



## Generator Technical Data Sheet for

### Model: PHG220PeOS



### GENERATORS AND UPS



- Intelligent Auto-Start Controller with Generator
- Monitoring and Protection Systems Suitable for Remote Starting or Connection with shentonggroup AMF Panel
- Battery Trickle Charger
- Thermostatically controlled Engine Heater
- Long Range Bunded Base Fuel Tank
- Ability to be Customised to Specific Requirements
- Output Circuit Breaker

### GENERAL

Shenton Group Generators range from 10 to 2500kVA, and are built to a world-class standard. These remarkably competitive standby generators provide the most cost-effective solution for 'standard package' requirements.

A first-class range of diesel-powered generators for prime and standby power application which feature reliable components from leading manufacturers, these are premium products upon which your company can build its reputation.

### Model PHG220PeOS

Standby Power	kVA	220
	kW	176
Prime Power	kVA	200
	kW	160
Rated Speed	r.p.m	1500
Voltage	V	400/230
Rated Power Factor	Cos Phi	0,8
Data Sheet Number	PHG220PeOS NS Rev 5	

**Prime:** This rating is for the supply of continuous electrical power (at variable load) in lieu of commercially purchased power. There is no limitation on the annual hours of operation and 10% overload power can be supplied for one hour in twelve hours.

**Standby:** This rating is for the supply of continuous electrical power (at variable load) in the event of a utility power failure. No overload is permitted.

**Note:** Standard reference conditions: 25deg C (77deg F) air inlet temperature, 152.4m (500feet) above sea level, 60% relative humidity. All engine performance data based on the above mentioned maximum continuous ratings. Fuel consumption data at full load for diesel fuel with specific gravity of 0.85 and conforming to BS2869: 1998, class A2.

In line with our policy of continuous development, we reserve the right to change specification without notice.



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### ENGINE

Rated Output	kWm	196.3
Manufacturer		Perkins
Model		1106A-70TAG4
Engine Type		Diesel 4 Strokes-Cycle
Aspiration Type		Turbo charged & intercooled
Cylinders Arrangement		6 in line
Bore & Stroke	mm	105 x 135
Displacement	L	7.01
Cooling System		Water
Compression Ratio		16.0:1
Fuel Consumption 100% PRP	l/h	45.6
Fuel Consumption 75% PRP	l/h	34.7
Fuel Consumption 50% PRP	l/h	23.1
Total Oil Capacity	L	16.5
Total Coolant Capacity	L	21
Governor	Type	Electronic
Air Filter	Type	Dry Paper Cartridge
Battery Capacity	Ah	176
Battery Voltage	V	12

Perkins engines have a proven reputation within the generator industry, providing high levels of reliability and low cost of ownership. Perkins actively pursues product support excellence providing a consistent quality of support across the globe. shentongroup have used Perkins engines as our first choice product, for many years and found them to be solid, reliable and readily accepted products.



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### ALTERNATOR

Manufacturer		Mecc Alte
Model		ECP 38-2S/4c
Poles		4
Frequency	Hz	50
Insulation Class		H
Efficiency at 75% load class H 400v	%	92.9
Reactance Xd'' Unsaturated	%	6.1
Reactance Xd' Unsaturated	%	11.4
Reactance Xo Unsaturated	%	2.59
Short Circuit Current Capacity	%	>300
Heat Dissipation 400v	W	12600
Radio Interference		EN50081-1, EN50082-1, VDE0875K
Waveform Distortion (THD) at Full Load	%	3.0
Enclosure (according IEC-34-5)		IP 21
Weight of Complete Generator	Kg	550
Cooling Air Requirement	m3/min	32
Alternator Rating Overload	%	10% for 1 in 6 hours
Overload per 20 sec	%	300
Exciter System		Auxilliary Winding
Voltage Regulator		DSR
Voltage regulation Performance +/-	%	1
Coupling		Flexible Disk

Mecc Alte has sixty years of experience in the electromechanical field, and is today at its height in the world production of synchronous alternators. Committed daily to research, development and updating activities, Mecc Alte is a testimony to constant improvement in all areas such as technology, organisation and quality. The company has ISO 9001 certification, awarded in 1996 and ISO 14001 since 2010. With 54.000 square meters of factory area, almost 850 employees and a turnover of approximately 130 million euro, Mecc Alte is a well-established company ready to challenge the markets in every product sector.



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### APPLICATION DATA

#### Exhaust System

Maximum Exhaust Temperature	°C	550
Exhaust Gas Flow	M3/min	36.8
Maximum Allowed Back Pressure	kPa	6

#### Air Flows

Intake Air Flow	m3/h	756
Cooling Air Flow	m3/s	4.2
Available Air Restriction	KPa	0.125

#### Fuel System

Fuel Oil Spec		DIESEL
Fuel Tank Capacity	L	350
Autonomy @ 75% load	Hrs	10

#### Dimensions/Weight

Length	mm	2850
Width	mm	1000
Height	mm	1650
Weight excluding fuel	Kg	1900
Sound Pressure Level @ 7 mtrs	dB(A)	-

