WBPS
POWER YOU CAN TRUST

KOHLER
Authorized Distributor

R110C3

GENERATOR SPECIFICATION

R110C3	
Engine ref.	4045HFS87
Alternator ref.	KH00911T
Canopy	M3129
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)	2860
Width (mm)	1191
Height (mm)	2000
Dry weight (kg)	2087
Tank capacity (L)	527

SMALL AUTONOMY DIMENSIONS	
Length (mm)	2860
Width (mm)	1191
Height (mm)	1850
Dry weight (kg)	1850
Tank capacity (L)	209

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 isgiven for 25°C Air Intlet 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.

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.

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ENGINE CHARACTERISTICS

GENERAL ENGINE DATA	
Engine model	JOHN DEERE
Engine ref.	4045HFS87
Air inlet	Turbo
Cylinders arrangement	L
Number of cylinders	4
Displacement (L)	4,48
Charge Air coolant	Air/Air DC
Bore (mm) x Stroke (mm)	106 x 127
Compression ratio	19 : 1
Speed (RPM)	1500
Pistons speed (m/s)	6,35
Maximum stand-by power at rated RPM (kW)	103
Frequency regulation (%)	+/- 0.25%
BMEP (bar)	16,70
Governor type	Electronic

COOLING SYSTEM	
Radiator & Engine capacity (L)	0
Fan power (kW)	4
Fan air flow w/o restriction (m3/s)	3,20
Available restriction on air flow (mm Water Column)	25
Type of coolant	Glycol-Ethylene

EMISSIONS	
Emission PM (g/kW.h)	0,17
Emission CO (g/kW.h)	1,29
Emission HC+NOx (g/kWh)	3,54
Emission HC (g/kW.h)	0,15

EXHAUST	
Exhaust gas temperature (°C)	502
Exhaust gas flow (L/s)	318
Max. exhaust back pressure (mm EC)	765

FUEL	
Consumption @ 110% load (L/h)	26,90
Consumption @ 100% load (L/h)	24,40
Consumption @ 75% load (L/h)	19,60
Consumption @ 50% load (L/h)	14,10
Maximum fuel pump flow (L/h)	

OIL	
Oil capacity (L)	14,70
Min. oil pressure (bar)	1,10
Max. oil pressure (bar)	4
Oil consumption 100% ESP (L/h)	0,10
Carter oil capacity (L)	0

HEAT BALANCE	
Heat rejection to exhaust (kW)	69
Radiated heat to ambiant (kW)	10
Heat rejection to coolant (kW)	47

AIR INTAKE	
Max. intake restriction (mm EC)	637
Intake air flow (L/s)	127

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ALTERNATOR SPECIFICATION

GENERAL DATA	
Alternator ref.	KH00911T
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
Total Harmonic Distortion, on linear load DHT (%)	<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% transcient) (ms)	500
Indication of protection	IP 23
Technology	Without collar or brush

OTHER DATA	
Continuous Nominal Rating 40°C (kVA)	100
Standby Rating 27°C (kVA)	110
Efficiencies 100% of load (%)	91,90
Air flow (m3/s)	0,25
Short circuit ratio (Kcc)	0,55
Direct axis synchro reactance unsaturated (Xd) (%)	287
Quadra axis synchro reactance unsaturated (Xq) (%)	146
Open circuit time constant (T'do) (ms)	2211
Direct axis transcient reactance saturated (X'd) (%)	12,90
Short circuit transcient time constant (T'd) (ms)	100
Direct axis subtranscient reactance saturated (X"d) (%)	7,70
Subtranscient time constant (T"d) (ms)	10
Quadra axis subtranscient reactance saturated (X"q) (%)	16,10
Subtranscient time constant (T"q) (ms)	10
Zero sequence reactance unsaturated (Xo) (%)	0,50
Negative sequence reactance saturated (X2) (%)	11,95
Armature time constant (Ta) (ms)	15
No load excitation current (io) (A)	0,94
Full load excitation current (ic) (A)	2,98
Full load excitation voltage (uc) (V)	23,20
Engine start (Delta U = 20% perm. or 50% trans.) (kVA)	237,98
Transcient dip (4/4 load) - PF : 0,8 AR (%)	9
No load losses (W)	2357,49
Heat rejection (W)	6963,41
Unbalanced load acceptance ratio (%)	100