

# RFA250-2-x

## RF Driver/Amplifier



0110

The RFA250-2-x is a combined 50 MHz oscillator and power amplifier suitable for driving Isomet High Power Acousto-optic modulators such as the AOM650-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 I<sup>2</sup>C compatible serial interface.

### SPECIFICATION

|  |   |  |
|--|---|--|
| Power Output (total)                   | : | > 130 Watts Max. CW (28V supply)<br>> 110 Watts Max. CW (24V supply) |
| Load Impedance                         | : | 50Ω  |
| Harmonic Distortion                    | : | >20dB below fundamental  |
| Mismatch Tolerance                     | : | The Driver will not oscillate  |
| Center Frequency                       | : | 50 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 <sup>2</sup> C compatible)                    |
| Serial interface Clock                 | : | +sig pn5, -rtn pn13 (I <sup>2</sup> 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

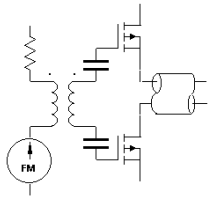
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Quality Assured.

In-house: RF & Digital design  
Software Development  
OEM manufacture



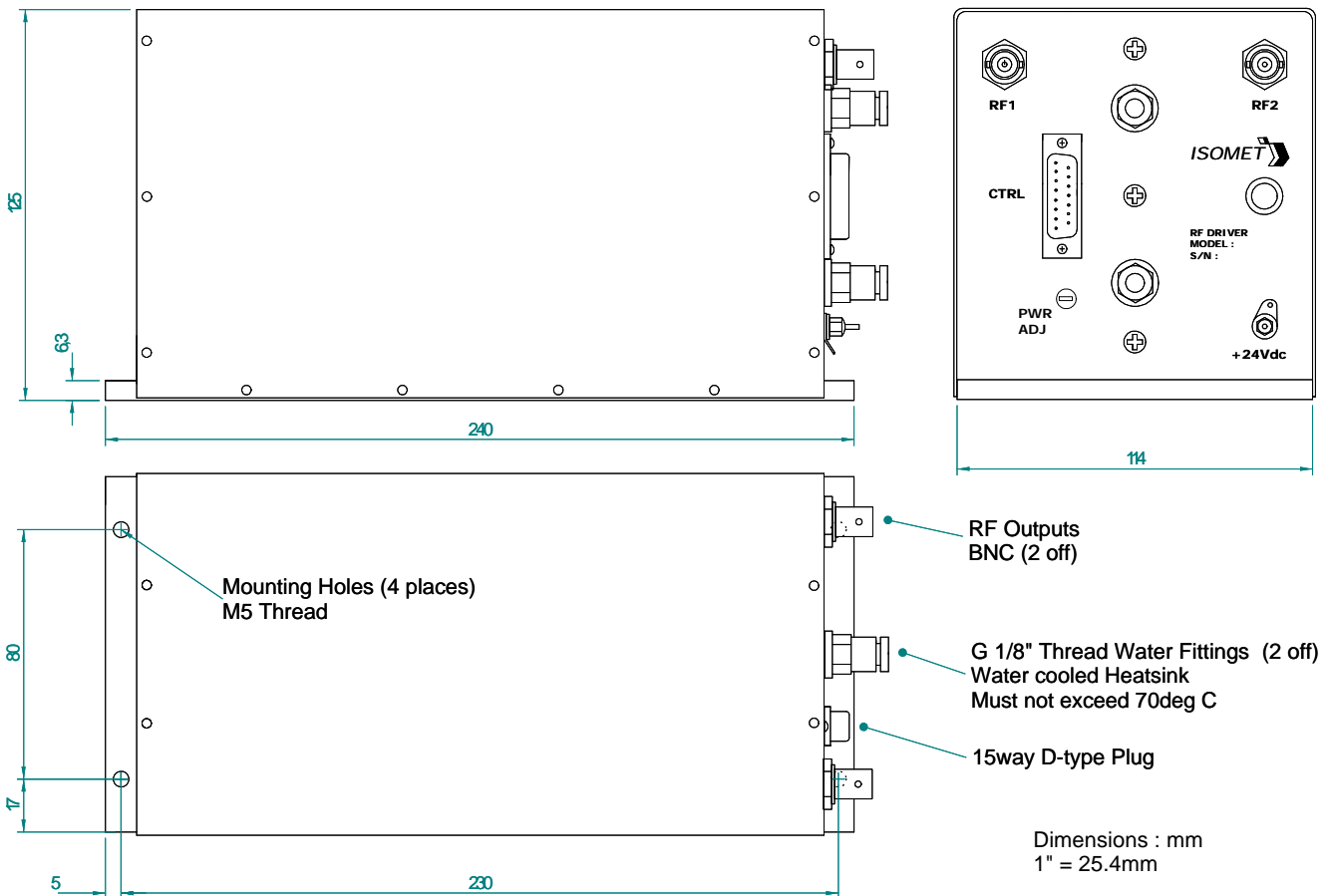
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### OUTLINE DRAWING



**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 (I<sup>2</sup>C compatible)
- H : High power option ( +15W)
- Mxx : Max power limited to xx Watts
  
- BR : Brass water cooled heatsink

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**Quality Assured.**

**In-house: RF & Digital design  
Software Development  
OEM manufacture**