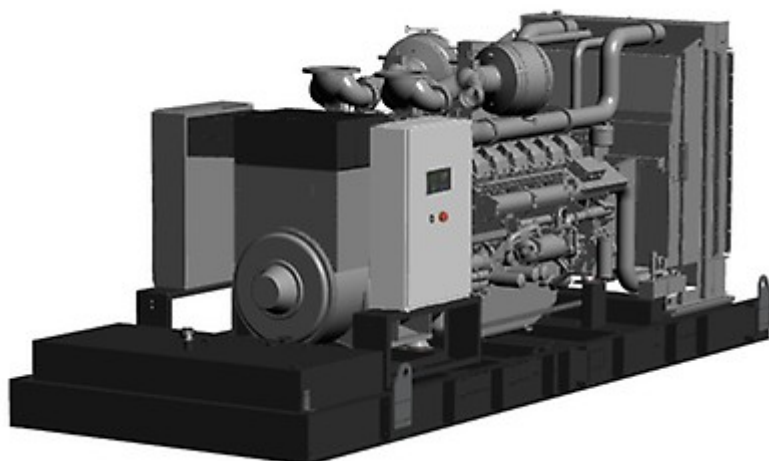


GSW2805M



Main Features

Frequency	Hz	50
Voltage	V	400
Power factor	$\cos \phi$	0.8
Phase		3

Power Rating

Standby power LTP	kVA	2750
Standby power LTP	kW	2200
Prime power PRP	kVA	2537
Prime power PRP	kW	2030
PRP Rating available only with engine supplement:		DPA

Ratings definition (According to standard ISO8528 1:2005)

PRP - Prime Power:

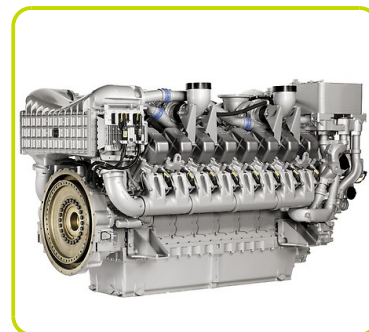
It is defined as being the maximum power which a generating set is capable of delivering continuously whilst supplying a variable electrical load when operated for an unlimited number of hours per year under the agreed operating conditions with the maintenance intervals and procedures being carried out as prescribed by the manufacturer. The permissible average power output over 24 h of operation shall not exceed 70 % of the prime power.

LTP - Limited-Time running Power:

It is defined as the maximum power available, under the agreed operating conditions, for which the generating set is capable of delivering for up to 500 h of operation per year (whose no more than 300 for continuative use) with the maintenance intervals and procedures being carried out as prescribed by the manufacturers. No overload capability is available.

Engine specifications

Engine manufacturer	MTU	
Model	20V4000G64F 3D	
Version	50 Hz	
PRP Rating only with supplement:	DPA	
Engine cooling system	Water	
Nr. of cylinder and disposition	20 V	
Displacement	cm ³	95400
Aspiration	Turbocharged aftercooled	
Speed governor	Electronic	
Operating Speed-Nominal	rpm	1500
Prime gross power PRP	kW	2200
Maximum gross power LTP	kW	2420
Oil capacity	l	390
Fuel	Diesel	
Specific fuel consumption @ 75% PRP	g/kWh	199
Specific fuel consumption @ PRP	g/kWh	193
Starting system	Electric	
Electric circuit	V	24



Fuel system:

- Electronically controlled high-pressure injection with single unit injection pumps (EUP)
- Fuel delivery pump
- Fuel main filter
- Fuel priming pump for initial system filling and venting
- Closed fuel system

Lube oil system:

- Forced-feed lubrication system with piston cooling
- Lube oil circulation pump with safety valve
- Lube oil multi-stage filter
- Lube oil heat exchanger
- Oil filler neck and oil dipstick for measurement on non-running engine
- Closed crankcase venting system

Combustion air system:

- Exhaust turbochargers
- Set of dry-type air filters with contamination indicator

Cooling system :

- Coolant circulation pump and coolant thermostat for jacket water cooling systems
- Electric radiator for jacket water and charge air cooling circuit with integrated expansion tank
- Coolant level sensor

Alternator Specifications

Alternator	Leroy Somer	
Model	LSA52.3 L12	
Voltage	V	400
Frequency	Hz	50
Power factor	cos ϕ	0.8
Voltage regulation system	Electronic	
Poles	4	
Standard AVR	R449	
Voltage tolerance	%	0.5
Efficiency @ 75% load	%	96.5
Class	H	
IP protection	23	
Phases	3	



SPECIALLY ADAPTED TO APPLICATIONS

The LSA 52.3 alternator is designed to be suitable for typical generator applications, such as: backup, marine applications, rental, telecommunications, etc.

TOP OF THE RANGE ELECTRICAL PERFORMANCE

- Class H insulation.
- Standard 6 wire winding, 2/3 pitch, type no. 6S.
- High efficiency and motor starting capacity.
- R 791 interference suppression conforming to standard EN 61000-6-3, EN 61000-6-2, EN 55011 group 1 class B standard for European zone (CE marking).

