



## High Efficiency RF Generator Model RFG100-13, 100 Watts at 13.56MHz Model RFG100-27, 100Watts at 27.12MHz



The high efficiency range of RF generators are precision units intended for scientific and industrial applications. Their 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. Both

types are available from Coaxial Power Systems Ltd – please see the separate brochure for details.

Two models are available:

**Model No RFG100-13, 100Watts at 13.56MHz**  
**Model Mo RFG100-27, 100Watts at 27.12MHz**

The main features of all models are:

- Efficient Class-E design
- Half-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 available 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 controlled rather than the RF power.

## General Specifications – RFG100-13 and RFG100-27 RF Generators

### **Output frequency**

RFG100-13, 13.56MHz.  
RFG100-27, 27.12MHz.

### **Output power**

100Watts

### **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**

SMA TTL input on rear panel.

Minimum pulse width 10μs. The external power control signal should vary the peak output from 0 to 100W, with a pulse-on duty cycle from zero to continuous DC (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 request

External feedback

Remote RF on/off request

### **Cooling**

Forced air - air intake through rear, exhaust around chassis cover

### **Line**

110/230 VAC single phase  
50/60Hz

### **Size**

1/2 rack mounting 2U high  
500mm deep (external connectors may protrude an extra 50mm)

### **Weight**

8kg

### **Finish**

Front Panel -RAL7135 light grey  
Rear Panel - Stainless Steel  
Cover - Stainless Steel

### **Environment**

Operating temperature:  
0-35°C (-20° to +65° C storage)

### **Standards**

EN61000-3-2:2006  
EN6100-3-3/A2:2005  
EN61326-1:2006  
EN61010-1:2001

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