TRANSDIESEL

KOHLER SDMO

K66

Engine ref.	KDI3404TM
Alternator ref.	KH00811T
Performance class	G2

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	NA

POWER

Voltage	ESP		PRP		Standby Amps
	kWe	kVA	kWe	kVA	
415/240	53	66	48	60	92
400/230	53	66	48	60	95
380/220	51	64	46	58	97

DIMENSIONS COMPACT VERSION

Length (mm)	1700
Width (mm)	896
Height (mm)	1174
Dry weight (kg)	781
Tank capacity (L)	100

DIMENSIONS SOUNDPROOFED VERSION

Type soundproofing	M137
Length (mm)	2100
Width (mm)	932
Height (mm)	1285
Dry weight (kg)	978
Tank capacity (L)	100
Acoustic pressure level @1m in dB(A)	79
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	LOMBARDINI
Engine ref.	KDI3404TM
Air inlet system	Turbo
Cylinders configuration	L
Number of cylinders	4
Displacement (L)	3,36
Charge Air coolant	
Bore (mm) x Stroke (mm)	96 x 116
Compression ratio	17 : 1
Speed (RPM)	1500
Pistons speed (m/s)	5,80
Maximum stand-by power at rated RPM (kW)	63
Frequency regulation, steady state (%)	
BMEP @ PRP 50 Hz (bar)	13,60
Governor type	Mechanical

COOLING SYSTEM

Radiator & Engine capacity (L)	8
Fan power (kW)	1,10
Fan air flow w/o restriction (m3/s)	1,70
Available restriction on air flow (mm H2O)	15
Type of coolant	Glycol-Ethylene

EMISSIONS

Emission PM (g/kW.h)	0,40
Emission CO (g/kW.h)	0,70
Emission HC+NOx (g/kWh)	10,10
Emission HC (g/kW.h)	0,10

EXHAUST

Exhaust gas temperature @ ESP 50Hz (°C)	520
Exhaust gas flow @ ESP 50Hz (L/s)	0,20
Max. exhaust back pressure (mm H2O)	750

FUEL

Consumption @ 100% load ESP (L/h)	15,90
Consumption @ 100% PRP load (L/h)	14,60
Consumption @ 75% PRP load (L/h)	11,30
Consumption @ 50% PRP load (L/h)	8
Maximum fuel pump flow (L/h)	39,60

OIL

Oil system capacity including filters (L)	16,50
Min. oil pressure (bar)	2,50
Max. oil pressure (bar)	
Oil consumption 100% ESP (L/h)	0,02
Oil sump capacity (L)	15,60

HEAT BALANCE

Heat rejection to exhaust (kW)	52
Radiated heat to ambiant (kW)	11
Heat rejection to coolant HT (kW)	45

AIR INTAKE

Max. intake restriction (mm H2O)	520
Intake air flow (L/s)	76

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ALTERNATOR CHARACTERISTICS

GENERAL DATA

Alternator ref.	KH00811T
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	Yes
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 (%)	<3.5
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)	60
Standby Rating 27°C (kVA)	66
Efficiencies 100% of load (%)	89,90
Air flow (m3/s)	0,10
Short circuit ratio (Kcc)	0,3980
Direct axis synchro reactance unsaturated (Xd) (%)	303
Quadra axis synchro reactance unsaturated (Xq) (%)	154
Open circuit time constant (T'do) (ms)	1031
Direct axis transcient reactance saturated (X'd) (%)	14,70
Short circuit transcient time constant (T'd) (ms)	50
Direct axis subtranscient reactance saturated (X"d) (%)	7,30
Subtranscient time constant (T"d) (ms)	5
Quadra axis subtranscient reactance saturated (X"q) (%)	10,50
Subtranscient time constant (T"q) (ms)	5
Zero sequence reactance unsaturated (Xo) (%)	0,60
Negative sequence reactance saturated (X2) (%)	8,93
Armature time constant (Ta) (ms)	8
No load excitation current (io) (A)	0,48
Full load excitation current (ic) (A)	2,09
Full load excitation voltage (uc) (V)	33,50
Engine start (Delta U = 20% perm. or 30% trans.) (kVA)	135,47
Transcient dip (4/4 load) - PF : 0,8 AR (%)	15
No load losses (W)	1152,46
Heat rejection (W)	5364,22
Unbalanced load acceptance ratio (%)	100

DIMENSIONS

Dimensions soundproofed version

Type soundproofing	M137
Length (mm)	2100
Width (mm)	932
Height (mm)	1285
Dry weight (kg)	978
Tank capacity (L)	100
Acoustic pressure level @1m in dB(A)	79
Sound power level guaranteed (Lwa)	95
Acoustic pressure level @7m in dB(A)	66

Dimensions DW compact version

Type soundproofing	
Length (mm)	2074
Width (mm)	932
Height (mm)	1375
Dry weight (kg)	990
Tank capacity (L)	240
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	M137-DW
Length (mm)	2100
Width (mm)	932
Height (mm)	1486
Dry weight (kg)	1187
Tank capacity (L)	240
Acoustic pressure level @1m in dB(A)	78

Dimensions DW 48h soundproofed version

Type soundproofing	M137-DW48
Length (mm)	2100
Width (mm)	932
Height (mm)	1540
%PdnetE_5%	1194
Tank capacity (L)	470
Acoustic pressure level @1m in dB(A)	78

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Sound power level guaranteed (Lwa)	95	Sound power level guaranteed (Lwa)	95
Acoustic pressure level @7m in dB(A)	66	Acoustic pressure level @7m in dB(A)	66

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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.

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.