



T&C
Power Conversion

AG 1213 W RF POWER SOURCE



T&C POWER CONVERSION

1200 Watts RF Power at 13.56 MHz for Industrial and Laboratory Applications.

FEATURING:

- **13.56 MHz up to 1200 Watts in peak power**
- **Low harmonic level @ 1100W Better than -50 dBc any harmonic**
- **Measuring forward, reflected and power VSWR simultaneously**
- **Front & Rear Panel Control & Monitoring of all Generators functions. Data acquisition: Status Monitoring & Power Measurement via Analog Port**
- **AGC Power Leveling: Output Power Control to better than $\pm 12W$ of set value.**
- **Pulse operation in MGC/Burst mode**



FRONT PANEL VIEW

RF Power Source Model AG 1213W 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 and a built-in crystal oscillator signal source, 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 current requirements for complete remote control and data acquisition.

OPERATION

The AG 1213W produces 1200W of RF power at a frequency of 13.56 MHz, with low harmonic distortion. Power meters are calibrated into a 50 Ohm Load and are accurate when unit operates into a matched load. Outside of matched condition, the model AG1213's power measurement system provides an accurate reading of VSWR. High level VSWR is also monitored for protection of output stage.

When used as an amplifier, the AG 1213W is compatible with most

signal and function generators, computer synthesizer cards and accurately reproduces waveforms within its control loop bandwidth limits. The AG 1213W features a combination of forced-air and water cooling systems. The internal power supply designed to permit operation over a wide range of temperature and global AC line conditions.

The AG 1213W is built to withstand a +3 dBm Input signal. The unit amplifies the inputs of AM, narrow band FM and pulse modulations.

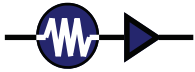
OUTPUT PROTECTION

AG 1213W is protected by its internal monitoring system for 1200 Watts of total Forward Power and 200 W of total Reverse Power. REV automatic foldback reduces output power depending on the level of the actual VSWR.

GENERAL

T&C generators are designed to be reliable. The use of conservatively rated components ensures high reliability and eliminates the need for periodic retuning.

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AG 1213W RF Power Source Specifications

Class Of Operation

Class C

Frequency Of Operation

13.56 MHz

RF Power Output

1200 Watts into 50 Ohm nominal

Operation with external signal:

Output as amplifier in MGC/Burst

0 dBm IN, 10V (10V or 5V) CTL IN pin 5
1200W +/-12W

NOTE! Check which scale is selected for your unit!

NOTE! Scale for MGC is not as linear as in AGC and may have higher deviation.

RF Input Drive for AGC Mode

Recommended +0 to +3 dBm for best operation

Input Drive Source (amplifier)

Signal or function generator, analog input capable of drive 0 to 3 dBm @ 50 Ohm

Internal RF Source

Crystal oscillator at 13.56 MHz
Stability: 0.005% or better

Input and Output Impedance

50 Ohm

IN / OUT VSWR

1.2:1 max - input
3:1 max - output

Output VSWR Protection

200 Watts max reflected power limit.
Automatic fold back limit with [W] level of protection depending on actual VSWR of the load connected.

Harmonic Level @ 1100W

Better than -50 dBc any harmonic

Spurious Output

-55 dBc noise level generated by internal circuits

Dynamic Power Range

~ 1 to 1200W, settings within +/- 12W

Output Blanking/Pulsing

For pulsed applications, T&C amplifiers and generators offer blanking of the output signal for minimum noise RF spectrum. Less than 1 μ s Rise/Fall time

RF Output Settings & Control

- Front Panel EDITOR and function switches for manual control,
- RS232 port for GUI or other computer communication. Rear Panel.

- SubD 25 Analog and Digital I/O . Rear Panel

Output Control Interfaces (Communications)

SubD 25 Analog and Digital I/O . D-COM "Digital Communication" Port:

RS-232
RS-485
USB 2.0

Power Monitor Scale Selection

User selectable levels down to 1 watt (in two (2) Scales) within tenths of watt accuracy.

Available scales:

5V=full power
10V=full power—Default

BURST Specifications

Pulse Width from 2 μ s to continuous, user defined.

RF Power Margin

(Unlimited Max Power Available / Rated Power)-1)*100
25 %

Rear Panel Connectors

INPUT BNC Female
OUTPUT N Female
BLANKING BNC Female
Digital I/O: RS232, USB2.0, RS485

AC Power Connection

Non-detachable power cord anchored with compression bushing. Back Panel

AC Circuit Protection

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

AC Input Current (RMS)

RF Out 1200W:

200 to 240 VAC, 50-60 Hz, 10 A

Cooling

Forced air, water at 20C-25C with flow > 1GPM (4LPM). Heatsink temperature monitored for equipment safety, 70C limit.

Water Inlet and Outlet

The connection provided accepts a 1/4-inch NPT male pipe thread.

Dimensions

H140mm x W210mm x L458mm
(5.5" x 8.3" x 18")

Weight

9 kg, 20 lbs.

Mounting

1/2" 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.

Sales Representative:

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