

# Model: P1880D6

Powered by PERKINS



## Generator Specification

Service	PRP <sup>(1)</sup>	ESP <sup>(2)</sup>
Power (kVA)	1700	1880
Power (kW)	1360	1504
Rated speed (r.p.m)	1800	
Standard voltage (V)	440/254V	
Rated at power factor(cos phi)	0.8	



AGG Power gensets are compliant with ISO 9001 and CE standard, which include the following directives:

- 2006/42/EC Machinery safety.
- 2006/95/EC Low voltage
- EN 60204-1: 2006+A1: 2009, EN ISO 12100: 2010, EN ISO 13849-1: 2008, EN 12601 : 2010

### (1) PRP (Prime Power):

According to ISO8528-1, prime power is the maximum power available during a variable power sequence, which may be run for an unlimited number of hours per year, between stated maintenance intervals. The permissible average power output during at 24 hours period shall not exceed 80% of the prime power: 10% overload available for governing purposes only.

### (2) ESP (Standby Power):

According to ISO 8528-1, It is defined as the maximum power available, under the agreed operating conditions, for which the generating set is capable of delivering for up to 500 hours of operation per year (of which no more than 300 hours for continuative use) with the maintenance intervals and procedures being carried out as prescribed by the manufacturers. No overload capability is available.

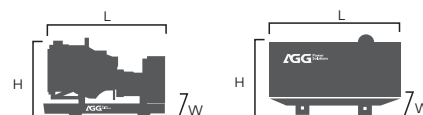
Powers Voltage (V)	ESP KVA	ESP KW	PRP KVA	PRP KW	Standby Amps
480/277	1880	1504	1700	1360	2261.4
440/254	1880	1504	1700	1360	2466.9
380/220	1880	1504	1700	1360	2856.4
220/127	1880	1504	1700	1360	4933.9
208/120	1880	1504	1700	1360	5218.5

## Performance Data

Model	P1880D6	
Engine brand	Perkins	
Engine model	4012-46TAG3A	
Speed control type	Electronic	
Phase	3	
Control system	Digital	
Starter motor voltage	24V	
Frequency	60HZ	
Engine speed (RPM)	1800	
Fuel Consumption (L/H)	100% standby power	390
	100% prime power	356
	75% prime power	277
	50% prime power	185

### Standard reference Conditions

Note: Standard reference condition 25°C (77°F) air inlet temp, 100m(328ft) A.S.L 30% relative humidity. Fuel consumption dat with diesel fuel with specific gravity of 0.85 and conforming to BS 2869: 1998 , Class A2



## Dimension and Weight

Dimension	Open	Silent
Length (L)	5055mm	12192mm
Width (W)	2165mm	2438mm
Height (H)	2530mm	2896mm
Net Weight	10500	18000
Fuel Tank (L)	-	1000

Note: This parameters allows for some acceptable deviations.

## ■ Engine Specification: 4012-46TAG3A

Basic technical data	
No. of cylinders	12
Cylinder arrangement	Vee 60°
Cycle	4 stroke
Induction system	Turbocharged
Compression ratio	13:1
Bore	160mm
Stroke	190mm
Displacement	45.8L
All ratings certified to within	TBD
Speed variation at constant load	TBD

Cooling system	
Total coolant capacity	
-with radiator	TBD
-without radiator	TBD
Maximum top tank temp	98°C
Thermostat operation range	71-85°C
Radiator face area	3.46 m²
Rows and material	Copper, 4 rows
Pressure cap setting	70 kPa
Fan diameter	1600 mm
Drive ratio	0.75:1
Number of blades	12

Fuel system	
Injection system	Direct
Fuel injection pump	Combined unit injector
Injector pressure	140 MPa
Lift pump type	Tuthill TCH 1-089
Fuel lift pump type	Electronic
- flow/hour	TBD
- pressure	TBD
Heat retained in fuel to tank	8 kWt
Fuel inlet temperature to be less than	58 °C

Induction system	
Clean filter	2.0kpa
Dirty filter	5.0kpa
Air filter type	Paper element

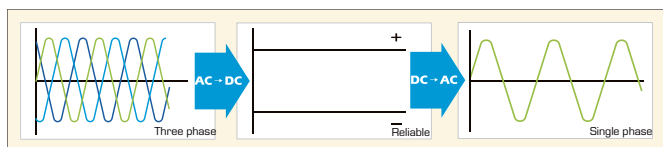
Lubrication system	
Total lub capacity	177L
Sump minimum	136L
Sump maximum	159L
Lubrication oil pressure	
- at rated speed	400 kPa
- minimum at 80 °C	340 kPa
- oil relief valves open	400 kPa
- shutdown switch pressure setting	193 kPa falling
- at maximum no-load speed	TBD
Oil consumption at full load	
as a % of fuel consumption	TBD

Electrical system	
Type	Insulated return
Alternator voltage	24 volts
Alternator output	40 amps
Starter motor voltage	24 volts
Starter motor power	16.4 kW

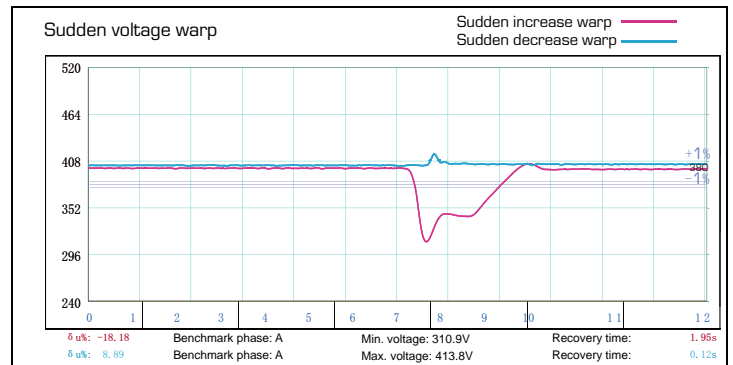
General installation	Prime power
Combustion air flow	136 m³/min
Exhaust gas temp	417°C
Exhaust gas flow, wet	312 m³/min
Engine coolant flow	1200l/min
Mechanical efficiency	91,6%