EXCITATION AND REGULATION SYSTEM

- Excitation system: AREP
- Voltage A.V.R.: R 449

REINFORCED MECHANICAL STRUCTURE

- Compact rigid assembly to better withstand generator vibrations.
- Steel frame
- Cast iron flanges and shields.
- single-bearing designed to be suitable for heat engines.
- Half-key balancing bearing.
- Regreasable bearings.
- Clockwise rotation in standard.

PROTECTION SYSTEM SUITED TO THE ENVIRONMENT

- The LSA is IP 23.
- Winding Protection for clean environments with relative humidity $\leq 95\%$, including indoor marine environments.

COMPLIANT WITH INTERNATIONAL STANDARDS

The LSA alternator conforms to the main international standards and regulations:
- IEC 60034, NEMA MG 1.32-33, ISO 8528-3, CSA C 22.2 n°100-14, UL 1146 (UL 1004 on request), marine regulations, etc.

It can be integrated into a CE marked generator.

The LSA is designed, manufactured and marketed in an ISO 9001 environment and ISO 14001.

Genset equipment

BASE FRAME:

Base frame made of welded steel profiles, complete with anti-vibration mountings properly sized.

The baseframe has a grounding point to connect all metal parts of the generating set and it provides a high structural strength.

ENGINE COMPLETE WITH:

- Liquids (no fuel)
- Manual oil Draining pump

PROTECTIONS:

- Moving and rotating parts protection against accidental contacts

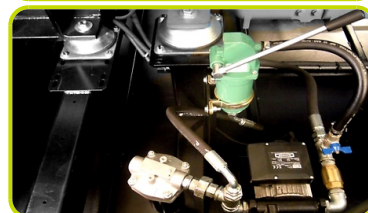
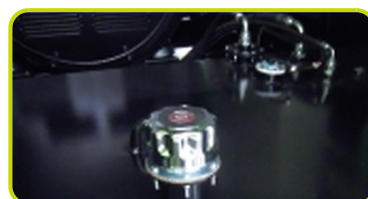
LIFTING:

- Lifting points frame structure.



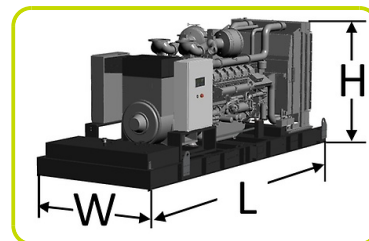
Genset Equipment - Basic Configurations Available:

BAT – LEAD-ACID STARTING BATTERIES KIT			:
Battery	n	4	
Battery Capacity	Ah	220	
MBS - Manual Battery Switch			•
EXHAUST SILENCER - VERSIONS AVAILABLE			:
IES - Industrial silencer	dB(A)	-15	
RES - Residential silencer	dB(A)	-35/38	
FEC - Flexible Exhaust Compensator Bellow and flanges			•
Hot parts protection			•
INTEGRATED FUEL TANK - VERSIONS AVAILABLE			:
IFT1 - Integrated Fuel Tank (steel)	l	500	
IFT2 - Integrated Fuel Tank (steel)	l	1000	
FBD - Fully bundled base frame			•
LDS - Leakage detection sensor (only with FBD)			•
FCV - Fuel Cut Off Valve			•
AFP - Automatic Fuel Pump			•
DFP - Double Automatic Fuel Pump			•
PHS - Coolant Pre-Heating System - available for models:			•
ALS - Automatic Lube Oil Top Up System with lube oil tank 100L			•
[•] = Supplement available			.
Other Configurations and-or special versions available on requests			.



Dimensional data

Length	(L) mm	7535
Width	(W) mm	2280
Height	(H) mm	2755
Dry weight	Kg	20500



Consumption

Fuel consumption @ 75% PRP	l/h	395.06
Fuel consumption @ 100% PRP	l/h	505.48

Installation data

Total air flow	m³/min	2806.00
Exhaust gas flow @ PRP	m³/min	408
Exhaust gas temperature @ LTP	°C	530

Electrical Data

MAX current	A	3969.40
Circuit breaker	A	4000

Control panel availability

AUTOMATIC CONTROL PANEL	ACP
MODULAR PARALLEL PANEL	MPP

ACP - Automatic control panel

Mounted on the genset, complete with digital control unit for monitoring, control and protection of the generating set

DIGITAL INSTRUMENTATION

- Generating set voltage (3 phases)
- Mains voltage
- Generating set frequency
- Generating set current (3 phases)
- Battery voltage
- Power (kVA - kW - kVAr)
- Power factor Cos ϕ
- Hours-counter
- Engine speed r.p.m.
- Fuel level (%)
- Engine temperature

