J88K

Engine ref.	4045TF220
Alternator ref.	AT00973T
Performance class	G3

GENERAL CHARACTERISTICS

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

POWER

Voltage	ESP		PRP		Standby Amps
	kWe	kVA	kWe	kVA	
200/115	70	88	64	80	254
240 TRI	70	88	64	80	212
230 TRI	70	88	64	80	221
220 TRI	70	88	64	80	231
415/240	70	88	64	80	122
400/230	70	88	64	80	127
380/220	69	86	63	78	131

DIMENSIONS COMPACT VERSION

Length (mm)	1870
Width (mm)	994
Height (mm)	1360
Dry weight (kg)	1088
Tank capacity (L)	180

DIMENSIONS SOUNDPROOFED VERSION

Commercial reference of the enclosure	M128
Length (mm)	2300
Width (mm)	1060
Height (mm)	1680
Dry weight (kg)	1508
Tank capacity (L)	180
Acoustic pressure level @1m in dB(A)	76
Sound power level guaranteed (Lwa)	94
Acoustic pressure level @7m in dB(A)	64

DESCRIPTIVE

- Mechanic governor
- Mechanically welded chassis with antivibration suspension
- Main line circuit breaker
- Radiator for core temperature of 48/50°C max with mechanical fan
- Protective grille for fan and rotating parts (CE option)
- 9 dB(A) silencer supplied separately
- Charger DC starting battery with electrolyte
- 12 V charge alternator and starter
- Delivered with oil and coolant -30°C
- Manual for use and installation

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 Intlet Temperature, of a barometric pressure of 100 kPA (100 m A.S.L), and 30 % relative humidity. For particular conditions in your installation, refer to the derating table.

ASSOCIATED UNCERTAINTY

For the generating sets used indoor, where the acoustic pressure levels depends on the installation conditions, it is not possible to specify the ambient noise level in the exploitation and maintenance instructions . You will also find in our exploitation and maintenance instructions a warning concerning the air noise dangers and the need to implement

appropriated preventive measures.

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ENGINE CHARACTERISTICS

GENERAL ENGINE DATA

Engine brand	JOHN DEERE
Engine ref.	4045TF220
Air inlet system	Turbo
Cylinders configuration	L
Number of cylinders	4
Displacement (L)	4.48
Charge Air coolant	
Bore (mm) x Stroke (mm)	106 x 127
Compression ratio	17 : 1
Speed (RPM)	1500
Pistons speed (m/s)	6.35
Maximum stand-by power at rated RPM (kW)	83
Frequency regulation, steady state (%)	+/- 2.5%
BMEP (bar)	13.38
Governor type	Mechanical

COOLING SYSTEM

Radiator & Engine capacity (L)	23.60
Max water temperature (°C)	105
Outlet water temperature (°C)	93
Fan power (kW)	2.50
Fan air flow w/o restriction (m3/s)	3.37
Available restriction on air flow (mm H2O)	20
Type of coolant	Glycol-Ethylene
Thermostat modulating range HT (°C)	82-94

EMISSIONS

Emission PM (mg/Nm3) 5% O2	60
Emission CO (mg/Nm3) 5% O2	190
Emission HC+NOx (g/kWh)	
Emission HC (mg/Nm3) 5% O2	34

EXHAUST

Exhaust gas temperature @ ESP 50Hz (°C)	565
Exhaust gas flow @ ESP 50 Hz (L/s)	205
Max. exhaust back pressure (mm H2O)	750

FUEL

Consumption @ 110% load (L/h)	21.50
Consumption @ 100% load (L/h)	19.50
Consumption @ 75% load (L/h)	14
Consumption @ 50% load (L/h)	10
Maximum fuel pump flow (L/h)	108

OIL

Oil capacity (L)	13.50
Min. oil pressure (bar)	1
Max. oil pressure (bar)	5
Oil consumption 100% load (L/h)	0.0190
Oil sump capacity (L)	12.50

HEAT BALANCE

Heat rejection to exhaust (kW)	65
Radiated heat to ambiant (kW)	9.50
Haet rejection to coolant (kW)	43

AIR INTAKE

Max. intake restriction (mm H2O)	625
Intake air flow (L/s)	93

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ALTERNATOR CHARACTERISTICS

GENERAL DATA

Alternator ref.	AT00973T
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 (H/125°), continuous 40°C	H / 125°K
T° class, standby 27°C	H / 163°K
AVR Regulation	Yes
Total Harmonic Distortion in no-load DHT (%)	3,3
Total Harmonic Distortion, on load DHT (%)	3,9
Wave form : NEMA=TIF	<45
Wave form : CEI=FHT	<2
Number of bearing	1
Coupling	Direct
Voltage regulation at established rating (+/- %)	1
Recovery time (Delta U = 20% transcient) (ms)	200
Indication of protection	IP 23
Technology	Without collar or brush

