

## Model: P2030D5

Powered by PERKINS

### Output Rating

MODEL		Power rating		Voltage available		
		PRIME(1)	STANDBY(2)			
P2030D5	400V/50HZ	1476KW	1624KW	380/220V	400/230V	415/240V
	PF:0.8	1845KVA	2030KVA			

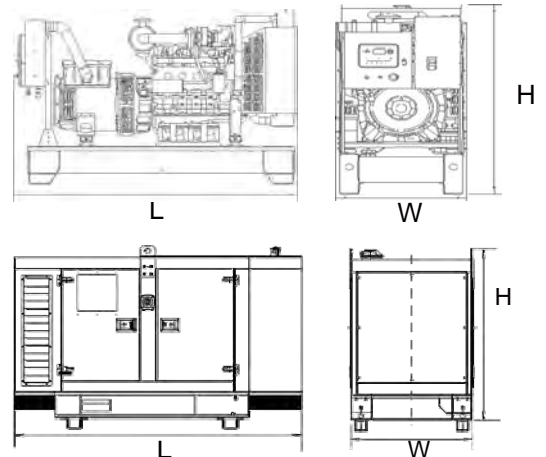
### General Information

Model	P2030D5		
Engine	4016TAG1A		
Speed control type	Electronic		
Phase	3		
Control System	Digital		
System voltage	12V/24V		
Frequency	50HZ		
Engine Speed(RPM)	1500		
Fuel Consumption L/hr	Standby power(2)	424	
	Prime Power(1)	383	
	75% prime power	277	
	50% prime power	185	



### Dimension and Weight

Dimension	Open	Silent
Length (L)	6350mm	12192mm
Width (W)	2900mm	2438mm
Height (H)	323mm	2896mm
Net Weight	14100KG	20320KG



AGG POWER gensets are compliant with EC mark 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) 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 operation conditions with the maintenance intervals and procedures being carried out as prescribed by the manufacturer. The permissible average power output (Ppp) over 24h of operation shall not exceed 70% of the PRP.

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

According to ISO 8528-1:2005, standby power is the maximum power available during a variable electrical power sequence, under the stated operation 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 200h of operation per year with the maintenance intervals and procedures being carried out as prescribed by the manufacturers. The permissible average power output over 24h of operation shall not exceed 70% of the ESP.



## Engine Specification

### Basic technical data

Number of cylinders ... 16  
 Cylinder arrangement ... 60° Vee  
 Cycle ... 4 stroke, compression ignition  
 Induction system... Turbocharged  
 Compression ratio... 13.6:1 nominal  
 Bore... 160 mm  
 Stroke ... 190 mm  
 Cubic capacity... 61.123 litres  
 Direction of rotation... Anti-clockwise viewed on flywheel  
 Firing order ... 1<sup>A</sup>, 1<sup>B</sup>, 3<sup>A</sup>, 3<sup>B</sup>, 7<sup>A</sup>, 7<sup>B</sup>, 5<sup>A</sup>, 5<sup>B</sup>, 8<sup>A</sup>, 8<sup>B</sup>, 6<sup>A</sup>, 6<sup>B</sup>, 2<sup>A</sup>, 2<sup>B</sup>, 4<sup>A</sup>, 4<sup>B</sup>  
 Cylinder 1 furthest from flywheel  
 Cylinders designated A are on the left side of the engine when viewed from front (opposite end to flywheel)  
 Total weight Electrounit (engine only) ... (dry) 5570 kg  
 ... (wet) 5847 kg

### Cooling system

Recommended coolant: 50% inhibited ethylene glycol or 50% inhibited propylene glycol and 50% clean fresh water. For combined heat and power systems and where there is no likelihood of ambient temperature below 10 °C then clean 'soft' water may be used, treated with 1% by volume of Perkins inhibitor in the cooling system. The inhibitor is available in bottles under Perkins Part No. OE 45350 (1 litre).  
 Maximum jacket water pressure in crankcase ... 1.7 bar  
 The following is a guide based on ambient air conditions of 52 °C on a Perkins supplied radiator  
 Total coolant capacity:  
 Electrounit (engine only) ... 95 litres  
 Electropak (engine/radiator)... 316 litres  
 Pressure cap setting ... 0.69 bar  
 Fan ... Incorporated in radiator  
 Diameter ... 1905 mm (Pusher)  
 Ambient Cooling Clearance (Open Electropak Prime power) based on air temp at fan 3 °C above ambient.

### Lubrication system

Recommended lubricating oil to conform with the specification of APICD or CCMCD4  
 Lubricating oil capacity:  
 Sump maximum ... 213 litres  
 Sump minimum... 157 litres  
 Lubricating oil temperature maximum to bearings ... 105 °C  
 Lubricating oil pressure:  
 at 80 °C temperature to bearing gallery (minimum) ... 0.34 MPa

### Exhaust system

Maximum back pressure for total system

Designation	Units	1500 rev/min	1800 rev/min
4016TAG1A	mmH <sub>2</sub> O	949	-
4016TAG2A	mmH <sub>2</sub> O	673	-

Exhaust outlet flange size ... 2 x 254 mm (Table 'D')  
 Recommended pipe sizes Refer to Installation Manual.

