



Genset Model: P1320PU

POWER BY PERKINS

110V-440V 3P4W

Standard Features and Characteristics

● QUALITY STANDARDS

- The POWERWORLD generator set compliance with all main standards, such as ISO8528 (GB/T2820-97), GB755 , BS5000, VDE0530, ISO3046, IEC34-1, CSA22-2, AS1359, ISO14001.
- Diesel engine and alternator from the exclusive manufacturer in china and their quality assurance.
- Other standards and certifications can be considered on request.

● ASSEMBLY

- The engine and alternator are close coupled by means of an SAE flange . A full torsional analysis has been carried out to guarantee no harmful vibration will occur.
- Anti-vibration pads are affixed between engine alternator feet and the base frame. Thus ensuring complete vibration isolation of the rotating assemblies and enabling the machine to be placed on an uneven surface without any detrimental effects.
- For durability and corrosion resistance, all iron and steel surfaces of canopy fabrications have been treated for coating by grit blast cleaning. Then covered by special three layers painting which provides an excellent corrosion resistant surface.

● CONTROL SYSTEM AND PROTECTION

- Controllers are available for all applications. The controller system is used to start and stop the engine , indicate electric date and protect the generator set. See controller features inside.
- The revolving parts are covered by safety net , and the place which easy to scald and got an electric shock all to have been put on obvious warning slogan

● WARRANTY

- Each POWERWORLD generating set has been got through 2 hours load test for running 0%,25%,50%,75%,100% and 110% load, all protective devices and control function are simulated and checked before despatch.
- POWERWORLD Company provides one-source responsibility for the generator set and accessories.
- Engine and Alternator are guaranteed for a period of 12 months from the date of commissioning or 18 months from shipping, whichever occurs first.
- Convenience for operation and maintenance, backed by CUMMINS and STAMFORD global service

RATINGS: All three-phase units are rated at 0.8 power factor. **Standby ratings :** Standby ratings apply to installations served by a reliable utility source. The standby rating is for this rating. Ratings are in according with ISO-3046/1, BS 5514 ,AS 2789 , and DIN 6271.

Prime Power Ratings: Prime power ratings apply to installations where utility power is unavailable or unreliable. At varying load, the number of generator set operating hours is unlimited. A 10% overload capacity is available for one hour in twelve. Ratings are in accordance with ISO-8528/1, overload capacity in accordance with ISO-3046/1, BS 5514, AS 2789, and DIN 6271. For limited running time and base load ratings, consult the factory. The generator set manufacturer reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever.

GENERAL GUIDELINES FOR DERATION: Altitude: Derate 2.0% per 300m(984 ft.) elevation above 1000m(3279 ft.) up to a maximum elevation of 2450m(8000 ft.). More than 2450m(8000ft), please contacts with us or our dealer seek the help. **Temperature:** Derate 6.0% per 11 (20) temperature above 40 (104).

Rating Range

		RPM1500	50Hz
Standby:	kW		1320
	kVA		1650
Prime:	kW		1200
	kVA		1500



GENERATOR SET RATINGS

Alternator Model	STAMFORD	LEROY SOMER
Frequency and Speed	50Hz 1500rpm	50Hz 1500rpm

Prime Power Data

Class-TEMP Rise(°C)	Cont.H -125K/40°C				Cont.H -125K/40°C		
	380	400	415	440	380	400	415
Voltage series star	190	200	208	220	190	200	208
Voltage parallel star	220	230	240	254	220	230	240
Rating capacity(kVA)	1505	1550	1550	1520	1425	1425	1425
Rating power(kW)	1204	1240	1240	1216	1140	1140	1140
Power efficiency(%)	95.2	95.4	95.5	95.7	95.1	95.1	95.1
Input power(kW)	1265	1300	1298	1271	1199	1199	1199

Standby Power Data

Class-TEMP Rise(°C)	Standby.H -125K/40°C				Standby.H -150K/40°C		
	380	400	415	440	380	400	415
Voltage series star	190	200	208	220	190	200	208
Voltage parallel star	220	230	240	254	220	230	240
Rating capacity(kVA)	1570	1615	1615	1590	1500	1500	1500
Rating power(kW)	1256	1292	1292	1272	1200	1200	1200
Power efficiency(%)	95.1	95.2	95.4	95.6	94.9	94.9	94.9
Input power(kW)	1321	1357	1354	1331	1265	1265	1265

ALTERNATOR

Specification	1500RPM 50Hz
Type	4-Pole, Rotating Field
Exciter type	Brushless, Self excited
Voltage regulator	Solid State, Volts/Hz
Voltage regulation	≤1.5%
Insulation	Class H
Protection	IP23
Rated power factor	0.8
Stator winding	Double layer concentric
Winding pitch	Two thirds
Winding leads	12
Maximum overspeed	2250 Rev/min
Sustained short circuit	Self excited machines do not sustain a short circuit current
Waveform distortion	No load < 1.5%
Altitude	Non-distorting balanced linear load < 5.0% ≤1000 m

