



RFG 50-600



The **RFG 50-600 (0-600W)** RF generator is a precision unit intended for both scientific and industrial applications. It is of robust construction and uses the latest in switch mode and solid-state design techniques to ensure a long and trouble free life even in harsh environments.

The generator is totally air-cooled which considerably reduces its service requirements and allows simple installation.

The small size of the unit makes it ideal for use where there is restricted rack space.

It is recommended that the generator be used in conjunction with either a manual or automatic impedance matching network. Both of which are available from Coaxial Power Systems Ltd – please see the separate brochure for details.

Available models

RFG 050-50W at 2MHz, 13.56MHz or 27.12MHz.
RFG 100-100W at 2MHz, 13.56MHz or 27.12MHz
RFG 150-150W at 2MHz, 13.56MHz or 27.12MHz
RFG 300-300W at 2MHz, 13.56MHz or 27.12MHz
RFG 600-600W at 2MHz, 13.56MHz or 27.12MHz

Main features

- Efficient Class-E design
- Rack-mount design as standard.
- Compact Half-rack, 2U (89mm) high
- Analog and RS-232 interfaces available.
- 110/240 VAC single phase
- External control of output voltage.
- Feedback control system ensures that the set output power remains constant and repeatable.
- Microprocessor display of incident (forward) power, reflected power and unit status
- Precision power control +/- 1% of set point.
- Fast pulse operation from TTL/CMOS input
- 2MHz, 13.56MHz and 27.12MHz frequencies available as standard.

(Non-standard frequencies are available - please contact factory for details).

The output power of each generator is fully adjustable between zero and maximum power. The feedback control system ensures that the set output power remains constant and repeatable.

Option (please enquire)

An external voltage of 0 to 5Volts can be used to control the output. This is particularly useful in sputter coating applications where the DC voltage developed across the plasma dark space can be controlled rather than the RF power.

Physical	
Model Variants	RFG 50/100/150/300/600-2 (2MHz) RFG 50/100/150/300/600-13 (13.56MHz) RFG 50/100/150/300/600-27 (27.12MHz) Other frequencies available, contact factory
Dimensions	Half rack mounting - 2U high Length: 502 mm, Height: 89mm, Width (Not inc Front Panel) 210mm Width (Inc Front Panel) 241mm
Weight	8 Kg (18 lb) max.
Front panel Material / Colour	Aluminium, RAL7135 Light Grey.
Chassis and Cover Material	Stainless Steel.
Connector and Cable Specifications	
RF Output Connector	N type / 50 Ω
User Port Connector (Analogue & RS-232)	25-pin, Sub-Miniature 'D' Female, with 8mm 4-40 jack post
AC Power Input Connector / Cable	IEC Socket
Input + Output CEX / Drive Connector	Input: SMA, Coaxial Sub-Miniature / Output: SMA, Coaxial Sub-Miniature
Pulse Input Connector	SMA, Coaxial Sub-Miniature
AMNC Readout connector (Optional)	Lemo – Circular Connector, 3 contacts.
Earth Connection	M4 Threaded Bush
Electrical	
Input Power	110-240 VAC, Single Phase (50/60Hz) Other options are available; please contact us for more information.
Output Power / Impedance	600-Watts MAX Continuous / 50 Ω (Variants inc 0-50W / 0-100W / 0-150W / 0-300W / 0-600W)
RF Frequency Stability	+/- 0.005%
Interface Options	Analogue (Standard), RS-232 (Optional)
Power control resolution - Local	50-100W models ONLY (0.1W Increment resolution) 100-600W models ONLY (1W Increment resolution). 1000W+ models ONLY (5W Increment resolution).
Power control resolution - Remote	Higher resolutions are achievable via Analogue remote power control i.e 0.1W resolution on 1000W+
Efficiency	Up to 90%
Output Envelope Ripple	Less than 1% of full amplitude.
VSWR Capability	Can withstand VSWR at any phase angle.
Harmonic Output	Better than 40 dB below fundamental.
Pulse Operation via SMA input on rear panel	Minimum pulse width 40 μ s (micro-seconds). The external power control signal should vary the peak output from 0 to MAX-power with a pulse-on duty cycle from 0 to continuous (100% duty cycle).
Local Control and Remote Interface	
Local Control	Accessed via Front-Panel Controls: Line ON/OFF. RF ON/OFF. Digital output power set / Menu Control dial. Menu Switches. Remote switches: RF on/off control enable, O/P set on/off. Local switches: x0.1 / x1 (output range), CEX-OSC, PULSE-CW. Timer. VFD display showing: Forward (Incident) power / Reflected power / Reflected power exceed limit. Remote operation. Timer. Interlock status (cooling and external) AMN Readout on main display (optional)
Remote Interface	Accessed via User-Port. RF ON/OFF Incident Power indication Reflected Power indication Output set 0-5volts = 0-100% Remote output set request.
Specification is continued on the following page 	

Environmental	
Operating Temperature	0-40°C (32°F-104°F)
Storage Temperature	0-20°C to +65°C (-4 to149°F)
Cooling Requirements	
Cooling	Forced-Air
Other	
Standards	CE Certification BS EN ISO 9001:2008 EN61000-3-2: 2006 EN6100-3-3/A2: 2005 EN61326-1: 2006 EN61010-1: 2001

Notes & Revision History
RS232 SECTION UPDATED – V.4.01 (27.04.17)

Warranty

Coaxial Power Systems Ltd offer a warranty for parts and labour (if returned to factory) for 1 year from date of despatch. The warranty is invalidated if the generator has suffered inappropriate treatment i.e. excessive vibration, mechanical denting or dropping, accidental liquid spill, excessive applied voltage to remote connectors etc. Coaxial Power Systems Ltd should be notified of all warranty claims before return of equipment.

Contact

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