



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 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.

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.

D440

Engine type	P158LE
Alternator type	LSA 47.2 VS3

GENERAL CHARACTERISTICS

Frequency (Hz)	50
Reference voltage (V)	400/230
Max power ESP (kVA)	440
Max power ESP (kWe)	352
Max power PRP (kVA)	400
Max power PRP (kWe)	320
Intensity (A)	635
Standard Control Panel	TELYS
Optional control panel	KERYS

DIMENSIONS AND NOISE LEVELS

DIMENSIONS COMPACT VERSION

Length (mm)	3470
Width (mm)	1500
Height (mm)	1829
Dry weight (kg)	2910
Tank capacity (L)	500

DIMENSIONS SOUNDPROOFED VERSION

Canopy	M229
Length (mm).	5031
Width (mm).	1560
Height (mm).	2435
Dry weight (kg).	4090
Tank capacity (L).	500
Acoustic pressure level @1m in dB(A) (associated uncertainty)	82 (0.7)
Sound power level guaranteed (Lwa) in dB(A)	102

POWERS

Voltage	ESP		PRP		Standby Amps
	kWe	kVA	kWe	kVA	
415/240	352	440	320	400	612
400/230	352	440	320	400	635
380/220	352	440	320	400	669

D440

ENGINE SPECIFICATIONS

GENERAL ENGINE DATAS

Engine model	DOOSAN P158LE , 4-temps, Turbo , Air/Air DC 8 X
Cylinder arrangement	V
Displacement (C.I.)	14.62
Bore (mm) x Stroke (mm)	128 x 142
Compression ratio	15 : 1
Speed (RPM)	1500
Pistons speed (m/s)	7.1
Maximum stand-by power at rated RPM (kW)	414
Frequency regulation (%)	N/A
BMEP (bar)	19.87
Governor type	Electronic

COOLING SYSTEM

Radiator & Engine capacity (L)	80.5
Max water temperature (°C)	103
Outlet water temperature (°C)	N/A
Fan power (kW)	16
Fan air flow w/o restriction (m3/s)	8.2
Available restriction on air flow (mm EC)	127
Type of coolant	Gencool
Thermostat (°C)	71 - 85

EMISSIONS

Emission PM (g/kW.h)	0.1
Emission CO (g/kW.h)	0.84
Emission HCNOx (g/kWh)	N/A
Emission HC (g/kW.h)	0.18

EXHAUST

Exhaust gas temperature (°C)	580
Exhaust gas flow (L/s)	1305
Max. exhaust back pressure (mm EC)	600

FUEL

Consumption @ 110% load (L/h)	102.9
Consumption @ 100% load (L/h)	89.3
Consumption @ 75% load (L/h)	65.1
Consumption @ 50% load (L/h)	43.9
Maximum fuel pump flow (L/h)	270

OIL

Oil capacity (L)	31
Min. oil pressure (bar)	0.5
Max. oil pressure (bar)	10
Oil consumption 100% load (L/h)	0.09
Carter oil capacity (L)	21

HEAT BALANCE

Heat rejection to exhaust (kW)	369.2
Radiated heat to ambient (kW)	50.6
Heat rejection to coolant (kW)	221.7

AIR INTAKE

Max. intake restriction (mm EC)	635
Intake air flow (L/s)	421

GENERAL DATAS

Alternator brand	LEROY SOMER
Alternator type	LSA 47.2 VS3
Number of phase	3
Power factor (Cos Phi)	0.8
Altitude (m)	0 à 1000
Overspeed (rpm)	2250
Number of pole	4
Excitation system	SHUNT
Insulation class / T° class, continuous 40°C	H / H / 125°K
Regulation	N/A
Harmonic factor, no load TGH/THC	< 1.5%
Wave form : NEMA=TIF-(TGH/THC)	< 50
Wave form : CEI=FHT-(TGH/THC)	< 2%
Number of bearing	1
Coupling	Direct
Voltage regulation at established rating (%)	+/- 0.5%
Recovery time (Delta U = 20% transient) (ms)	500 ms

OTHER DATAS

Continuous Nominal Rating 40°C (kVA)	400
Standby Rating 27°C (kVA)	440
Efficiencies 4/4 load (%)	93.1
Air flow (m3/s)	0.9
Short circuit ratio (Kcc)	0.29
Direct axis synchro reactance unsaturated (Xd) (%)	393
Quadra axis synchro reactance unsaturated (Xq) (%)	235
Open circuit time constant (T'do) (ms)	1771
Direct axis transient reactance saturated (X'd) (%)	22.1
Short circuit transient time constant (T'd) (ms)	100
Direct axis subtransient reactance saturated (X''d) (%)	15.5
Subtransient time constant (T''d) (ms)	10
Quadra axis subtransient reactance saturated (X''q) (%)	20.9
Zero sequence reactance unsaturated (Xo) (%)	0.8
Negative sequence reactance saturated (X2) (%)	18.2
Armature time constant (Ta) (ms)	15
No load excitation current (io) (A)	0.9
Full load excitation current (ic) (A)	3.9
Full load excitation voltage (uc) (V)	39
Recovery time (Delta U = 20% transient) (ms)	500 ms
Engine start (Delta U = 20% perm. or 50% trans.) (kVA)	729
Transient dip (4/4 load) - PF : 0,8 AR (%)	17.6
No load losses (W)	5150
Heat rejection (W)	23340

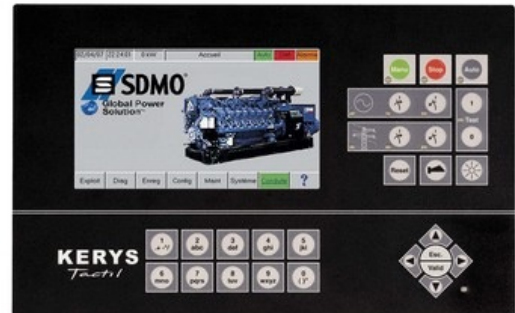
CONTAINMENT

Canopy	M229 DW
Length (mm).	5083
Width (mm).	1560
Height (mm).	2700
Dry weight (kg).	4750
Tank capacity (L).	1770
Acoustic pressure level @1m in dB(A) (associated uncertainty)	82 (0.7)
Sound power level guaranteed (Lwa) in dB(A)	102

DIMENSIONS AND NOISE LEVELS

TELYS, ergonomic and user-friendly

KERYS, coupling and adaptability



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.

The KERYS control unit has been designed to fulfil the specific requirements of professionals in terms of operating and monitoring generating sets. It therefore offers a wide range of functions.

This control unit is fitted as standard to all generating sets designed to be used for coupling and is offered as an option across the rest of our range.

The KERYS can be built into the central console, fitted directly on the generating set, or in a separate cabinet, to fulfil all the requirements for low and high output power plants.

>The KERYS 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.

Additional functions: coupling, website, diagnostic aid, assistance and maintenance, graphs and archiving, load impact management, 8 available installation configurations, certification in line with international standards.

For more information, please refer to the sales documentation.

Additional specifications :Website, Troubleshooting, Assistance and Maintenance, Plotting and logging, Load impact, 8 configurations available, Compliance with international standards...