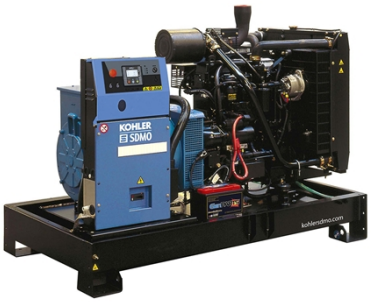
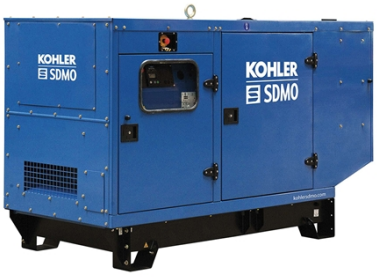
TRANSDIESEL

KOHLER SDMO

KD110





Engine ref.	4045HF120
Alternator ref.	KH00911T
Performance class	G3

GENERAL CHARACTERISTICS

Frequency (Hz)	50 Hz
Voltage (V)	400/230
Standard Control Panel	APM303
Optional control panel	APM403
Optional Control Panel	M80
Optional control panel	TELYS

POWER

Voltage	ESP		PRP		Standby Amps
	kWe	kVA	kWe	kVA	
415/240	88	110	80	100	153
400/230	88	110	80	100	159
380/220	88	110	80	100	167
200/115	88	110	80	100	318
240 TRI	88	110	80	100	265
230 TRI	88	110	80	100	276
220 TRI	88	110	80	100	289

DIMENSIONS COMPACT VERSION

Length (mm)	1950
Width (mm)	1084
Height (mm)	1330
Dry weight (kg)	1097
Tank capacity (L)	190

DIMENSIONS SOUNDPROOFED VERSION

Type soundproofing	M129
Length (mm)	2554
Width (mm)	1150
Height (mm)	1680
Dry weight (kg)	1597
Tank capacity (L)	190
Acoustic pressure level @1m in dB(A)	78
Sound power level guaranteed (Lwa)	95
Acoustic pressure level @7m in dB(A)	66

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.	4045HF120
Air inlet system	Turbo
Cylinders configuration	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	17 : 1
Speed (RPM)	1500
Pistons speed (m/s)	6,35
Maximum stand-by power at rated RPM (kW)	102
Frequency regulation, steady state (%)	+/- 2.5%
BMEP @ PRP 50 Hz (bar)	16,50
Governor type	Mechanical

COOLING SYSTEM

Radiator & Engine capacity (L)	20,20
Fan power (kW)	2,50
Fan air flow w/o restriction (m3/s)	3,70
Available restriction on air flow (mm H2O)	20
Type of coolant	Glycol-Ethylene

EMISSIONS

Emission PM (mg/Nm3) 5% O2	100
Emission CO (mg/Nm3) 5% O2	310
Emission HC+NOx (g/kWh)	0
Emission HC (g/kW.h)	

EXHAUST

Exhaust gas temperature @ ESP 50Hz (°C)	545
Exhaust gas flow @ ESP 50Hz (L/s)	283
Max. exhaust back pressure (mm H2O)	750

FUEL

Consumption @ 100% load ESP (L/h)	30
Consumption @ 100% PRP load (L/h)	27,60
Consumption @ 75% PRP load (L/h)	19,80
Consumption @ 50% PRP load (L/h)	13,50
Maximum fuel pump flow (L/h)	108

OIL

Oil system capacity including filters (L)	13,50
Min. oil pressure (bar)	1
Max. oil pressure (bar)	5
Oil consumption 100% ESP (L/h)	0,02
Oil sump capacity (L)	12,50

HEAT BALANCE

Heat rejection to exhaust (kW)	64
Radiated heat to ambiant (kW)	11
Heat rejection to coolant HT (kW)	36

AIR INTAKE

Max. intake restriction (mm H2O)	625
Intake air flow (L/s)	106

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ALTERNATOR CHARACTERISTICS

GENERAL DATA

Alternator ref.	KH00911T
Number of Phase	Three phase
Power factor (Cos Phi)	0,80
Altitude (m)	0 à 1000
Overspeed (rpm)	2250
Number of pole	4
Capacity for maintaining short circuit at 3 In for 10 s	No
Insulation class	H
T° class (H/125°), continuous 40°C	H / 125°K
T° class (H/163°C), standby 27°C	H / 163°K
Total Harmonic Distortion in no-load DHT (%)	<2
AVR Regulation	Yes
Total Harmonic Distortion, on linear load DHT (%)	<5
Wave form : NEMA=TIF	<50
Wave form : CEI=FHT	<2
Number of bearing	Single Bearing
Coupling	Direct
Voltage regulation at established rating (+/- %)	0,50
Recovery time (Delta U = 20% transcient) (ms)	500
Indication of protection	IP 23
Technology	Brushless

OTHER DATA

Continuous Nominal Rating 40°C (kVA)	100
Standby Rating 27°C (kVA)	110
Efficiencies 100% of load (%)	92
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)	0,73
Full load excitation current (ic) (A)	2,31
Full load excitation voltage (uc) (V)	28,90
Engine start (Delta U = 20% perm. or 30% trans.) (kVA)	292,51
Transcient dip (4/4 load) - PF : 0,8 AR (%)	12
No load losses (W)	2395,99
Heat rejection (W)	6932,19
Unbalanced load acceptance ratio (%)	100

