

GENERATOR



**GENERATING SETS**



Service		Standby	Prime
Power	kVA	20	18
Power	kW	16	14,4
Rated Speed	r.p.m		1500
Standart Voltage	V		400/230
Rated At Power Factor	Cos Phi		0,8

POWERSAN Company with quality certification ISO 9001

POWERSAN gensets are compliant with EC mark which includes the following directives:

- 2006/42/EC Machinery safety.
- 2014/30/EU Electromagnetic compatibility.
- 2014/35/EU Electrical equipment designed for use within certain voltage limits
- 2000/14/EC Sound Power level. Noise emissions outdoor equipment. (amended by 2005/88/EC)
- 97/68/EC Emissions of gaseous and particulate pollutants. (amended by 2002/88/EC & 2004/26/EC)
- EN 12100, EN 13857, EN 60204

Ambient conditions of reference according to ISO 8528-1:2005 normative: 1000 mbar, 25°C, 30% relative humidity. G2 class load acceptance in accordance with ISO 8528-5:2013



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GENERATOR

**SPECIFICATIONS**



**Engine**



**Alternator**

Engine	Specifications
Standby Power/Prime Power	<i>kWm</i> 20 / 18
Manufacturer	Baudouin
Model	4M06G20/5
Engine Type	4 Stroke - Diesel
Injection Type	Direct Injection
Aspiration Type	Naturally Aspirated
Number of cylinder	4
Bore and Stroke	<i>mm</i> 89x92
Displacement	<i>L</i> 2,3
Cooling System	Water Cooling
Fuel Consumption 50% PRP	<i>l/h</i> 2,6
Fuel Consumption 75% PRP	<i>l/h</i> 3,6
Fuel Consumption 100 % PRP	<i>l/h</i> 4,7
Fuel Consumption Standby	<i>l/h</i> 5,2
Oil fuel consumption ratio	<i>%fuel</i> ≤ 0.4 %
Total oil capacity including tubes, filters	<i>L</i> 11,5
Total coolant capacity	<i>L</i> 16
Governor	<i>Type</i> Electronic
Electric system voltage(V)	<i>V</i> 12

Alternator	Specifications
Manufacturer	Powersan
Model	184S
Output Voltage	<i>V</i> 230/400
Frequency	<i>HZ</i> 50
Automatic Voltage Regulation	<i>±%</i> 1
Alternator Standby Power	<i>kVA</i> 20,3
Alternator Continuous Power	<i>kVA</i> 18,8
Power Factor	<i>Cosφ</i> 0,8
Number of Wires	12
Winding	2/3
Protection Class	IP23 / H
Excitation System	Self Excited
AVR Model	SX460
Performance - PF 0,8 / %75 Load	<i>%</i> 86

**Prime Power (PRP):**

According to ISO 8528-1:2005, Prime power is the maximum power which a generating set is capable of delivering continuously whilst supplying a variable electrical load when operated for an unlimited number of hours per year under the agreed operating conditions with the maintenance intervals and procedures being carried out as prescribed by the manufacturer. The permissible average power output (Ppp) over 24 h of operation shall not exceed 70 % of the PRP.

**Emergency Standby Power (ESP):**

According to ISO 8528-1:2005, Emergency standby power is the maximum power available during a variable electrical power sequence, under the stated operating conditions, for which a generating set is capable of delivering in the event of a utility power outage or under test conditions for up to 200 h of operation per year with the maintenance intervals and procedures being carried out as prescribed by the manufacturers. The permissible average power output over 24 h of operation shall not exceed 70 % of the ESP.

