



High Efficiency RF Generators Model RFG1K-13, 1000Watts at 13.56MHz Model RFG1K-27, 1000Watts at 27.12MHz



These RF generators are precision units intended for scientific and industrial applications. The robust construction using the latest in switch mode and solid-state design techniques ensure a long and trouble free life even in harsh environments.

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.

The main features of all models are:

- Efficient Class-E design
- 19-inch rack, 2U (89mm) high
- 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.
- 13.56MHz and 27.12MHz frequencies as standard

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. 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 sputter coating applications where the D.C. voltage developed across the plasma dark space can be regulated rather than the RF power.

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Technical Specifications

Model RFG1K-13 Model RFG1K-27

Class of operation

Class E

Output frequency

RFG1K-13, 13.56MHz

RFG1K-27, 27.12MHz

Output power

1000Watts into 50 Ohm load

Frequency stability

Crystal controlled:

13.56MHz+/-1.4kHz

27.12MHz+/-2.7kHz

Output impedance

50Ω

Output connection

N type/50Ω

Power control

Analogue control system allows power or external feedback control. Output stability is +/-1% for +/-15% variation in line.

VSWR capability

Can withstand any VSWR at any phase angle

Harmonic output

Better than 40dB below fundamental

Output envelope ripple

Less than 1% of full amplitude

Pulse operation

TTL input via SMA socket on rear panel.

Minimum pulse width

40μs, with a recommended pulse-on duty cycle from 1% to continuous (100% duty cycle.)

The front panel display automatically shows pulse output levels by utilising sample/hold technology

Front panel controls

RF on

RF off

Output power set

Pulse/CW switch

Remote switches

Menu switches

Front panel indicator

RF power on

RF power off

Front panel display

Vacuum fluorescent

display showing:

Forward (Incident) Power

Reflected Power

Reflected power exceed

limit

Remote operation

Timer

Cooling interlock

External interlock

AMN display (option)

Rear panel

switches/connectors

Remote connector (25-way 'D')

Common exciter

output(SMA)

Common exciter

input/external signal

source(SMA)(max.

13dBm)

Pulse input connector

(SMA)

Line input (I.E.C.)

AMN display(option)

RF output connector

(N50Ω)

Mains switch

Remote control

Accessed via rear panel

25-way 'D' type socket

indicators:

RF on/off (open collector 100mA)

Incident power

Reflected power

RF on/off (contact closure)

Interlock (contact closure)

Output set 0-5Volts = 0-100%

Remote output set select

External feedback

Remote RF on/off select

True power control select

Cooling

Forced air - air intake

through rear, exhaust

around chassis cover

Line

110/230 VAC single-phase

50/60Hz

Size

19-inch rack mounting 2U

high 500mm deep

(external connectors may

protrude an extra 50mm)

Weight

18kg

Finish

Front Panel -RAL7135 light grey

Rear Panel - Stainless Steel

Cover - Stainless Steel

Environment

Operating temperature:

0-40°C (-20° to +65° C

storage)

Standards

EN61000-3-2:2006

EN61000-3-3/A2:2005

EN61326-1:2006

EN61010-1:2001

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