

RFA240-2-x

RF Driver/Amplifier



0110

The RFA240-2-x is a combined 40 MHz oscillator and power amplifier suitable for driving Isomet High Power Acousto-optic modulators such as the AOM640-x series. This driver features a fast modulation input that is factory configured for digital (On:Off) or analog (proportional) control of the RF amplitude plus a secondary digital RF Gate input. Protection includes an internal over temperature sensor, and a 'TranZorb' over voltage diode on the DC supply input. An external interlock (or enable) input is provided. The amplifier includes an integral water-cooled heatsink. Available options (-x) are listed below

The RFA240-2 will operate from a +24V to +28Vdc supply. An LED indicates when the RF outputs are 'live'. The maximum RF output power is set by one of two methods.

All versions: Manual adjustment using front panel potentiometer

Versions with option -R: Remote adjust using a buffered I²C compatible serial interface.

SPECIFICATION

| | | |
|--|---|--|
| Power Output (total) | : | > 130 Watts Max. CW (28V supply) > 110 Watts Max. CW (24V supply) |
| Load Impedance | : | 50Ω |
| Harmonic Distortion | : | >20dB below fundamental |
| Mismatch Tolerance | : | The Driver will not oscillate |
| Center Frequency | : | 40 MHz |
| Frequency stability | : | ± 0.003% |
| Frequency accuracy | : | ± 0.003% |
| Modulation Control Voltage | : | |
| Digital | : | TTL compatible (> 2.7V, RF O/P=OFF) |
| Analog | : | 0.0 to 10.0V, 1kohm i/p impedance (nominal) |
| RF ON to OFF Ratio | : | 40dB below full power |
| Output Switching Speed | : | < 0.25μs Rise/Fall, 0 to 50 Watts |
| Interlock | : | Open OFF, closed ON, Sink 20mA at 15V |
| Power Supply | : | +24V to +28Vdc, 0.25% regulation, < 12A |
| Temperature Range | : | 0° to 60°C, Thermal Shutdown Interlock |
| RF Output | : | BNC (2 off) |
| Control signals - | : | 15 pin 'D' type Male |
| RF Gate, Digital | : | +sig pn8, -rtn pn15 |
| Amplitude Control, Analog/Digital | : | +sig pn7, -rtn pn14 |
| Serial interface Data IO | : | +sig pn6, -rtn pn13 (I ² C compatible) |
| Serial interface Clock | : | +sig pn5, -rtn pn13 (I ² C compatible) |
| Remote/Manual Power Adjust Select | : | +sig pn4, -rtn pn12 (closed = remote) |
| RF monitor, opto-open collector | : | +sig pn3, -sig pn10 (low = OK) |
| Interlock monitor, opto-open collector | : | +sig pn2, -sig pn10 (low = OK) |
| Interlock enable (connect to AO) | : | +sig pn1, -rtn pn9 (closed = on) |
| Power Input | : | Feed through filter solder tag |
| Dimensions | : | (See reverse) |

ALL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

ISOMET CORP, 5263 Port Royal Rd, Springfield, VA 22151, USA.

Tel: (703) 321 8301 Fax: (703) 321 8546

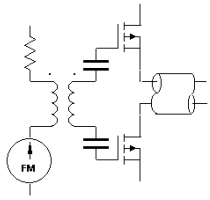
E-mail: ISOMET@ISOMET.COM Web Page: WWW.ISOMET.COM

Quality Assured.

