



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 2 | |

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. Max rating, is available for one in twelve hours

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 38-1SN/4 |
| Poles | | 4 |
| Frequency | Hz | 50 |
| Insulation Class | | H |
| Efficiency at 75% load class H 400v | % | 92.4 |
| Reactance Xd'' | % | 5.5 |
| Short Circuit Current Capacity | % | >300 |
| Heat Dissipation 400v | W | 11844 |
| Radio Interference | | EN50081-1, EN50082-1, VDE0875K |
| Waveform Distortion (THD) at Full Load | % | 2.8 |
| Enclosure (according IEC-34-5) | | IP 21 |
| Weight of Complete Generator | Kg | 510 |
| Cooling Air Requirement | m3/min | 32 |
| Overload | % | 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 |
| Max Load Current at 400V .8 p.f. | Amps | 317 |



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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.