## ■ Alternator Specification

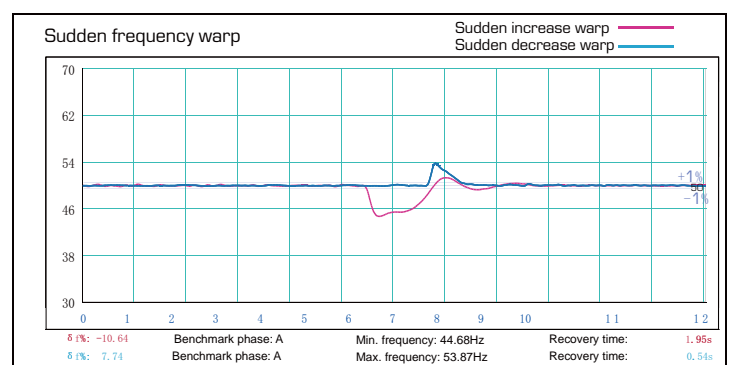
Alternator	
Number of phase	3
Power factor (Cos Phi)	0.8
Poles	4
Winding Connections (standard)	Star-serie
Terminals	12
Insulation type	H class
Winding Pitch	2/3
IP rating	IP23
Excitation system	Self-excited
Bearing	Single bearing
Coating	Vacuum impregnation
Voltage regulator	A.V.R
Couping	Flexible disc



Emergency voltage curve



Emergency frequency curve



## ■ Options

Engine	Alternator	Generator Sets	Fuel System
<ul style="list-style-type: none"> <li>Water Jacket Pre-heater</li> <li>Fuel heater</li> </ul>	<ul style="list-style-type: none"> <li>Winding Temp measuring Instrument</li> <li>Alternator Pre-heater</li> <li>PMG</li> <li>Anti-damp and anti-corrosion treatment</li> <li>Anti-condensation heater</li> <li>Winding and bearing RTD</li> </ul>	<ul style="list-style-type: none"> <li>Tools with the machine</li> <li>Extended range fuel tank</li> <li>Bunded fuel tank</li> </ul>	<ul style="list-style-type: none"> <li>Low fuel level alarm</li> <li>Automatic fuel feeding system</li> <li>Fuel T-valves</li> </ul>
Canopy	Lub oil system	Cooling System	Control Panel
<ul style="list-style-type: none"> <li>Rental type Canopy</li> <li>Trailer</li> </ul>	<ul style="list-style-type: none"> <li>Oil Pre-heater</li> <li>Oil temp sensor</li> </ul>	<ul style="list-style-type: none"> <li>Front heat protection</li> </ul>	<ul style="list-style-type: none"> <li>Remote control panel</li> <li>ATS</li> <li>Synchronizing controller</li> <li>Adjustable earth leakage relay</li> </ul>

## ■ Control Panel

### Configuration

- Emergency stop button
- Protection MCB
- Battery charger
- Integrated aviation plug
- ATS connection
- Digital control module

### Features

- 3 phase generator set monitoring
- Support of engines equipped with electronic control unit
- Comprehensive diagnostic message
- Automatic or manual start/stop of the gensets
- Push buttons for simple control, lamp test
- Graphic back-lit LCD display
- Parameters adjustable via keyboard or PC
- Mains measurements ( 50HZ/60HZ)
- Generator measurements ( 50HZ/60HZ)
- Comprehensive shutdown or warning on fault condition
- 3 phase Generator protections
  - Over-/under voltage
  - Over-/under frequency
  - Current/voltage asymmetry
  - Over current/overload
- 3 phase AMF function
  - Over-/under frequency
  - Over-/under voltage
  - Voltage asymmetry
- Configurable analog inputs
- Battery voltage, engine speed (pick-up) measurement
- Configurable programmable binary inputs and outputs
- Warm-up and cooling functions
- Generator C.B. and Mains C.B. control with feedback and return timer
- RS232 interface
- Modem communication support
- Hours counter
- Sealed to Ip65
- Event log

### Benefits

- Less wiring and components
- Integrated solution
- Less engineering and programming
- User friendly set-up and button layout
- Module can be configured to suit individual applications
- PC software for simplified configuration
- Wide range of communication capabilities

### Operation conditions

- Operation temp: -20 °C to + 70 °C
- Storage temp: -30 °C to + 80 °C
- Operating humidity: 95% w/o condensation
- Vibration : 5-25Hz,  $\pm 1.6$  mm  
5-100Hz,  $a=4g$
- Shocks:  $a= 500m/s^2$

### Options

- Ethernet interface (Remote monitoring and control)
- GSM modem/wireless internet (Remote monitoring and control)
- RS232-RS485 Dual port interface
- Synchronizing control panel
- Distribution board with sockets kit and power busbar
- Battery trickle charge ammeter
- Earth leakage protection
- Earth fault protection
- Low fuel level alarm
- Low fuel level shutdown
- High fuel level alarm
- Fuel transfer system control
- Low coolant level shutdown
- High lube oil temp shutdown
- Overload via alarm switch on breaker
- Engine coolant heater controls
- Control panel heater
- Speed adjust switch
- Oil temp displayed on LCD screen
- Additional 8 inputs and outputs