X1100C

Engine ref.	16V2000G65E
Alternator ref.	LSA 49.1 L11
Performance class	G3

GENERAL CHARACTERISTICS

Frequency (Hz)	50
Voltage (V)	400/230
Standard Control Panel	Basic terminal block
Optional control panel	M80
Optional Control Panel	TELYS
Optional control panel	APM802

DESCRIPTIVE

- Electronic governor
- Mechanically welded chassis with antivibration suspension
- Radiator with mechanic fans (please see the performance table for the temperatures)
- Exhaust compensators with flanges
- 24 V charge alternator and starter
- Delivered with oil and coolant -30°C
- Manual for use and installation

POWER

Voltage	ESP		PRP		Standby Amps
	kWe	kVA	kWe	kVA	
415/240	880	1100	800	1000	1530
400/230	880	1100	800	1000	1588
380/220	880	1100	800	1000	1671

DIMENSIONS COMPACT VERSION

Length (mm)	4315
Width (mm)	1848
Height (mm)	2150
Dry weight (kg)	6257
Tank capacity (L)	0

DIMENSIONS SOUNDPROOFED VERSION

Commercial reference of the enclosure	M427
Length (mm)	6400
Width (mm)	2170
Height (mm)	2721
Dry weight (kg)	9187
Tank capacity (L)	930
Acoustic pressure level @1m in dB(A)	91
Sound power level guaranteed (Lwa)	112
Acoustic pressure level @7m in dB(A)	82

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	MTU
Engine ref.	16V2000G65E
Air inlet system	Turbo
Cylinders configuration	V
Number of cylinders	16
Displacement (L)	31,86
Charge Air coolant	Air/Air DC
Bore (mm) x Stroke (mm)	130,00 x 150,00
Compression ratio	16
Speed (RPM)	1500
Pistons speed (m/s)	7,50
Maximum stand-by power at rated RPM (kW)	975,00
Frequency regulation, steady state (%)	+/- 0.5%
BMEP (bar)	22,35
Governor type	Electronic

COOLING SYSTEM

Radiator & Engine capacity (L)	196,00
Max water temperature (°C)	102,00
Outlet water temperature (°C)	95
Fan power (kW)	52,00
Fan air flow w/o restriction (m3/s)	22,02
Available restriction on air flow (mm H2O)	20,00
Type of coolant	Glycol-Ethylene
Thermostat modulating range HT (°C)	75-88

EMISSIONS

Emission PM (mg/Nm3) 5% O2	<20
Emission CO (mg/Nm3) 5% O2	<300
Emission HC+NOx (g/kWh)	
Emission HC (mg/Nm3) 5% O2	<150

EXHAUST

Exhaust gas temperature @ ESP 50Hz (°C)	505
Exhaust gas flow @ ESP 50 Hz (L/s)	3750,00
Max. exhaust back pressure (mm H2O)	500

FUEL

Consumption @ 110% load (L/h)	252,00
Consumption @ 100% load (L/h)	232,00
Consumption @ 75% load (L/h)	169,00
Consumption @ 50% load (L/h)	114,00
Maximum fuel pump flow (L/h)	600,00

OIL

Oil capacity (L)	102,00
Min. oil pressure (bar)	4,70
Max. oil pressure (bar)	7,50
Oil consumption 100% load (L/h)	
Oil sump capacity (L)	92,0

HEAT BALANCE

Heat rejection to exhaust (kW)	811
Radiated heat to ambiant (kW)	45,00
Haet rejection to coolant (kW)	390

AIR INTAKE

Max. intake restriction (mm H2O)	150
Intake air flow (L/s)	1600,00

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ALTERNATOR CHARACTERISTICS

GENERAL DATA

Alternator ref.	LSA 49.1 L11
Number of Phase	Three phase
Power factor (Cos Phi)	0,8
Altitude (m)	0 to 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, standby 27°C	H / 163°K
%regulation_avr%	#regulation_avr#
Total Harmonic Distortion in no-load DHT (%)	<4
Total Harmonic Distortion, on load DHT (%)	<4
Wave form : NEMA=TIF	<50
Wave form : CEI=FHT	<2
Number of bearing	1
Coupling	Direct
Voltage regulation at established rating (+/- %)	0,50
Recovery time (Delta U = 20% transcient) (ms)	500
Indication of protection	IP 23
Technology	Without collar or brush
AVR Regulation	Yes

OTHER DATA

Continuous Nominal Rating 40°C (kVA)	1000,0
Standby Rating 27°C (kVA)	1100,0
Efficiencies 100% of load (%)	95,1
Air flow (m3/s)	1,200
Short circuit ratio (Kcc)	0,374
Direct axis synchro reactance unsaturated (Xd) (%)	346,0
Quadra axis synchro reactance unsaturated (Xq) (%)	207,0
Open circuit time constant (T'do) (ms)	2111,00
Direct axis transcient reactance saturated (X'd) (%)	16,4
Short circuit transcient time constant (T'd) (ms)	100,000
Direct axis subtranscient reactance saturated (X"d) (%)	13,1
Subtranscient time constant (T"d) (ms)	10,000
Quadra axis subtranscient reactance saturated (X"q) (%)	14,20
Subtranscient time constant (T"q) (ms)	10,0
Zero sequence reactance unsaturated (Xo) (%)	0,900
Negative sequence reactance saturated (X2) (%)	13,71
Armature time constant (Ta) (ms)	15,000
No load excitation current (io) (A)	0,80
Full load excitation current (ic) (A)	3,21
Full load excitation voltage (uc) (V)	37,4
Engine start (Delta U = 20% perm. or 50% trans.) (kVA)	2184,77
Transcient dip (4/4 load) - PF : 0,8 AR (%)	11,00
No load losses (W)	10994,00
Heat rejection (W)	41105,43
Unbalanced load acceptance ratio (%)	60

DIMENSIONS

BASE AND CANOPY SPECIFICATIONS

Commercial reference of the enclosure	M427
Length (mm)	6400
Width (mm)	2170
Height (mm)	2721
Dry weight (kg)	9840
Tank capacity (L)	930
Acoustic pressure level @1m in dB(A)	87
Sound power level guaranteed (Lwa)	108
Acoustic pressure level @7m in dB(A)	78

CONTAINER ISO 20

Commercial reference of the enclosure	ISO20 Si
Length (mm)	6058
Width (mm)	2438
Height (mm)	2896
Dry weight (kg)	11596
Tank capacity (L)	500
Acoustic pressure level @1m in dB(A)	89
Sound power level guaranteed (Lwa)	110
Acoustic pressure level @7m in dB(A)	80

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CONTROL PANEL

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.

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.

APM802 dedicated to power plant management

The new APM802 command/control system is specifically designed for operating and monitoring power plants for markets including hospitals, data centres, banks, the oil and gas sector, industries, IPP, rental and mining.
This unit is available as standard on all generating sets from 275 Kva designed for coupling. It is optional on the rest of our range.
The Human Machine Interface, designed in collaboration with a company specialising in interface design, facilitates operations with a large 100% touch screen. The pre-configured system for power plant applications features a brand new customisation function which complies with the international standard IEC 61131-3. New communication functions (PLC and regulation), improve the high level of equipment availability in the installation.

Advantages:
Dedicated to power plant management.
Specially researched ergonomics.
High level of equipment availability.
Modularity and long service life guaranteed.
Making it easy to extend the installation

For more information, please refer to the sales documentation.