- Alternators meet the requirement of BS EN60034 and the relevant section of other international standards such as BS5000, VDE 0530, NEMA MG1-32, IEC34, CSAC22.2-100, As1359, and other standards and certifications can be considered on request.
- The 2/3 pitch design avoids excessive neutral currents. With the 2/3 pitch and carefully selected pole and tooth designs, ensures very low waveform distortion.
- Brushless alternator with brushless pilot exciter for excellent load response.
- The insulation system is class H, easy paralleling with mains or other generators, standard 2/3 pitch stator windings avoid excessive neutral currents.
- Backed by worldwide service network

DIESEL ENGINE

- 4012-46TAG2A diesel engines are manufactured by Perkins Engines Company Limited(UK).
- It is a compact 4-cylinder naturally aspirated diesel engine. It is premium features provide economic and durable operation for standby duty, low gaseous emissions, overall performance and reliability. Its rating speed is 1500rpm.

Application Data

Engine Specifications	1500RPM 50Hz
Manufacturer	PERKINS(UK)
Number of cylinders	12
Cylinder arrangement	60° Vee
Cycle	4 stroke, compression ignition
Induction system	Turbocharged and air to air charge cooled
Compression ratio	13.6:1
Bore	160 mm
Stroke	190mm
Cubic capacity	45.842litres
Direction of rotation	Anti-clockwise viewed on flywheel
Max. Power at rated rpm	1437KW
Estimated total weight(dry)	6026kg
Frequency regulation steady state	±0.25%
Frequency	Fixed
Mean piston speed	9.5 m/s
Combustion air flow	120 m ³ /min

Exhaust

Exhaust System	1500RPM 50Hz
Maximum back pressure	10kPa
Exhaust outlet size	2×254mm
Exhaust gas flow (max)	274 m ³ /min
Exhaust gas temperature (max)	466°C(871°F)

Lubrication

Lubrication system	1500RPM 50Hz
Total system	177.6litres
Sump minimum	136litres
Shutdown switch - pressure setting (where fitted)	193kPa
Normal oil temperature	95°C (203°F)

Engine Electrical

Engine Electrical System	1500RPM 50Hz
Battery charging alternator:	
Ground(negative/positive)	Negative
Volts(DC)	24V
Ampere rating	40A
Starter motor rated voltage(DC)	24V
Starter motor rated Capability	16.4KW
Minimum cranking speed	120 rev/min
Battery voltage	12V

Fuel

Fuel System	1500RPM 50Hz
Type of injection System	Direct injection
Fuel injector	Combined unit injector
Fuel injector open pressure	234bar

Fuel lift pump	1500RPM 50Hz
Delivery	1020litres/hr
Fuel delivery pump delivery pressure	600kPa
Fuel inlet temperature to be less than	58°C
Governor type	Electronic governor

Fuel consumption	1500RPM 50Hz
Standby power	341litre/hr
Prime Power + 10%	TBAlitre/hr
Prime Power	305litre/hr
Baseload Power + 10%	TBAlitre/hr
Baseload Power	239litre/hr
At 75% of Prime Power	227litre/hr
At 50% of Prime Power	152litre/hr

Application Data

Cooling System

Cooling System	1500RPM 50HZ
Total system capacity	
Engine Only	30 litres
Radiator	71 litres
Fan gas flow	29950m ³ /hr
Thermostat operation range	82 - 95
Maximum water temperature	100 (212)
Minimum Pressure of radiator cap	69kPa
Max. coolant temp. permitted	
for Standby Power	104 (220)
for Prime Power	100 (212)

NOTE:

All data is based on:

- Engine operating with fuel system, water pump, lubricating oil pump, air cleaner and exhaust silencer; not included are battery charging alternator, fan, and optional driven components.
- Engine operating with fuel corresponding to grade No. 2-D per ASTM D975.
- ISO 3046, Part 1, Standard Reference Conditions of:
 Barometric Pressure : 100 kPa (29.53 in Hg)
 Air Temperature : 25 (77)
 Altitude : 110 m (361 ft)
 Relative Humidity : 30%
 Air Intake Restriction : 254 mm H₂O (10 in H₂O)
 Exhaust Restriction : 51 mm Hg (2 in Hg)

TBA: To Be Determined

PLC5110 CONTROLLER



Panel introduction:

- Indicator type frequency, voltmeter and ampere meter demonstration unit's electrical parameter.
- The voltage change-over switch and the rheotrope uses for to choose the different phase voltage and current to display.
- The oil pressure gauge, coolant temperature gauge and the battery voltage gauge.
- The controller.
- Preheating button.

Protection:

- Over Speed Shutdown.
- Low Oil Pressure Shutdown.
- High Engine Temp Shutdown.
- Charger failure alarm.
- Mains failure alarm.
- Optional Under speed Protection.

DC Supply: 8 to 35 V Continuous.