COMMANDS AND OTHERS

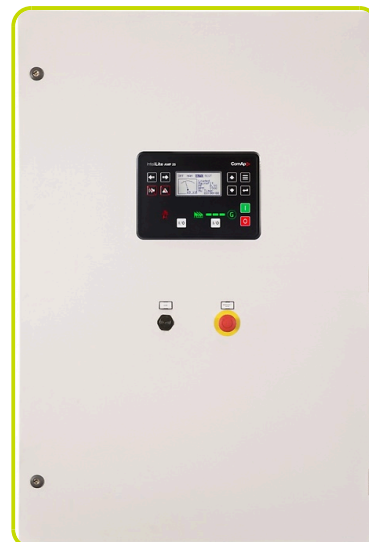
- Four operation modes: OFF - Manual starting - Automatic starting - Automatic test
- Pushbutton for forcing Mains contactor or Genset contactor
- Push-buttons: start/stop, fault reset, up/down/page/enter selection
- Remote starting availability
- Acoustic alarm
- Automatic battery charger
- USB Communication port
- Settable PASSWORD for protection level

PROTECTIONS WITH ALARM

- Engine protections: low fuel level, low oil pressure, high engine temperature
- Genset protections: under/over voltage, overload, under/over frequency, starting failure, under/over battery voltage

PROTECTIONS WITH SHUTDOWN

- Engine protections: low fuel level, low oil pressure, high engine temperature
- Genset protection: under/over voltage, overload, under/over battery voltage, battery charger failure



ACP - Basic Configurations Available:

POWER PANEL - BREAKERS AVAILABLE:

GCB1 - Genset Circuit Breaker 3-pole	A	4000
GCB2 - Genset Circuit Breaker 4-pole	A	4000
ETB - External Terminal Board (with GCB)		Standard
Various Supplement for Remote Control		RGW [●]
Various supplements for remote signals		ARM [●]
Control Panel Anti-Condensation Heater (ACP)		CAH [●]

[●] = Supplement available

Other Configurations and-or special versions available on requests

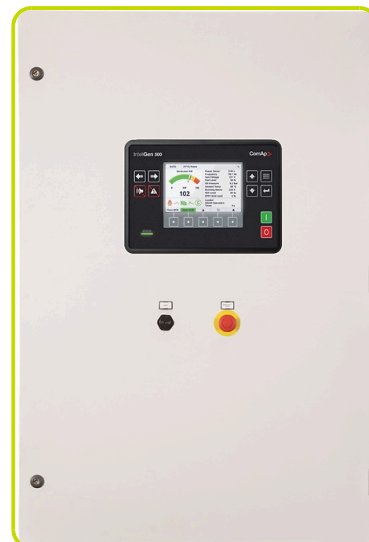


MPP - Modular parallel panel

Mounted on the genset, complete with digital control unit for monitoring, control, protection and load sharing for both single and multiple gen-sets operating in standby or parallel modes (up to 32 gen-sets in island).

DIGITAL INSTRUMENTATION (5" TFT COLOUR SCREEN)

- Mains: voltage, Intensity, Frequency.
- Mains kW - kVAr - Power factor Cos f.
- Generating set voltage (3 phases).
- Generating set frequency.
- Generating set current (3 phases).
- Generating set Power (kVA - kW - kVAr - Cos f).
- Generating set kWh and kVAh.
- Battery voltage.
- Hours-counter.
- Engine speed r.p.m.
- Fuel level (%).
- Engine temperature - Oil pressure



COMMAND AND OTHERS

- Single Parallel to Mains and Multiple parallel genset Island applications
- Operation modes: OFF- MAN - AUTO - TEST
- Pushbutton for forcing Mains Breaker/contactors or Genset Breaker/contactors.
- Push-buttons: start/stop, fault reset, up/down/page/enter selection.
- Multiple parallel and Power Management operation available.
- Automatic synchronizing and power control (via speed governor or ECU)
- Baseload Import/Export and Peak shaving
- Voltage and PF control.
- Configurable digital I/O (8/8) and analogue inputs (4).
- Integrate PLC programmable functions.
- Event-based history (up to 500 records).
- Remote starting and Blocking signal availability.
- Acoustic alarm.
- Automatic battery charger.
- Ethernet RJ45, USB A, USB B and RS485 Communication ports.
- Multi-pin connector (in and out) for parallel with other generators

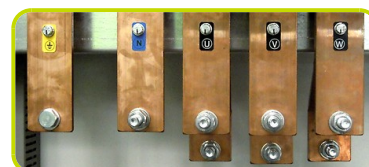


PROTECTION

- Engine protections: low fuel level, low oil pressure, high engine temperature.
- Genset protections: under/over voltage, overload, under/over frequency, starting failure, under/over battery voltage
- Others: overcurrent, shortcircuit, reverse power.
- Emergency stop button.

MPP - Basic Configurations Available:

POWER PANEL - BREAKERS AVAILABLE:		
GMB1 - Genset Circuit Breaker 3-pole motorized	A	4000
GMB2 - Genset Circuit Breaker 4-pole motorized	A	4000
ETB - External Terminal Board (with GMB)	Standard	
Various Supplement for Remote Control	•	
Various supplements for remote signals	•	
Control Panel Anti-Condensation Heater (MPP)	•	
[•] = Supplement available	.	
Other Configurations and-or special versions available on requests	.	



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