



## Generator Technical Data Sheet for

### Model: PHG1650PeOS



### 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 PHG1650Pe

Standby Power	kVA	1650
	kW	1320
Prime Power	kVA	1500
	kW	1200
Rated Speed	r.p.m	1500
Voltage	V	400/230
Rated Power Factor	Cos Phi	0,8
Data Sheet Number	PHG1650PeOS NS Rev 6	

**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	1417
Manufacturer		Perkins
Model		4012-46TAG2A
Engine Type		Diesel 4 Strokes-Cycle
Aspiration Type		Turbo charged & intercooled
Cylinders Arrangement		V12
Bore & Stroke	mm	160 x 190
Displacement	L	45.842
Cooling System		Water
Compression Ratio		13.0:1
Fuel Consumption 100% PRP	l/h	301
Fuel Consumption 75% PRP	l/h	237
Fuel Consumption 50% PRP	l/h	162
Total Oil Capacity	L	177
Total Coolant Capacity	L	207
Governor	Type	Electronic
Air Filter	Type	Dry Paper Cartridge
Battery Capacity	Ah	2 x 178
Battery Voltage	V	24

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. shentonggroup 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		ECO 46-1S/4
Poles		4
Frequency	Hz	50
Insulation Class		H
Efficiency at 75% load class H 400v	%	96.4
Reactance Xd'' Unsaturated	%	12.9
Reactance Xd' Unsaturated	%	25.5
Reactance Xo Unsaturated	%	4.1
Short Circuit Current Capacity	%	>300
Heat Dissipation 400v	W	47401
Radio Interference		EN50081-1, EN50082-1, VDE0875K
Waveform Distortion (THD) at Full Load	%	3
Enclosure (according IEC-34-5)		IP 21
Weight of Complete Generator	Kg	3010
Cooling Air Requirement	m3/min	135
Overload	%	1 in 6 hours
Overload per 20 sec	%	300
Exciter System		Auxilliary Winding
Voltage Regulator		DER1
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	455
Exhaust Gas Flow	M3/min	309
Maximum Allowed Back Pressure	kPa	3

### Air Flows

Intake Air Flow	m3/h	7200
Cooling Air Flow	m3/s	20.2
Available Air Restriction	kPa	0.25

### Fuel System

Fuel Oil Spec		DIESEL
Fuel Tank Capacity	L	2650
Autonomy @ 75% load	Hrs	11

### Dimensions/Weight

Length	mm	5200
Width	mm	2200
Height	mm	2500
Weight excluding fuel	Kg	12000
Sound Pressure Level @ 7 mtrs	dB(A)	N/A

### Electrical

Output Circuit Breaker	Type	ACB
	Model	ABB E2.2N EKIP-DIP-LI 2500A
Max Load Current at 400V .8 p.f.	Amps	2381



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## SG7410DS GENERATOR CONTROLLER

The SG7410DS 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 back-lit 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

SG7410DS 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**

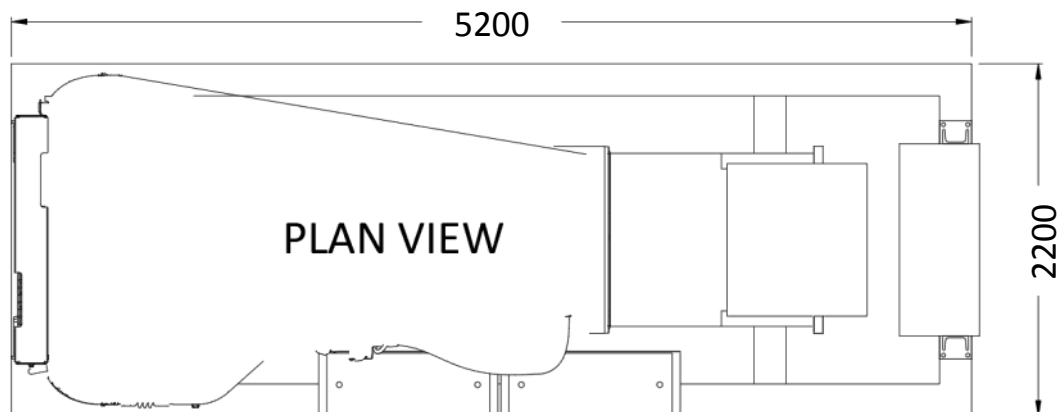
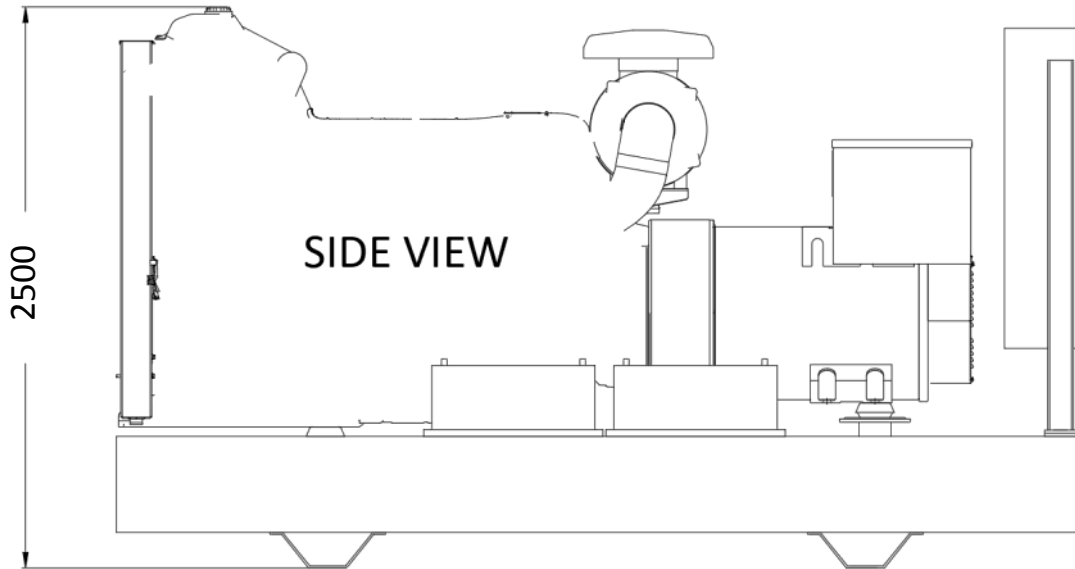
power with responsibility

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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.**