



T&C

Po

# AG 0113 RF GENERATOR



T&C POWER CONVERSION

**120 Watts RF Power at 13.56 MHz for Industrial and Laboratory Applications.**

**FEATURING:**

- **Low harmonic level at 100W  $h_{2\leq} \leq -50$  dBc,**
- **Digital Metering, measuring forward, reflected and load power simultaneously**
- **Front Panel Control of Generator and Amplifier functions**
- **Data acquisition: Status Monitoring & Power Measurement at Analog Port**
- **RS232 communication: Full Control of RF Generator's Functions**
- **AGC Power Leveling: Output Power Control to better than  $\pm 2$  W of set value.**
- **Pulse operation**



*Power Supply  
Front Panel View*

Generator Model AG 0113 is a robust source of RF power for laser modulation, plasma generation, general laboratory and general industrial applications.

Featuring leading edge solid state design for all generator stages, it provides everything for a complete and reliable, controlled RF power delivery system. It reflects the T&C ongoing commitment to provide RF power products of the highest quality, incorporating the current requirements for complete remote control and data acquisition features

**OPERATION**

The AG 0113 produces up to 120W of RF power at a frequency of 13.56 MHz, with low harmonic distortion. Front Panel offers a LCD display of Forward, Reflected and Load Power readings, RF Status, AGC setups and operating frequency in Generator Mode.

Power meters are calibrated into a 50 Ohm Load and are accurate when unit operates into matched load. Outside of matched condition, the model AG 0113's power measurement system provides an accurate reading of VSWR.

When used as an amplifier, the AG 0113 is compatible with most signal and function generators, computer

synthesizer cards and it accurately reproduces all waveforms within its output and bandwidth limits.

The Forced-air cooling system and the internal power supply are designed to permit operation over a wide range of temperature and global AC line conditions. The AG 0113 is built to withstand a + 5 dBm Input signal. The unit amplifies the inputs of AM, narrow band FM and pulse modulations.

**OUTPUT PROTECTION**

AG 0113 is protected by its internal monitoring system for 120 Watts of total Forward Power and 50 Watts of Reflected Power. This will protect the generator output stage from extreme mismatch at the Output.

**GENERAL**

T&C's products are designed to be reliable, compact and light in weight. The use of conservatively rated components ensures high reliability and eliminates the need for periodic retuning.

110 Halstead Street  
Rochester, New York 14610  
USA  
Tel: 585.482.5551  
Fax: 585.482.8487  
www.tpowerconversion.com  
sales@tpowerconversion.com



# AG 0113 RF Power Source Specifications

## Class Of Operation

Class C

## Frequency Of Operation

13.56 MHz

## Frequency Stability

0.005% or better

## RF Power Output

120 Watts nominal into 50 Ohms

## Operation as amplifier. Contact T&C for further details.

### Output as amplifier in MGC/Burst Mode

0 dBm IN, 1V (5 or 10V) CTL IN pin 5  
100W +/-2W

## RF Input Drive (as amplifier)

Typical range -20 dBm to 0 dBm  
1V (5 or 10V) CTL IN pin 5

## RF Input Drive for AGC

Recommended +0 to +3 dBm for the best operation

## Input Drive Source(amplifier)

Signal or function generator, analog computer input capable of up to 2 Vp-p @ 50 Ohm

## Internal RF Source

Crystal oscillator at 13.56 MHz

## Input and Output Impedance

50 Ohm

## IN / OUT VSWR

1.2:1 max - input

3:1 max - output

## Output VSWR Protection

50 Watts max reflected power limit. Automatic, limits typically within 0.5 ms after reverse power reaches 50 Watts or power amplifier current preset limit.

## Harmonic Level @ 100 W

Better than - 50 dBc

## Spurious Output

- 50 dBc

## Output Blanking

For pulsed applications, T&C amplifiers and generators offer blanking of the output signal for minimum noise RF spectrum

## Dynamic Power Range

1 to 120 W, settings within +/- 2W  
NOTE! Output cutoff below 1W.

## Output Settings & Control (Communications)

SubD 25 Analog and Digital I/O .Rear Panel

NOTE! Check which scale is selected for your unit. Available scales:

1 V=100 W

5 V=nominal power (default, analog port)

10 V=nominal power (default, software)

## D-COM "Digital Communication"

Port:

RS-232

RS-485

USB 2.0

## Pulse Specifications

Pulse Width from 2  $\mu$ s to continuous, user defined.

## RF Power Margin

(Open Loop Max Power/Rated Power)-1)\*100  
100 %

## RF Connectors

INPUT BNC Female

OUTPUT N Female

BLANKING BNC Female

Rear Panel

## AC Power Connection

IEC Standard Power Entry followed by RFI filter.

Filter range 0.1 to 30 MHz min.

## AC Circuit Protection

Internally fused on the main DC Power Supply, 15 A.

## AC Input Current (RMS)

### RF Out 120 W:

100-120 V ac, 50-60 Hz, 6.0 A

200-240 V ac, 50-60 Hz, 3.0 A

## Cooling

Forced air, temperature controlled, heatsink temperature monitored for equipment safety at 70C limit.

## Dimensions

L 458 mm x W 216 mm x H 140 mm  
(18" x 8.5" x 5.5" )

## Weight

8.5 kg, 19 lbs.

## Case

Front Panel: plastic overlay with membrane switches .

Aluminum Covers and Chassis.

Chassis designed to meet EMI RFI shielding requirements

## Mounting

Half Rack, 3U high.

Optional: Rack Mount Kit, Adapter Kit, Coupling Screws.

## Environmental conditions

Temp.: 10° to 40° C ambient

Humidity: 80%

Equipment intended for ISM applications in laboratory and light industrial environment.