CONTROLLERS

GTR-168 MANUAL CONTROLLER



The Model GTR-168 is a Manual Engine Control Module designed to control the engine via a key switch and pushbuttons on the front panel. The module is used to start and stop the engine and indicate fault conditions, automatically shutting down the engine and indicating the engine failure by LED, giving true, first up fault annunciation.

Panel introduction:

- Indicator type frequency, voltmeter and ampere meter demonstration unit's electrical parameter.
- The voltage change-over switch and the rheotrope uses for to choose the different phase voltage and current to display.
- The big red button uses for the operator to stop the genset peremptorily
- The oil pressure gauge, coolant temperature gauge and the battery voltage gauge.
- The controller. And an integral anti-tamper LCD hours run counter is also provided.
- If the customer needs to use the preheating function, we will be able to increase the preheating button.

Protection:

- Low Oil Pressure
- High Engine Temperature
- Auxiliary Shutdown
- Over speed

DC Supply: 8 to 35 V Continuous.

PLC5220 INTELIGENT CONTROL SYSTEM



The AMF25 is an Automatic Mains Failure module with generator monitoring, protection and start facilities. The controller has a large LCD screen, display the generator's each parameter, running and alarm information. The off/replacement button, mode switch button, start/stop button and the LED indicator light, makes the user easy to operate and maintain the generator.

Panel introduction:

- Indicator or digital type frequency, voltmeter and ampere meter demonstration unit's electrical parameter.
- The big red button uses for the operator to stop the genset peremptorily
- The controller.

Function:

- Communication: RS232 connection, uses the industry rank MODBUS protocol can easily communicate with others intelligence control system.
- Display function: LCD screen can display the generator's parameter and the control system's running information.
- Set up parameter: Engineer can set up the controller parameter from the control panel or through the PC, 6 programmable fan-out may satisfy the user each kind of demand.
- Protection: The control system can protect the generator set, manage each kind of electrical failure.
- Control Function of ATS.

DC Supply: 8 to 35 V Continuous.

Standard Features and Accessories

Paralleling System

- Reactive Droop Compensator
- Voltage Adjust Control
- Voltage Regulator Relocation Kit

Controller System

- Common Failure Relay Kit
- Customer Connection Kit(Except Open Style)
- Communications Products and PC Software
- Engine Pre-alarm Sender Kit
- Remote Annunciator Panel
- Remote Audiovisual Alarm Panel
- Remote Emergency Stop Kit
- PCRC series control system, with RS232 or RS485 communication connection and communication agreement.

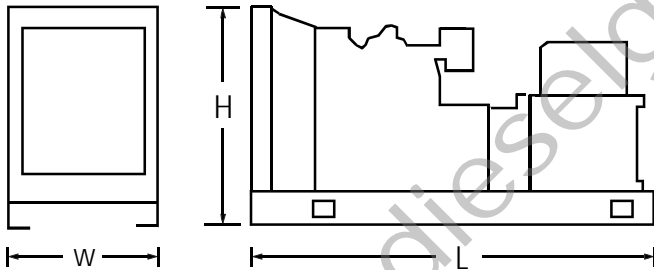
Miscellaneous Accessories

- _____
- _____
- _____
- _____
- _____

Dimensions and Weights

Open Style

Overall Size, L*W*H(mm)	5000*2300*2870
Weight(radiator model),net,Kg	12000Kg



Soundproof Style

Overall Size, L*W*H(mm)	N/A
Weight(radiator model),net,Kg	N/A



NOTE: This drawing is provided for reference only and should not be used for planning installation. Contact your local distributor for more detailed information.

DISTRIBUTED BY:

Standard Features

- Battery, Battery Rack and Battery Cables
- Integral Vibration Isolation
- Oil Drain Extension
- Air cleaner ,Heavy Duty
- 3 Pole Circuit Breaker
- Heavy duty industrial type exhaust silencer with flexible pipe(supplied loose).

Maintenance and Literature

- General Maintenance Literature Kit
- Test Certificate and design paper
- Quality certificate and Maintenance card

Accessories

Enclosed Unit

- Sound Enclosure
- Weather Enclosure (with enclosed critical silencer)
- Weather Housing (with roof-mounted critical silencer)
- Trailer(Causes the genset easily to move)

Open Unit

- Exhaust Silencer, Critical kit
- Flexible Exhaust Connector, Stainless Steel

Cooling System

- Block Heater (recommended for ambient temperatures below 0)
- Radiator Duct Flange
- Remote Radiator Cooling

Fuel System

- Auxiliary Fuel Pump
- Flexible Fuel Lines
- Mechanical dipstick or fuel level sensor
- Subbase Fuel Tank with Day Tank
- Fuel fill cap with breather
- 10 hours running tank
- Automatic fuel--providing device
- Hand primer pump

Electrical System

- Battery Charger, Equalize/Float Type

Engine and Alternator

- 3 or 4 Pole Circuit Breaker with Shunt Trip
- Fuel/Water Separator
- Oil Preheater
- Air Preheater
- Alternator Strip Heater

Maintenance and Literature

- Maintenance Kit (includes air, oil, and fuel filters)
- Overhaul Literature Kit