In-house: RF & Digital design

Software Development

OEM manufacture



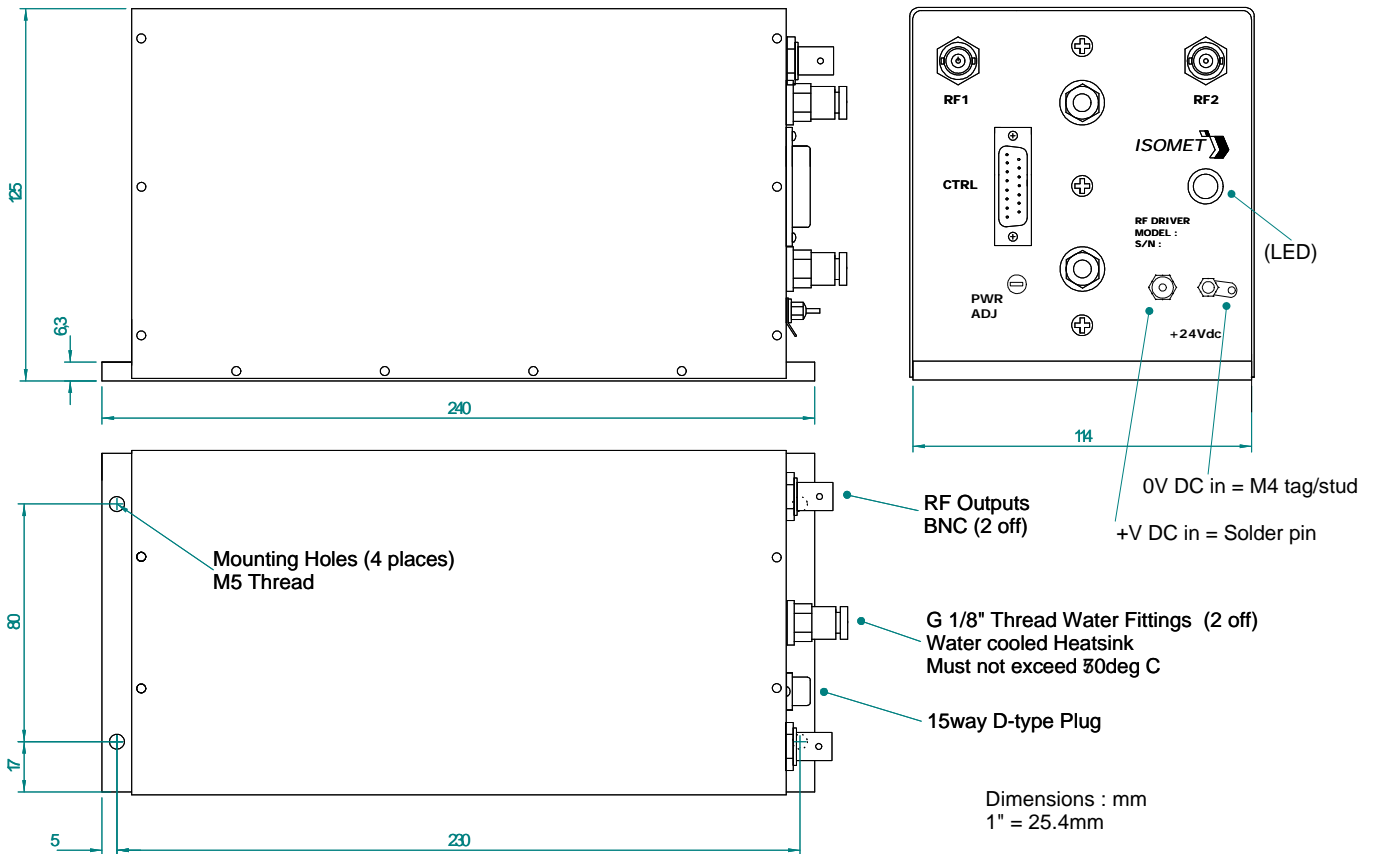
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OUTLINE DRAWING



Options -x, multiple combinations possible:

- V : 0-5V analog modulation range
- L : RF gate input not necessary
- D : digital modulation, fast input

- R : Remote RF power adjust (I²C compatible)
- H : High power option (+20W)
- Mxx : Max power limited to xx Watts

- BR : Brass water cooled heatsink

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