0613
RF POWER SUPPLY

Power Supply
Front Panel view

Power Supply
Back Panel view

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

FEATURING:

- **13.56 MHz up to 600 Watts in peak power**
- **Low harmonic level at 550W h2≤-55 dBc, h3 and higher < -60 dBc**
- **Measuring forward, reflected and power VSWR simultaneously**
- **Back 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 ±5W of set value.**
- **Pulse operation in MGC/ Burst mode**

RF Power Supply Model 0613 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 the current requirements for complete remote control and data acquisition features

OPERATION

The 0613 produces 600W of RF power at a frequency of 13.56 MHz, with low harmonic distortion.

Power meters are calibrated into a 50 Ohm Load and they are accurate when unit operates into matched load. Outside of matched condition, the model 0613's power measurement system provides an accurate reading of VSWR. High level VSWR is also monitored for protection of output stage and is set for 80W limit.
When used as an amplifier, the 0613 is compatible with most signal and function generators, computer synthesizer cards and it accurately reproduces all waveforms within its control loop 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 0613 is built to withstand a +3 dBm Input signal. The unit amplifies the inputs of AM and pulse modulations.

OUTPUT PROTECTION

0613 is protected by its internal monitoring system for 600 Watts of total Forward Power and 80W of Reflected Power. This will protect the RF power supply output stage from extreme mismatch at the Output.

GENERAL

T&C generators 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.

0613 RF Power Supply Specifications

Class Of Operation
Class B

Frequency Of Operation
13.56 MHz

Frequency Stability
0.005% or better

RF Power Output
600 Watts into 50 Ohm nominal

Operation with external signal:

Output as amplifier in MGC/Burst Mode
0 dBm IN, (required !)
4VDC CTL IN pin 5 = 400W +/-3W
Note: Scale for MGC is not linear

Output as amplifier in AGC Mode
Typical range 0 dBm +/- 1 dB
1VDC CTL IN pin 5 = 100W scale

Input Drive Source(amplifier)
Signal or function generator, analog computer input capable of up to 0dBm @ 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
80 Watts max reflected power limit. Automatic, limits typically within 0.5 ms after reverse power reaches 80 Watts or power amplifier current preset limit.

Harmonic Level @ 550W
Better then - 55 dBc for 2-nd harmonic, any other > -60 dBc

Spurious Output
- 55 dBc noise level generated by internal circuits

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

Dynamic Power Range
0 to 600W, settings within +/- 5W

Output Settings & Control (Communications)
SubD 25 Analog and Digital I/O . Port power scale 1V=100W. Rear Panel

Pulse Specifications
MGC/Burst operation: pulse width from 2 µs to continues, user defined.

RF Power Margin
(Open Loop Max Power/Rated Power)-1)*100
20 %

RF Connectors
INPUT BNC Female
OUTPUT N Female
BLANKING BNC Female
Rear Panel

AC Power Source
200 to 240 VAC, +/- 10%,
47 - 63 Hz
broad input voltage, with no adjustment required

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, 15A.

AC Input Current (RMS)
RF Out 600W:
I ≤ 6.5A @ 220V
Maximum: 10A

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

Dimensions
H135mm x W211mm x L356mm
(5.25" x 8.3" x 14")

Weight
10.5 kg, 22.5 lbs.

Mounting
Half Rack, 3U high. Optional: Rack Mount Kit, Adapter Kit, Coupling Screws.

Environmental conditions
Temp.: 10° to 35° C ambient
Humidity: 80%
Equipment intended for ISM applications in laboratory and light industrial environment.