#### Electrical

Output Circuit Breaker	Type	MCCB
	Model	ABB T5N PR221DS-LS/I 400A
Max Load Current at 400V .8 p.f.	Amps	317



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## SG7410MKii GENERATOR CONTROLLER

The SG7410MKii is an Auto Start Control Module. Monitoring an extensive number of engine parameters, the modules will display warnings, shutdown and engine status information on the backlit LCD screen, illuminated LEDs, remote PC. The modules include USB, RS232 and RS485 ports as well as dedicated DSENet® terminals for system expansion. The module is compatible with electronic (CAN) and non-electronic (magnetic pick up/alternator sensing) engines and offers an extensive number of flexible inputs, outputs and engine protections so the system can be easily adapted to meet the most demanding industry requirements. The full list of features includes enhanced event and performance monitoring, remote communications and dual mutual standby.

### CONTROL PANEL DISPLAY FEATURES

Engine RPM	Generator Output Current
Engine Oil Pressure	Earth current
Coolant temperature	Output kW
Battery Volts	Load level %
Run Hours/ No of starts	Output kVA
Fuel level	Power factor
Generator output Voltage	Load kVAR
Frequency	kWh/kVAh/kVArh

SG7410MKii is a branded Deep Sea Electronics controller, customized to shentonggroup's specific requirements. shentonggroup has a long history of collaboration with Deep Sea Electronics, and endorse their products with confidence. Our experience has proved this is the market-leading controller having a perfect mix of complex capability and user simplicity.



**shentonggroup**

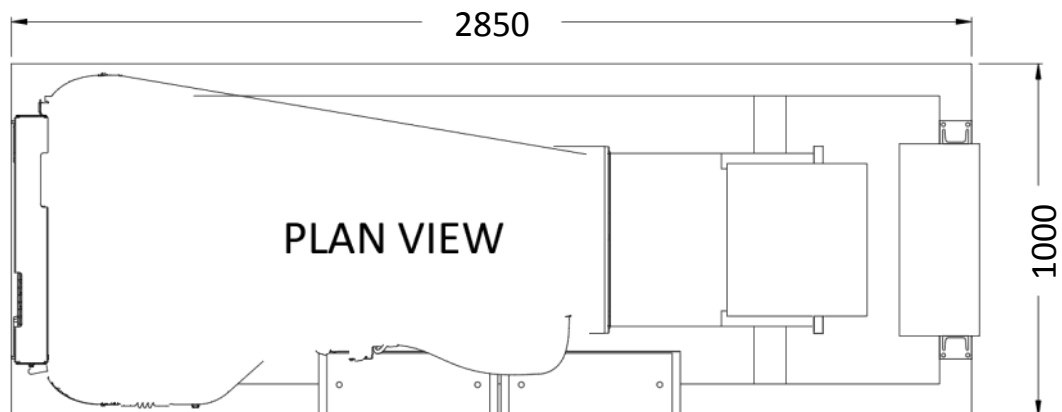
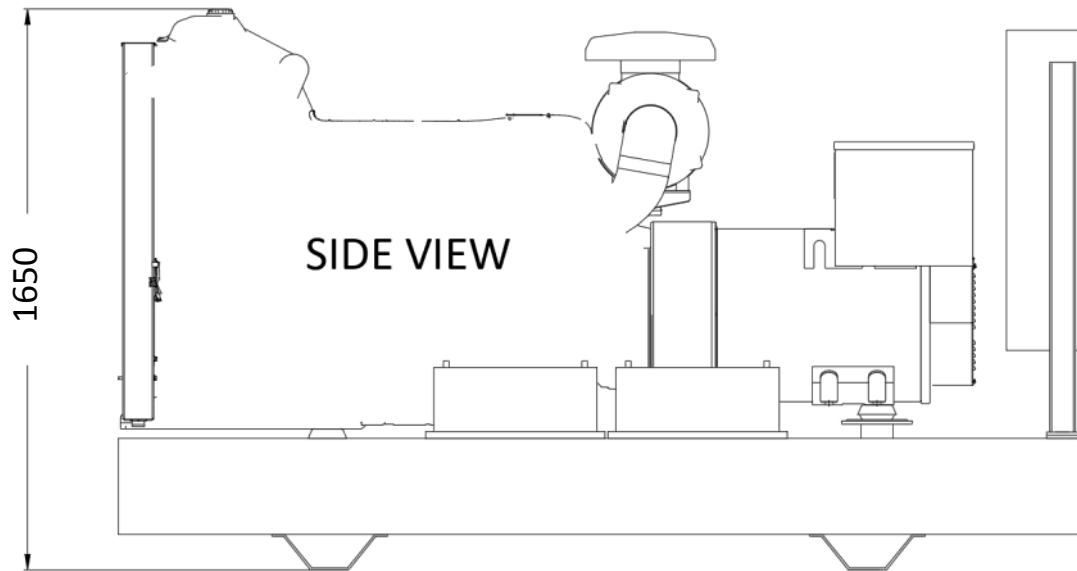
power with responsibility

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**The above illustration is a representation only for preliminary planning. Specific detailed drawings are available on request. In line with our policy of continuous development, we reserve the right to change specifications without notice.**