine and equipped with wire insulation sleeve and inductor)
- ◆ Lower operating cost: The standard replacement oil interval is set to 500 hours
- ◆ 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



Performance Description Alternator

- ◆ Optional Alternator: **Stamford / Marathon/ Faraday/Engga/Mecc Alt**
- ◆ Brushless, 4 pole rotating magnetic field, single bearing with protective cover
- ◆ Insulation: H Class.
- ◆ Standard IP23 grade
- ◆ Cooling system
- ◆ AC exciter, rotate rectifying unit
- ◆ Surface of stator winding is covered with damp-proof epoxy Insulation varnish after impregnation proceeding
- ◆ Rotor and exciter is proceeded with high temperature insulating resin, Will be more applicable for harsh environment.
- ◆ Rotor dynamic balancing comply to standard BS5625, class 2.5
- ◆ Sealed with advanced lubricating grease prolongs life of bearing.



Notes: Above data of alternator comes from Stamford. Proper specification is subject to the practice alternator if customers choose other alternator

Standard Detection Function

- ◆ 3 phases voltage U_a, U_b, U_c
- ◆ Frequency F_1
- ◆ Apparent power PR
- ◆ Coolant temperature WT
- ◆ Oil pressure OP
- ◆ Speed RPM
- ◆ HC timer 99999 hours records
- ◆ Maximum cumulative times of starting can reach 999999
- ◆ 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



Standard Protection Function

Genset Protection

- ◆ Programmable alarm and status input
- ◆ Emergency stop

Engine Protection

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

Alternator Protection

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

Control System Components

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



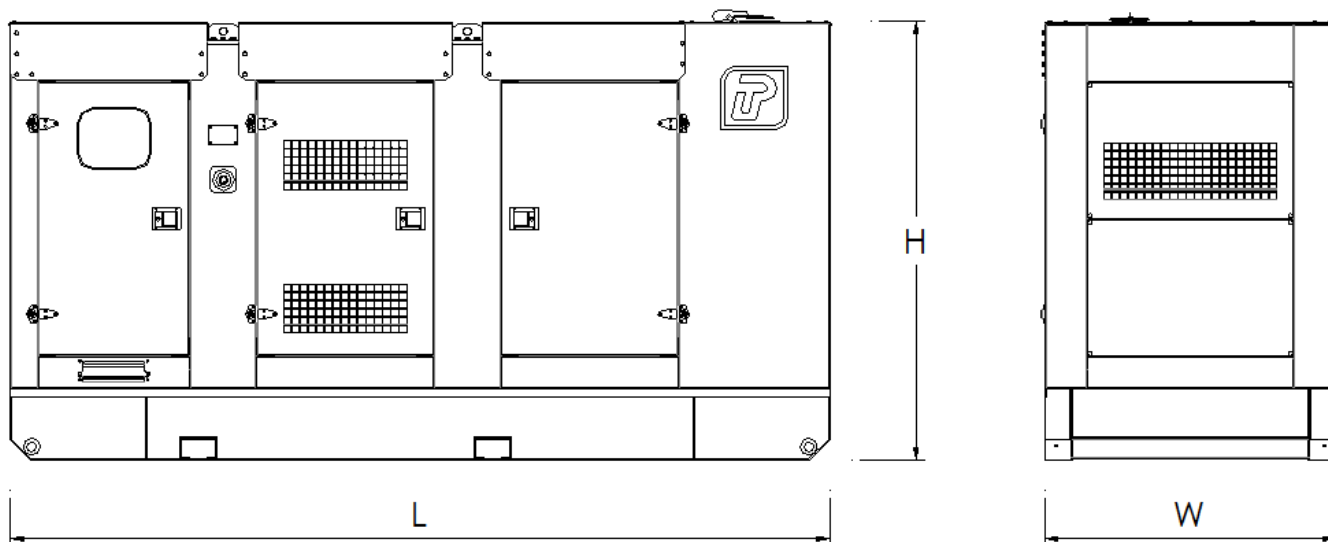
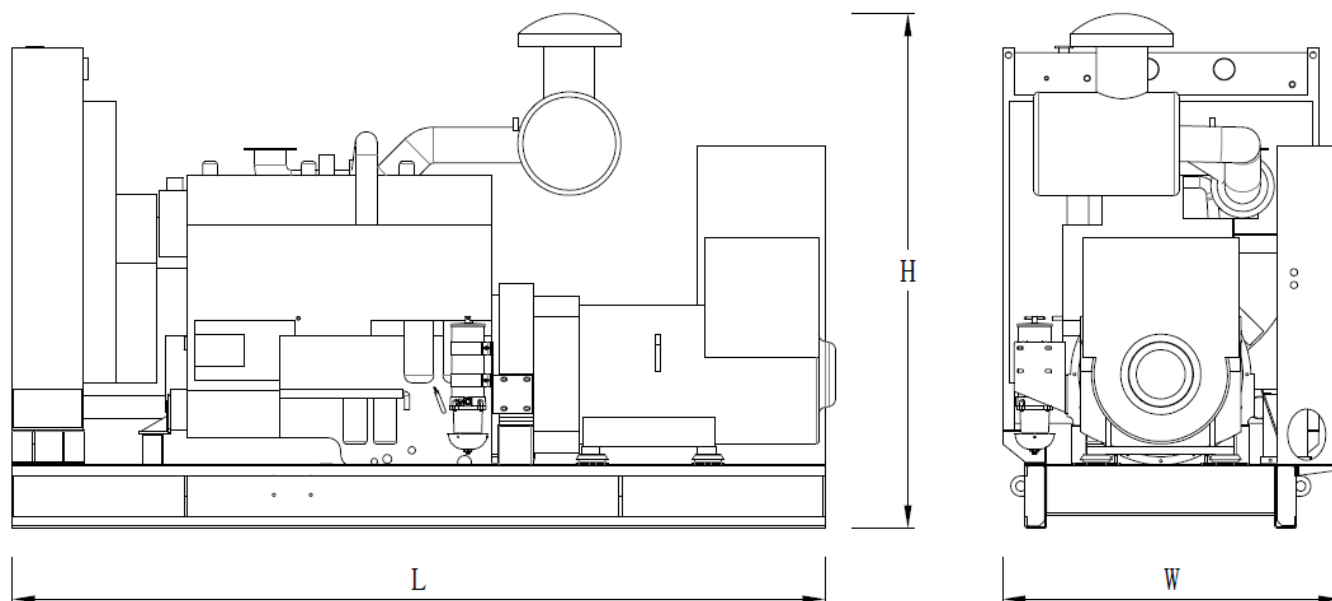
Communication Interface

