

RFS-20

LOW POWER RF GENERATOR



Perfect for RF Plasma Research and Plasma OES Applications

The RF generator used in our Evactron® RF plasma asher and De-Contaminator is now available as a stand alone unit.

- **0-20 watts**
- **13.56 MHz, single frequency, 50 Ohm BNC output**
- **3 digit power readout, switch selectable forward or reverse power**
- **Air Cooled**
- **90-240VAC 50-60HZ input 100 Watts max**
- **Remote control connector on rear**
- **Electronic Chassis: H x W x D: 14 x 23 x 19 cm, (5.5" x 9" x 7")**
- **Weight 4 Kg**
- **5 year warranty**

Price \$2495 USD direct sales only. Visa, MC, AmEx accepted

RF output connection interlock (switch optional) - checks DC continuity of RF cable and load.
Remote interface specifications on next page.
Hollow cathode plasma sources and matches also available.

XEI Scientific, Inc.
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RFS-20 Remote interface specification:

Rev. 03/03/09

The Remote Interface is accessed via a 15 pin D-sub female connector on the rear panel of the instrument. The customer supplied mating connector is a DB-15 Male. 15 pin D-sub connectors are available from many manufacturers, Tyco/Amp 5-747908-2 or Norcomp 171-015-103L001 or equivalent are suitable.

Note: When the Remote Interface is not used, a jumper connector must be used to clear the interlock and allow the RF Power to be turned on. This connector is a 15 pin D-sub male with pins 1 and 11 tied together is supplied with the unit.

Cable Construction: All of the signals are 5 volt DC levels simplifying the cable construction. It is recommended that shielded cable be used when the cable is more than a few feet. A good recommendation for this cable is General Cable/Carol Brand C0746-12-10 or equivalent.

Signal Levels: Analog signals span 0-5VDC and Digital signals follow standard 5V TTL. The logic inputs have hysteresis gates for noise immunity. The input specifications for the logic signals are as follows:

Input < 0.8 volts = Logic Low

Input > 3.2 volts = Logic High

If the input is between these levels, the logic level is indeterminate.

The RF Power control and readbacks are analog signals. The signals range from 0-5 %V Full scale. The signal conversion is 4 Watts per volt, typical. (5 volts X 4watts/volt= 20 watts)

The connections for the remote interface are as follows:

Remote Interface Pin Connections:

1. Ext Interlock, logic level: Logic low clears interlock. A Logic High causes the interlock to be at a fault condition. See Note a.
2. RF ON Command, logic level: See Notes b & c.
3. RF Power Control, Analog input: 0 to 5 volts for 0 to 20 watts out. Input impedance = 10k ohms.
4. Ground return for RF Power Control signal.
5. RF ON indicator, logic level low when RF is on. Logic level high when RF is off. See Note d.
6. No connection
7. Reverse Power Monitor, Analog output: 0 to 5 volts for 0 to 20 watts reflected power. Output impedance = 100 ohms.
8. Forward Power Monitor, Analog output: 0 to 5 volts for 0 to 20 watts forward power. Output impedance = 100 ohms.
9. Ground
10. Ground
11. Ground
12. Ground
13. Ground
14. Ground
15. Local/Remote command, logic level: Logic low = Remote mode, not connected or logic high = local mode. See Note 2

Notes:

- a. Pin 1 of the Remote Interface connector must be tied to ground (pin 11) when the remote interface is not used. The RFS-20 is supplied with a pre-wired jumper connector with pin 1 tied to pin 11.
- b. When in the remote mode, the RF Power is turned on by the *transition* of the RF ON command from logic high to logic low. If the RF power has been turned off by an interlock fault or by the front panel OFF button, it will NOT turn on again. In order to turn the RF Power on again, the RF On command must be set to logic high and then to logic low again. This prevents the RF from being turning on inadvertently at power up or when an interlock clears.
- c. If the interlock is OK, the power may be turned on and off by the RF ON command. While the RF ON command is at a logic low, the power may also be turned OFF and ON by the front panel buttons. When the remote RF ON command is high, the front panel buttons are not functional.
- d. The RF ON indicator is a logic level in series with a 200 ohms resistor. This signal may be connected to external TTL logic or connected directly to the cathode of an LED with the anode connected to a 5 volts supply referenced to the RFS-20 Ground signal.

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