**Note:** All data based on operation to ISO 3046/1, BS 5514 and DIN 6271 standard reference conditions



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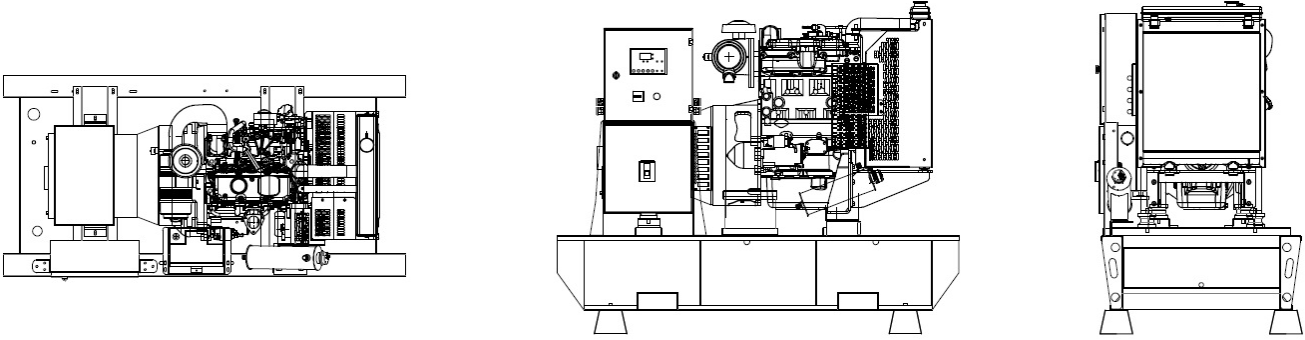
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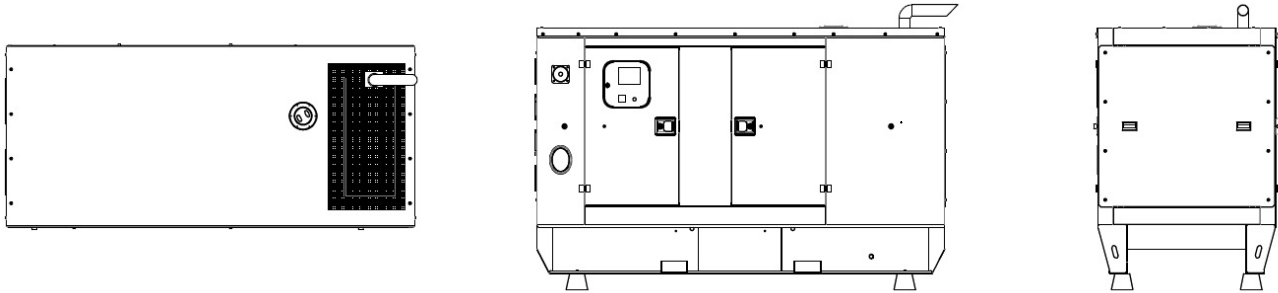
GENERATOR

**DIMENSIONS**



**OPEN SET**

LxWxH	mm	
Weight	kg	
Fuel Tank	lt	



**CANOPIED**

LxWxH	mm	2100x860x1100
Weight	kg	732
Fuel Tank	lt	70

**Sound Proof Canopy**

- Special design for minimizing acoustic level.
- Galvanized steel construction further protected by polyester powder coat paint.
- Black finish stainless steel locks and hinges.
- Control panel viewing window in a lockable access door.
- Emergency stop push button (red) mounted on enclosure exterior.
- Lifting, drag and jacking points on base frame.
- Radiator fill via removable, flush mounted rain cap fitted with compression seal.
- Acoustic insulation with moisture-repellent and non-flammable material



GENERATOR

CONTROL UNIT



Control Unit



**DATAKOM**

ATS unit with uninterrupted transfer	Internet Central Monitoring
AMF unit with uninterrupted transfer	SMS / E-mail message sending
Remote / Manuel start controller	Flexible with plug-in modules
Engine controller	Free PC software: Rainbow Plus
GSM-GPRS-GPS-Ethernet Port	Modbus RTU
8 configurable digital inputs	

**ATS PANEL**

POWERSAN automatic transfer switches are reliable, rugged, versatile, and compact assemblies for transferring essential loads and electrical distribution systems from one power source to another. POWERSAN 's contactor, changeover and MCCB based transfer switch is rated 40-3600A and can be supplied in separate enclosures for standalone applications or can be supplied as an integral component contactors, changeovers and MCCB's, inside the ATS panels are well known and internationally recognized brands such as ABB, SIEMENS, SCHNEIDER, GE, LS, HYUNDAI and ANDELI.



**OPTIONAL EQUIPMENTS**

**Some Optional Equipments that POWERSAN provides with Generator Sets;**

- Medium voltage alternator,
- Remote radiator applications,
- Automatic fuel filling system,
- Fuel tank, oil pan, dashboard, alternator, coil heaters,
- Alternator with double AVR and PMG,
- Synchronization systems, The generator output breaker,
- Grid-generator transfer switches,
- Accordance with the specific volume of demand-insulated cabins,
- Seismic solutions,
- Trailer,
- Remote monitoring.
- SMPS 12/24V 10A

**Control Panel**

- DeepSea 7320
- Datakom D700/D300/D309/D200
- ComAp AMF9 / AMF25
- Emko