



MAN | PrimeServ

K A N

#### DESCRIPTIVE

- Electronic governor
- Mechanically welded chassis with antivibration suspension
- Main line circuit breaker
- Radiator for wiring temperature of 48/50°C max with mechanical fan
- Protective grille for fan and rotating parts
- 9 dB(A) silencer supplied separately
- Charger DC starting battery with electrolyte
- 24 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.

## M1027M

MAN Engine type	D2862 LE231
Meccalte Alternator type	ECO43 2S4A
Performance class	G3

#### GENERAL CHARACTERISTICS

Frequency (Hz)	50
Reference voltage (V)	400/230
Max power ESP (kVA)	1027
Max power ESP (kWe)	821
Max power PRP (kVA)	925
Max power PRP (kWe)	740
Intensity (A)	
Standard Control Panel	DSE 7110
Optional control panel	DSE 7120

#### DIMENSIONS COMPACT VERSION

Length (mm)	4300
Width (mm)	1700
Height (mm)	2120
Dry weight (kg)	6340

#### GENERAL CHARACTERISTICS

Voltage	ESP		PRP		Standby Amps
	kWe	kVA	kWe	kVA	
415/240	821	1027	740	925	1287
400/230	821	1027	740	925	1335
380/220	821	1027	740	925	1405



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### ENGINE SPECIFICATIONS

#### GENERAL ENGINE DATAS

Engine model	MAN Germany D2862 L231 A,4- temps, Turbo , Air/Air DC 12
Cylinder arrangement	V
Displacement (C.I.)	
Bore (mm) x Stroke (mm)	128 x 157
Compression ratio	17:1
Speed (RPM)	1500
Pistons speed (m/s)	7.58
Maximum stand-by power at rated RPM (kW)	880
Frequency regulation (%)	+/- 0.5%
BMEP (bar)	25.4
Governor type	Electronic

#### COOLING SYSTEM

Radiator & Engine capacity (L)	117
Max water temperature (°C)	100
Outlet water temperature (°C)	
Fan power (kW)	30
Fan air flow w/o restriction (m³/s)	9
Available restriction on air flow (pa)	260
Type of coolant	MAN
Thermostat (°C)	82

#### EMISSIONS

Emission PM (g/kW.h)	N/A
Emission CO (g/kW.h)	N/A
Emission HCNOx (g/kWh)	N/A
Emission HC (g/kW.h)	N/A

#### EXHAUST

Exhaust gas temperature (°C)	514
Exhaust gas flow (kg/h)	3565
Max. exhaust back pressure (mm EC)	750

#### FUEL

Consumption @ 110% load (L/h)	199
Consumption @ 100% load (L/h)	179
Consumption @ 75% load (L/h)	136
Consumption @ 50% load (L/h)	96

#### OIL

Oil capacity (L)	90
Min. oil pressure (bar)	20
Max. oil pressure (bar)	29
Oil consumption (g/kWh)	280
Carter oil capacity (L)	70-90

#### HEAT BALANCE

Heat rejection to exhaust (kW)	469
Radiated heat to ambient (kW)	280
Heat rejection to coolant (kW)	270

#### AIR INTAKE

Max. intake restriction (mm EC)	870
Intake air flow (m³)	2910



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## ALTERNATOR SPECIFICATIONS

### GENERAL DATAS

Alternator brand	Mecc Alte
Alternator type	ECO43 2S4A
Number of phase	3
Power factor (Cos Phi)	0.8
Altitude (m)	0 to 1000
Overspeed (rpm)	2250
Number of pole	4
Excitation system	SHUNT
Insulation class / T° class, continuous 40°C	H / H / 125°K
Regulation	DER1
Wave Distors (THD Full Load) LL	<3
Wave Distors (THD NoI Load) LL	3.1 / 3.0
Number of bearing	1
Coupling	Direct
Voltage regulation at established rating (%)	+/- 0.5%

### OTHER DATAS

Continuous Nominal Rating 40°C (kVA)	925
Standby Rating 27°C (kVA)	1027
Efficiencies 4/4 load (%)	95.2
Air flow (m3/min)	90
Short circuit ratio (Kcc)	0.33
Direct axis synchro reactance unsaturated (Xd) (%)	431
Quadra axis synchro reactance unsaturated (Xq) (%)	177
Open circuit time constant (T'do) (sec)	8.3
Direct axis transient reactance saturated (X'd) (%)	19.1
Short circuit transient time constant (T'd) (sec)	0.33
Direct axis subtransient reactance saturated (X''d) (%)	8.99
Subtransient time constant (T''d) (sec)	0.017
Quadra axis subtransient reactance saturated (X''q) (%)	22.3
Zero sequence reactance unsaturated (Xo) (%)	4.26
Negative sequence reactance saturated (X2) (%)	13
Armature time constant (Ta) (sec)	0.022
No load excitation current (io) (A)	0.6
Full load excitation current (ic) (A)	2.8
Recovery time (Delta U = 20% transient) (ms)	500
Heat rejection (kW)	33



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## CONTROL PANEL

DSE Deep Sea Electronics 7110 Standard

DSE Deep Sea Electronics 7210 optional



The DSE 7110 MRS 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,  
 (In option: active power currents, effective power, power factor, oil pressure and coolant temperature levels)

**Supervision:**  
 Modbus RTU communication on RS485

**Reports:**  
 (In option: 2 configurable reports)

**Safety features:**  
 Over speed, oil pressure, coolant temperatures, minimum and maximum voltage, minimum and maximum frequency  
 (Maximum active power  $P < 66kVA$ )

**Traceability:**  
 Stack of 50 stored events

For further information, please refer to the data sheet for the DSE 7110.

The DSE 7210 MRS 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, Over speed, Start-up failure, alternator min/max, Emergency stop button.

**Engine parameters:** hour counter, battery voltage.

**Optional (standard at 24V):** Oil pressure, water temperature.

Event log/ Management of the last 50 gen set events.

Mains and gen set protection

Clock management

USB connections, USB Host and PC,

**Communications:** RS485 INTERFACE  
 Mod BUS protocol /SNMP

**Optional:** Ethernet, GPRS, remote control, 3G, 4G, Web supervisor, SMS, E-mails