

GENERATOR SPECIFICATION



POWER DEFINITION

PRP : Prime Power is available for an unlimited number of annual operating hours in variable load applications, in accordance with ISO 8528-1. ESP : The standby power rating is applicable for supplying emergency power in variable load applications in accordance with ISO 8528-1. Overload is not allowed.

TERMS OF USE

According to the standard, the nominal power assigned by the genset is given for 25°C Air Inlet Temperature, of a barometric pressure of 100kPa (100 m A.S.L), and 30 % relative humidity. For particular conditions in your installation, refer to the derating table.

R275C3

Engine ref.	6090HFS85
Alternator ref.	KH01421T
Canopy	M3227
Performance class	G3

GENERAL CHARACTERISTICS

Frequency (Hz)	50
Voltage (V)	400/230
Standard Control Panel	APM303
Optional control panel	TELYS

LARGE AUTONOMY DIMENSIONS

Length (mm)	4332
Width (mm)	1361
Height (mm)	2431
Dry weight (kg)	4062
Tank capacity (L)	1083

APM303, comprehensive and simple

The APM303 is a versatile unit which can be operated in manual or automatic mode. Equipped with an LCD screen, the user-friendly APM303 offers high-quality basic functions to guarantee simple, reliable operation and supervision of your generating set. It offers the following features:



Measurements: phase-to-neutral and phase-to-phase voltages, active power currents, effective power, power factors, Kw/h energy meter Fuel, oil pressure and coolant temperature levels

Supervision: Modbus RTU communication on RS485

Reports: 2 configurable reports

Safety features:

Overspeed, oil pressure

Coolant temperatures

Minimum and maximum voltage

Minimum and maximum frequency

Maximum current

Maximum active power

Phase sequence

Traceability:

Stack of 12 stored events For further information, please refer to the data sheet for the APM303.



GENERATOR SPECIFICATION

GENERAL ENGINE DATA

Engine model	JOHN DEERE
Engine ref.	6090HFS85
Air inlet	Turbo
Cylinders arrangement	L
Number of cylinders	6
Displacement (L)	8,98
Charge Air coolant	Air/Water DC
Bore (mm) x Stroke (mm)	118,40 x 136
Compression ratio	16 : 1
Speed (RPM)	1500
Pistons speed (m/s)	6,80
Maximum stand-by power at rated RPM (kW)	253
Frequency regulation (%)	+/- 0.25%
BMEP (bar)	20,50
Governor type	Electronic

COOLING SYSTEM

Radiator & Engine capacity (L)	0
Fan power (kW)	8
Fan air flow w/o restriction (m3/s)	6,70
Available restriction on air flow (mm Water Column)	
Type of coolant	Glycol-Ethylene

EMISSIONS

Emission PM (g/kW.h)	0,11
Emission CO (g/kW.h)	0,91
Emission HC+NOx (g/kWh)	3,89
Emission HC (g/kW.h)	0,05

EXHAUST

Exhaust gas temperature (°C)	552
Exhaust gas flow (L/s)	798
Max. exhaust back pressure (mm EC)	765

FUEL

Consumption @ 110% load (L/h)	57,20
Consumption @ 100% load (L/h)	57,30
Consumption @ 75% load (L/h)	43,20
Consumption @ 50% load (L/h)	31,10
Maximum fuel pump flow (L/h)	

OIL

Oil capacity (L)	31
Min. oil pressure (bar)	1,90
Max. oil pressure (bar)	2,40
Oil consumption 100% ESP (L/h)	0
Carter oil capacity (L)	0

HEAT BALANCE

Heat rejection to exhaust (kW)	179
Radiated heat to ambient (kW)	25
Heat rejection to coolant (kW)	81

AIR INTAKE

Max. intake restriction (mm EC)	637
Intake air flow (L/s)	302



ALTERNATOR SPECIFICATION

GENERAL DATA	
Alternator ref.	KH01421T
Number of Phase	Three phase
Power factor (Cos Phi)	0,80
Altitude (m)	0 to 1000
Overspeed (rpm)	2250
Number of pole	4
Capacity for maintaining short circuit at 3 in for 10 s	Yes
Insulation class	H
T° class, continuous 40°C	H / 125°K
T° class, standby 27°C	H / 163°K
AVR Regulation	Yes
Total Harmonic Distortion in no-load DHT (%)	<2.5
Total Harmonic Distortion, on linear load DHT (%)	<2.5
Wave form : NEMA=TIF	<50
Wave form : CEI=FHT	<2
Number of bearing	1
Coupling	Direct
Voltage regulation at established rating (+/- %)	0,50
Recovery time (Delta U = 20% transient) (ms)	500
Indication of protection	IP 23
Technology	Without collar or brush

OTHER DATA	
Continuous Nominal Rating 40°C (kVA)	250
Standby Rating 27°C (kVA)	275
Efficiencies 100% of load (%)	92,70
Air flow (m3/s)	0,48
Short circuit ratio (Kcc)	0,3640
Direct axis synchro reactance unsaturated (Xd) (%)	369
Quadra axis synchro reactance unsaturated (Xq) (%)	188
Open circuit time constant (T'do) (ms)	2452
Direct axis transient reactance saturated (X'd) (%)	15
Short circuit transient time constant (T'd) (ms)	100
Direct axis subtransient reactance saturated (X''d) (%)	12
Subtransient time constant (T''d) (ms)	10
Quadra axis subtransient reactance saturated (X''q) (%)	15,90
Subtransient time constant (T''q) (ms)	10
Zero sequence reactance unsaturated (Xo) (%)	0,60
Negative sequence reactance saturated (X2) (%)	13,98
Armature time constant (Ta) (ms)	15
No load excitation current (io) (A)	0,78
Full load excitation current (ic) (A)	3,32
Full load excitation voltage (uc) (V)	44,60
Engine start (Delta U = 20% perm. or 50% trans.) (kVA)	637,39
Transient dip (4/4 load) - PF : 0,8 AR (%)	11
No load losses (W)	3658,30
Heat rejection (W)	15628,55
Unbalanced load acceptance ratio (%)	100