### 4016TAG1A

Maximum additional restriction (duct allowance) to cooling airflow (Prime power) and resultant minimum airflow					
Ambient Clearance 50% glycol		Duct Allowance mm H <sub>2</sub> O		Min airflow m <sup>3</sup> /min	
rev/min		rev/min		rev/min	
1500	1800	1500	1800	1500	1800
52 °C	-	17	-	2394	-

### General installation 4016TAG1A

Designation	Units	50Hz 1500 rev/min			60Hz 1800 rev/min		
		Continuous Baseload	Prime Power	Standby Maximum	Continuous Baseload	Prime Power	Standby Maximum
Gross engine power	kWb	-	1588	1741	-	-	-
Fan power	kWm	51			-		
Net engine power	kWm	-	1537	1690	-	-	-
BMEP gross	bar	-	20.8	22.8	-	-	-
Combustion air flow	m <sup>3</sup> /min	-	132	140	-	-	-
Exhaust gas temperature max (after turbo)	°C	439			-		
Exhaust gas flow max (after turbo)	m <sup>3</sup> /min	343			-		
Boost pressure ratio	-	-	3.30	3.50	-	-	-
Mechanical efficiency	%	-	91	92	-	-	-
Overall thermal efficiency	%	-	41	41	-	-	-
Friction power and pumping losses	kWm	160			-		
Mean piston speed	m/s	9.5			-		
Engine coolant flow (min)	l/s	19			-		
Typical Genset Electrical Output 0.8pf 25 °C (100kPa)	kVA	-	1844	2028	-	-	-
	kWe	-	1476	1622	-	-	-
Assumed alternator efficiency	%	96			-		



## ▪ Alternator

Alternator		
Poles	Num	4
Winding Connections (standard)		Star-serie
Insulation	Class	H class
Enclosure (according IEC-34-5)		IP23
Exciter System		Brushless
Voltage Regulator		A.V.R. (Electronic)
Bearing		Single bearing
Coupling		Flexible disc
Coating type		Standard (Vacuum impregnation)

## ▪ Options

Engine	Alternator	Generator Sets	Fuel System	Canopy
<ul style="list-style-type: none"> <li>•Water Jacket Preheater</li> <li>•Oil Preheater</li> </ul>	<ul style="list-style-type: none"> <li>•Winding Temperature measuring Instrument</li> <li>•Alternator Preheater</li> <li>•PMG</li> <li>•Anti-damp and anti-corrosion treatment</li> <li>•Anti-condensation heater</li> </ul>	<ul style="list-style-type: none"> <li>•Tools with the machine</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>	<ul style="list-style-type: none"> <li>•Rental Type Canopy</li> <li>•Trailer</li> </ul>
Lubricating System	Exhaust System	Cooling System	Control Panel	Voltages
<ul style="list-style-type: none"> <li>•Oil with the machine</li> </ul>	<ul style="list-style-type: none"> <li>•Protection board from hotness</li> </ul>	<ul style="list-style-type: none"> <li>• Front heat protection</li> <li>• Coolant (-30°C)</li> </ul>	<ul style="list-style-type: none"> <li>•Remote control panel</li> <li>• ATS</li> <li>• Remote controller</li> <li>• Synchronizing controller</li> </ul>	<ul style="list-style-type: none"> <li>• 415/240V</li> <li>• 380/220V</li> <li>• 220/127V</li> <li>• 220/127V</li> <li>• 200-115V</li> </ul>



## Control Panel



## Product description

- Single gen-set controller for Stand-by and Prime-power applications
- Direct communication with EFI engines
- Total remote monitoring and control

## Key features

- Easy to install, configure and use
- Wide range of communication capabilities including:
  - connection via RS232, RS485, CAN and on board USB
  - internet access using Ethernet or GPRS
  - support for Modbus and SNMP protocols
- Cloud-based monitoring and control
- Active SMS and emails in different languages
- 2x 5 A binary outputs for cranking and fuel solenoid
- Option for up to 16 additional binary inputs/outputs
- Flexible event based history with up to 350 events
- Load shedding, dummy load capability
- Automatic temperature based cooling/heating
- Comprehensive gen-set protections
- Multipurpose flexible timers
- True RMS measurement

## Available extension modules

Product	Description	Order code
CM-Ethernet	Ethernet interface	CM2ETHERXBX
CM-GPRS	GSM modem / wireless internet	CM2GPRSXXBX
CM-RS232-485	Dual port interface	CM223248XBX
EM-BIO8-EFCP	8 additional binary inputs/outputs	EM2BIO8EXBX

## Functions and protections

Description	ANSI code	Description	ANSI code
Over voltage	59	Load shedding	32P
Under voltage	27	Overload	32
Voltage asymmetry and Phase rotation**	47	Power factor	55
Over frequency	81H	Temperature	49T
Under frequency	81L	Gas (fuel) level	71
Over current*	50 + 51	Earth fault current	50N + 64
Current unbalance	46		

\* Short current only

\*\* Fixed setting

