



MG2K – 1.9kW, 2.45GHz Microwave Generator



The **MG2K, 1.9kWatt, 2.45GHz. Microwave Generator** is a precision unit intended for both scientific and industrial applications. The robust construction using tried and tested components together with the latest design techniques ensure a long and trouble free life particularly in harsh environments

The power supply is mounted inside a 19 inch rack mounting enclosure and is air cooled. The magnetron is mounted inside a separate steel box. An isolator (circulator and dump) is mounted on the launcher exit flange (not shown in picture). Both the magnetron and isolator are water cooled.

An arc detector is fitted inside the magnetron launcher waveguide. The reflected power measurement detector is fitted inside one arm of the microwave isolator.

The main features of the generator are:

- Proven design and track record
- Switch mode power supply
- Individual LED displays for incident (forward) **and reflected power**.
- Precision power control +/- 1% of set power
- Isolator to prevent excessive reflected power damaging the magnetron
- Power supply can be remote from the magnetron
- 2.45GHz output frequency.

The output power of the generator is fully adjustable between zero and maximum power (although the magnetron manufacturer recommends that it should not be run below 200W for long lengths of time). The feedback control system ensures that set output power remains constant and repeatable. Incident (forward) and reflected power measurements are internally calibrated to give high accuracy throughout the power range

An external voltage of 0 to 5Volts can be used to control the output. This is particularly useful in plasma applications where, for example, the output power may be used to control the plasma temperature.

General Specifications

Model MG2K Microwave Generator

OUTPUT FREQUENCY	2.45 GHz +/- 10 MHz.																																
OUTPUT POWER	0.2 – 1.9kW RMS (CW).																																
OUTPUT CONNECTION	UDR26 flange WG9A waveguide.																																
OUTPUT PROTECTION	Generator can withstand a 4:1 VSWR mismatch at any phase angle. A reflected power limit of 500W is factory set. N.B. When using the isolator supplied, an infinite mismatch at full output is permissible.																																
OUTPUT CONTROL	Closed loop feedback control system allows output power stability +/-1% of setpoint.																																
ISOLATOR	Water- cooled .The water cooled dummy load is fitted with a reflected power detector. The isolator can withstand full output at infinite VSWR.																																
FRONT PANEL CONTROLS	Output On; Output Off: Output Set.																																
FRONT PANEL INDICATORS	RF power on; RF power off; Reflected power exceed limit; Remote operation; Cooling interlock; External interlock. Remote control; Incident power (3 LED DPM); Reflected power (3 LED DPM)																																
REMOTE CONTROL	Accessed via 15way "D" connector on rear service panel of cabinet.																																
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COOLING	Power Supply: forced air. Magnetron: water cooled/4 gallons/minute Isolator: water cooled/4 gallons/min																																
PROTECTION	Magnetron over current; High-reflected power;. Magnetron antenna cooling (air);.Magnetron water cooling (water flow)																																
LINE	380/415v 3 phase 4 or 5 wire. 3kVA																																
SIZE	Power supply: 19 inch rack mounting x 4U x 500mm(external connections may protrude an extra 50mm) Magnetron head(excluding isolator): 200mm(W).x 350(L).x 200mm(H).																																
ENVIRONMENT	Humidity (non condensing) 90% max. Temperature 10-40C.																																
STANDARDS	EMC: EN 55011. Immunity: EN 50-082/2. Safety: EN 60-215.																																

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