DIMENSIONS

Dimensions soundproofed version

Type soundproofing	M129
Length (mm)	2554
Width (mm)	1150
Height (mm)	1680
Dry weight (kg)	1597
Tank capacity (L)	190
Acoustic pressure level @1m in dB(A)	78
Sound power level guaranteed (Lwa)	95
Acoustic pressure level @7m in dB(A)	66

Dimensions DW compact version

Type soundproofing	
Length (mm)	2602
Width (mm)	1150
Height (mm)	1684
Dry weight (kg)	1607
Tank capacity (L)	505
Acoustic pressure level @1m in dB(A)	
Sound power level guaranteed (Lwa)	
Acoustic pressure level @7m in dB(A)	

Dimensions DW soundproofed version

Type soundproofing	M129 DW
Length (mm)	2602
Width (mm)	1150
Height (mm)	1900
Dry weight (kg)	2007
Tank capacity (L)	505
Acoustic pressure level @1m in dB(A)	77

Dimensions DW 48h soundproofed version

Type soundproofing	M129 DW48
Length (mm)	2602
Width (mm)	1150
Height (mm)	1948
%PdnetE_5%	2012
Tank capacity (L)	825
Acoustic pressure level @1m in dB(A)	77

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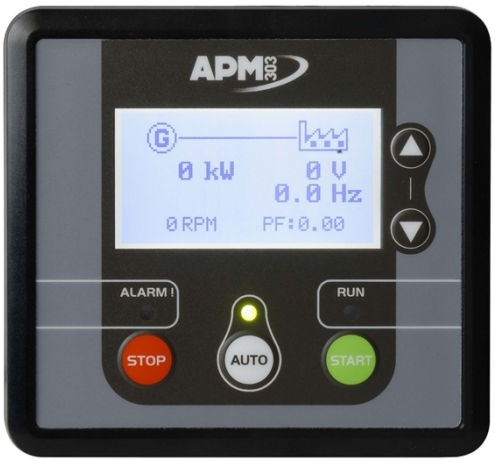
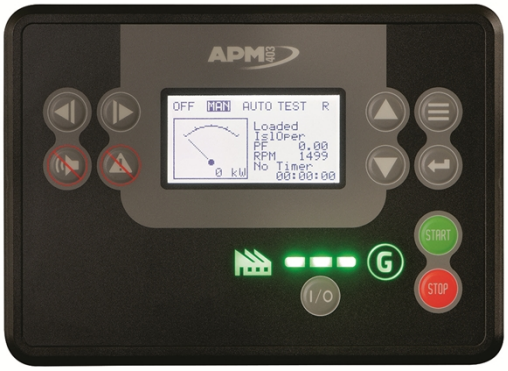
CONTROL PANEL

APM303, comprehensive and simple



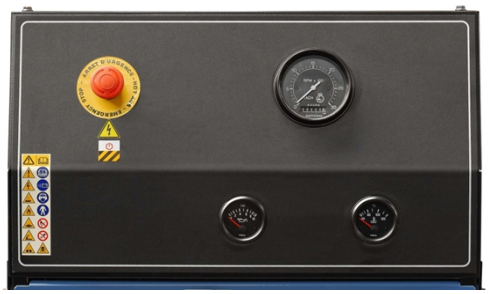
The APM303 is a versatile unit which can be operated in manual or automatic mode. It offers the following features:
Measurements:
phase-to-neutral and phase-to-phase voltages, fuel level
(In option : active power currents, effective power, power factors, Kw/h energy meter, oil pressure and coolant temperature 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.

APM403, basic generating set and power plant control



The APM403 is a versatile control unit which allows operation in manual or automatic mode
Measurements : voltage and current
kW/kWh/kVA power meters
Standard specifications: Voltmeter, Frequency meter.
Optional : Battery ammeter.
J1939 CAN ECU engine control
Alarms and faults: Oil pressure, Coolant temperature, Overspeed, Start-up failure, alternator min/max, Emergency stop button.
Engine parameters: Fuel level, hour counter, battery voltage.
Optional (standard at 24V): Oil pressure, water temperature.
Event log/ Management of the last 300 genset events.
Mains and genset protection
Clock management
USB connections, USB Host and PC,
Communications : RS485 INTERFACE
ModBUS protocol /SNMP
Optional : Ethernet, GPRS, remote control, 3G, 4G, Websupervisor, SMS, E-mails

M80, transfer of information

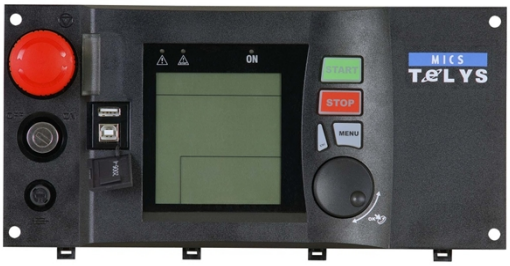


The M80 is a dual-function control unit. It can be used as a basic terminal block for connecting a control box and as an instrument panel with a direct read facility, with displays giving a global view of your generating set's basic parameters.

Offers the following functions:

Engine parameters: tachometer, working hours counter, coolant temperature indicator, oil pressure indicator, emergency stop button, customer connection terminal block, CE.

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.