

SOLID STATE MICROWAVE GENERATOR

200 W 2450 MHz

Ref. GMS 200 WSM ind D



SAIREM's GMS solid state generators provide continuous wave (CW) output power adjustable from 0 to 200 W at frequencies ranging between 2400 MHz and 2500 MHz.

This generator is designed for scientific and industrial applications, to be used with one or multiple MW applicators, to assure high reliability and small footprint. The protection against high reflected power and measurement of reflected power are performed via a built-in isolator.

Advantages of the solid state generator vs magnetron generator:

- Compact size & light weight, microwave energy transmitted via coaxial cable
- Stable operation from microwave power levels from 1 W & power adjustable in 1 W step
- Semiconductor technology, no magnetron and therefore longer lifetime & no high voltage
- Very good frequency spectrum even at low power;
- Built-in internal protection against mismatching and reflected power interlock
- Built-in isolator with automatic power reduction or switch off
- True RMS detector with linear measurement of reflected and forward power
- Very low ripple < 0.2 % RMS
- Adjustment of the microwave frequency: ± 50 MHz from the central frequency 2450 MHz
- Scan function allows running frequency sweep to find the optimum matching frequency. Up to two minima can be found and displayed on front panel. All measured data are then available through remote control and can be displayed on a PLC screen if necessary.
- SAIREM Auto-tune Algorithm which allows to control the frequency automatically in order to minimize the reflected power

TECHNICAL SPECIFICATIONS

REF	GMS200WSM56MPFCF ⁽¹⁾ S1IRVFAIT D ⁽¹⁾ Remote control selection (refer to 'Control / remote ' below)
Presentation	Power supply with N connector output
Frequency	Central frequency : 2450 MHz. Adjustable between 2400 and 2500 MHz
Frequency resolution	Frequency adjustable with 100 kHz step
Output power	0 to 200 W (adjustable with 1 W step)
Pulse capability (option)	Refer to GMS200WIP version. Integrated square pulse generator (up to 5 kHz at 50% duty cycle) – adjustable duty cycle, frequency or T _{ON} T _{OFF} mode.
Forward and reflected power measurement	Coupler with true RMS detector – linear measurement, linear analogue readout.
Ripple	< 0.2 % RMS
Reflected power	Adjustable from 1 W to 100 W Possibility to control on reflected power limit
Protection functions	VSWR (built-in isolator with automatic power reduction), excess temperature (overheating interlock)
Microwave output	Coaxial cable N-type female plug, 50 Ohm
Control ⁽¹⁾	Local: front panel Remote (to be chosen) : Modbus on RS232 (^{MS}) OR Analogue (ST) OR Modbus RS485 (^{MM}) OR Profibus® (^{PB}) OR CANOpen (^{CA}). <u>To be specified when ordering</u> Analogue input set point for forward power control, analogue output for forward and reflected power as a standard on M12 connector.
Mains	1 phase, 110V to 230V +/-10% VAC, 50/60 Hz
Consumption	690 VA max.at 200 W
Cooling	Air
Weight	11.8 kg
Complies with norms	Safety EN 61010-1 : 2010 / EMC : EN 61326-1 : 2013 A safety connector ensures safety standard for machines and personnel

CONTROL AND OPERATION OF MICROWAVE GENERATORS WITH DIGITAL DISPLAY

The generator with digital front panel is wholly operated in local mode from the control panel located at the front of the power supply rack.

