



MAN | PrimeServ

K A N



S450M

Engine type	DC13 072A
Alternator type	ECO40 1S4B
Performance class	G2

GENERAL CHARACTERISTICS

Frequency (Hz)	50
Reference voltage (V)	400/230
Max power ESP (kVA)	450
Max power ESP (kWe)	360
Max power PRP (kVA)	400
Max power PRP (kWe)	320
Intensity (A)	721
Standard Control Panel	DSE 6010
Optional control panel	DSE 7320

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

DIMENSIONS COMPACT VERSION

Length (mm)	3474
Width (mm)	1500
Height (mm)	1606
Dry weight (kg)	3570
Tank capacity (L)	800

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 Inlet 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.

Atmospheric conditions Diesel fuel

Barometric pressure: 1000 mbar Energy value: 42 700 kJ/kg

Air temperature: 25°C Density: 0.84 kg/dm³

Relative humidity: 30% Viscosity: 3.0 cSt at 40°C

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.

GENERAL CHARACTERISTICS

Voltage	ESP		PRP		Standby Amps
	kWe	kVA	kWe	kVA	
415/240	360	450	320	400	626
400/230	360	450	320	400	650
380/220	360	450	320	400	684



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ENGINE SPECIFICATIONS

GENERAL ENGINE DATAS

Engine model	MAN Scania Sweden DC13 072 A , 4-temps, Turbo , Air/Air DC 6 X
Cylinder arrangement	L
Displacement (C.I.)	12.7
Bore (mm) x Stroke (mm)	130 x 160
Compression ratio	16.3 : 1
Speed (RPM)	1500
Pistons speed (m/s)	8.0
Maximum stand-by power at rated RPM (kW)	360
Frequency regulation (%)	+/- 0.5%
BMEP (bar)	22.995
Governor type	Electronic

COOLING SYSTEM

Radiator & Engine capacity (L)	45
Max water temperature (°C)	90
Outlet water temperature (°C)	95
Fan power (kW)	10
Fan air flow w/o restriction (kg/s)	6
Available restriction on air flow (pa)	300
Type of coolant	cool
Thermostat (°C)	80-87

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)	488
Exhaust gas flow (kg/m)	29
Max. exhaust back pressure (mm EC)	750

FUEL

Consumption @ 100% load (L/h)	76
Consumption @ 75% load (L/h)	58
Consumption @ 50% load (L/h)	40

OIL

Oil capacity (L)	30-36
Min. oil pressure (bar)	3
Max. oil pressure (bar)	6
Oil consumption 100% load (g/kWh)	<0.3
Carter oil capacity (L)	3

HEAT BALANCE

Heat rejection to exhaust (kW)	235
Radiated heat to ambient (kW)	28
Heat rejection to coolant (kW)	112

AIR INTAKE

Max. intake restriction (mm EC)	625
Intake air flow (kg/m)	28



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ALTERNATOR SPECIFICATIONS

GENERAL DATAS

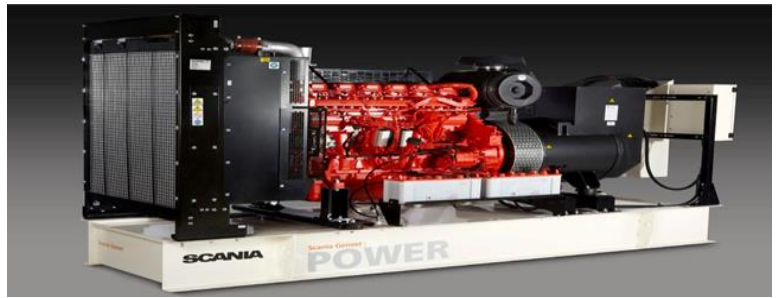
Alternator brand	Mecc Alte
Alternator type	ECO40 1S4 B
Number of phase	3
Power factor (Cos Phi)	0.8
Altitude (m)	0 to 1000
Overspeed (rpm)	2250
Number of pole	4
Excitation system	SHUNT
Insulation class / T° class, continuous 40°C	H / H / 125°K
Regulation	DSR
Wave Distors (THD Full Load) LL	3,1/3
Wave Distors (THD Nol Load) LL	2,8 / 2,7
Number of bearing	1
Coupling	Direct
Voltage regulation at established rating (%)	+/- 0.5%

OTHER DATAS

Continuous Nominal Rating 40°C (kVA)	400
Standby Rating 27°C (kVA)	450
Efficiencies 4/4 load (%)	94.6
Air flow (m3/s)	.9
Short circuit ratio (Kcc)	0.36
Direct axis synchro reactance unsaturated (Xd) (%)	286.7
Quadra axis synchro reactance unsaturated (Xq) (%)	115.9
Open circuit time constant (T'do) (sec)	2.55
Direct axis transient reactance saturated (X'd) (%)	19.3
Short circuit transient time constant (T'd) (sec)	0.16
Direct axis subtransient reactance saturated (X''d) (%)	12.2
Subtransient time constant (T''d) (sec)	0.019
Quadra axis subtransient reactance saturated (X''q) (%)	24.2
Zero sequence reactance unsaturated (Xo) (%)	3.62
Negative sequence reactance saturated (X2) (%)	19.1
Armature time constant (Ta) (sec)	0.017
No load excitation current (io) (A)	0.8
Full load excitation current (ic) (A)	3.6
Full load excitation voltage (uc) (V)	61.30
Recovery time (Delta U = 20% transient) (ms)	500 ms
Engine start (Delta U = 20% perm. or 50% trans.) (kVA)	996.94
Transient dip (4/4 load) - PF : 0,8 AR (%)	19
Heat rejection (W)	19703



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CONTROL PANEL

DSE Deep Sea Electronics 6010 Standard

DSE Deep Sea Electronics 7320 optional



- Automatically transfers between mains (utility) and generator (DSE6020 MKII only)
- Hours counter provides accurate information for monitoring and maintenance periods
- User-friendly set-up and button layout for ease of use
- Multiple parameters are monitored simultaneously which are clearly displayed on a large back-lit icon display
- The module can be configured to suit a wide range of applications
- Compatible with a wide range of CAN engines, including tier 4 engine support
- Uses DSE Configuration Suite PC Software for simplified configuration
- Licence-free PC software
- IP65 rating (with optional gasket) offers increased resistance to water ingress

- 4-Line back-lit LCD text display
- Five key menu navigation
- Front panel editing with PIN protection
- Customisable status screens
- Power save mode
- Support for up to three remote display units
- 9 configurable inputs
- 8 configurable outputs
- Flexible sender inputs
- Configurable timers and alarms
- 3 configurable maintenance alarms
- Multiple date and time scheduler
- Configurable event log (250)
- CAN engine support
- Integral PLC editor
- Easy access diagnostic page
- CAN and Magnetic Pick-up/Alt. sensing
- Fuel usage monitor and low fuel alarms
- Charge alternator failure alarm
- Manual speed control (on compatible CAN engines)
- Manual fuel pump control
- Engine exerciser
- "Protections disabled" feature
- kW & kV Ar protection



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