(optional function)

- ◆ International standard MODBUS communication protocol with error detection as well as RS232/ RS485 (RS485 is opto-isolated type) has functions of remote control, telemetry and telesignalling, which are facilitate to monitor genset.

Notes: Above data of controller comes from POWERTEC GC6110. Proper specification is subject to customers' practice controller if other controller is selected.

Genset	Model	PPE650
	Prime Rating (kw)	473
	Standby Rating (kw)	520
	Prime current(A)	853
Frequency(hz)	50	
Engine & Alternator	Engine Model	2806C-E18TAG1A
	Gross Engine output-Prime (kw)	522
	Gross Engine output-Standby (kw)	574
	Bore * stroke (mm)	145*183
	Cylinders and structure	6 In line
	Displacement(Liter)	18.13
	Compression Ratio	14.5:1
	Intake way	Turbocharged/ Air-Air intercooler
	Max intake resistance (KPa)	6.4
	Air intake (m3/h)	2160
	Max exhaust back pressure (KPa)	6.9
	Exhaust gas flow (m3/h)	5760
	Exhaust temp (°C)	568
	Cooling way	Water Radiator & Fan
	Fan exhaust flow (m3/min)	702
	Coolant capacity (L)	61
	Highest water temperature(°C)	104
	Minimum air opening to room (m2)	3.15/2.6
	Thermostat range (°C)	88-98
	Max oil temperature (°C)	113
	Lubrication system oil capacity (L)	62
	Fuel consumption(L/H)	129
	Standard Governor/Class	Electronic injection
	Optional Alternator Model	Marathon--- MP-500-4 Engga----- EG355-500N Stamford---- HCI 544E Faraday----- FD5LS1-4
	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 and Model	POWERTEC GC6110



Type	Dimension mm (L*W*H)	Weight KG	Fuel Tank Capacity L
Open Type	4000*1700*2186	4767	-
Silent Type	4700*1700*2450	6717	1000

Notes: Above data are for reference only. Specific size is subjected to actual measurement.

Contact Way

Powertec Generator System Co., Ltd

Add: Danshui Yanna Industry Zone, Huiyang, Huizhou, Guangdong, China

Tel: 0752-3911119 / 0752-3911118

FAX: 0752-3911110

Web: www.powertec.com.cn Email: sales@powertecgs.com