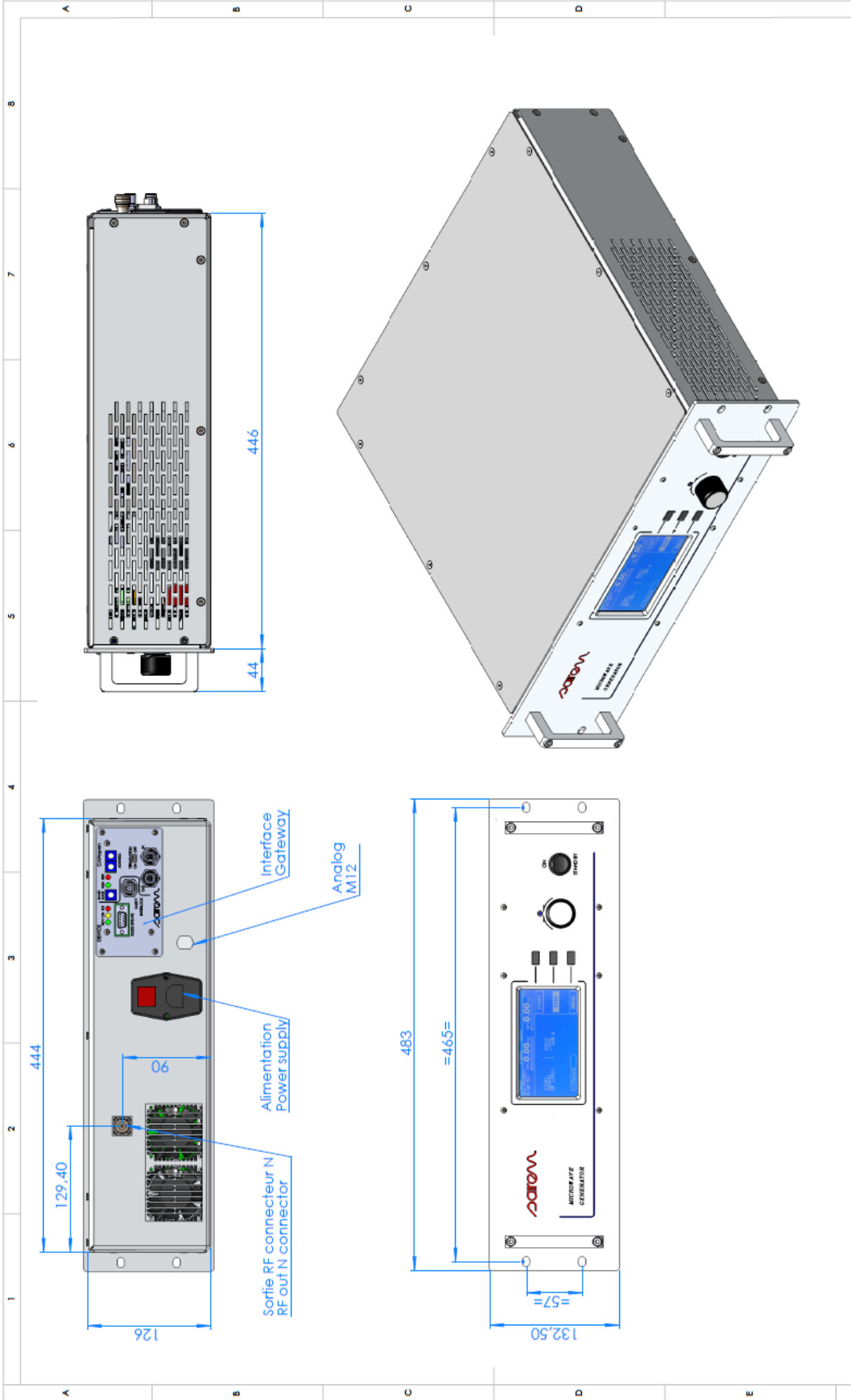
The front panel consists of a large white over blue graphical LCD screen 240 x 128 pixels, 3 push buttons and a knob for menu navigation and power control.



All operating parameters and control status, as well as any possible fault, forward power and reflected power are displayed on the screen. The forward power set-point is pre-displayed before starting.

REFERENCES

L. Latrasse, M. Radoiu, J.-M. Jacomino, A. Grandemenge, Facility for microwave treatment of a load, [Patent WO 2012/146870](#).



MATERIE :		TRAITEMENT :		REPRODUCTION INTERDITE - DROITS RESERVES		TITRE : GMS200WSM	
B	17/11/15	ML	MIS A JOUR	FORMAT : A3	INDEXE DU DOCUMENT		
A	30/07/15	ML	EMISSION ORIGINALE	ECHELLE : 1:3.5	DESIGN NO. 3275-COM 2 B		
INDICE	DATE	DESSINE	VERIFE / APPROUVE	MODIFICATION DU DESSIN	WEIGHT: 9.92		
1							
2							
3							
4							