OTHER DATA

Continuous Nominal Rating 40°C (kVA)	80
Standby Rating 27°C (kVA)	87
Efficiencies 100% of load (%)	90.50
Air flow (m3/s)	0.20
Short circuit ratio (Kcc)	0.31
Direct axis synchro reactance unsaturated (Xd) (%)	329.60
Quadra axis synchro reactance unsaturated (Xq) (%)	129.50
Open circuit time constant (T'do) (ms)	1300
Direct axis transcient reactance saturated (X'd) (%)	12.50
Short circuit transcient time constant (T'd) (ms)	65
Direct axis subtranscient reactance saturated (X"d) (%)	6.50
Subtranscient time constant (T"d) (ms)	14
Quadra axis subtranscient reactance saturated (X"q) (%)	32.10
Subtranscient time constant (T"q) (ms)	18
Zero sequence reactance unsaturated (Xo) (%)	3.60
Negative sequence reactance saturated (X2) (%)	21.80
Armature time constant (Ta) (ms)	27
No load excitation current (io) (A)	0.60
Full load excitation current (ic) (A)	2.40
Full load excitation voltage (uc) (V)	27.20
Engine start (Delta U = 20% perm. or 50% trans.) (kVA)	230
Transcient dip (4/4 load) - PF : 0,8 AR (%)	14.40
No load losses (W)	1420
Heat rejection (W)	6718
Unbalanced load acceptance ratio (%)	100

DIMENSIONS

Containment DW

Commercial reference of the enclosure	M128 DW
Length (mm)	2344
Width (mm)	1060
Height (mm)	1900
Dry weight (kg)	1695
Tank capacity (L)	390
Acoustic pressure level @1m in dB(A)	76
Sound power level guaranteed (Lwa)	94
Acoustic pressure level @7m in dB(A)	64

Containment DW 48H

Commercial reference of the enclosure	M128 DW48
Length (mm)	2344
Width (mm)	1060
Height (mm)	1989
Dry weight (kg)	1725
Tank capacity (L)	700
Acoustic pressure level @1m in dB(A)	76
Sound power level guaranteed (Lwa)	94
Acoustic pressure level @7m in dB(A)	64

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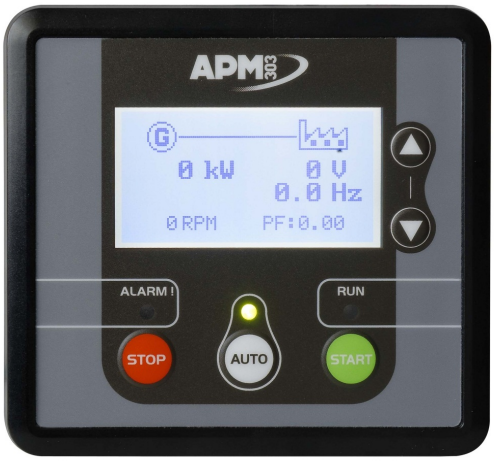
CONTROL PANEL

APM303, comprehensive and simple



The APM303 is a versatile unit which can be operated in manual or automatic mode. It offers the following features:
Measurements:
phase-to-neutral and phase-to-phase voltages, fuel level (In option : active power currents, effective power, power factors, Kw/h energy meter, oil pressure and coolant temperature levels)
Supervision:
Modbus RTU communication on RS485
Reports:
(In option : 2 configurable reports)
Safety features:
Overspeed, oil pressure,coolant temperatures, minimum and maximum voltage, minimum and maximum frequency (Maximum active power P<66kVA)
Traceability:
Stack of 12 stored events
For further information, please refer to the data sheet for the APM303.

TELYS, ergonomic and user-friendly

The highly versatile TELYS control unit is complex yet accessible, thanks to the particular attention paid to optimising its ergonomics and ease of use. With its large display screen, buttons and scroll wheel, it places the accent on simplicity and communication.

The TELYS offers the following functions:

Electrical measurements: voltmeter, frequency meter, ammeter.

Engine parameters: working hours counter, oil pressure, coolant temperature, fuel level, engine speed, battery voltage.

Alarms and faults: oil pressure, coolant temperature, failure to start, overspeed, alternator min./max., battery voltage min./max., emergency stop, fuel level.

Ergonomics: wheel for navigating around the various menus.

Communication: remote control and operation software, USB connections, PC connection.

For more information on the product and its options, please refer to the sales documentation.

Basic terminal block

The control unit can be used as a basic terminal block for connecting a control box.

Offers the following functions:

emergency stop button, customer connection terminal block, CE.