

RFA641-x

RF Driver/Amplifier



0613

The RFA641-x is a combined 40 MHz oscillator and power amplifier suitable for driving Isomet High Power Acousto-optic modulators such as the AOM740 and M1315 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, 'TranZorb' over voltage diode on the DC supply input and high VSWR shutdown. An external interlock (or enable) input is provided. The amplifier includes an integral water-cooled heatsink. Available options (-x) are listed below.

The RFA641 operates from a +24V supply. An LED indicates when the RF outputs are 'live'.

The maximum RF output power is set by one of two methods as selected by the user.

- a) Manual adjustment using front panel potentiometer
- b) Remote adjustment via a buffered I²C compatible serial interface.

SPECIFICATION

| | | |
|--|---|---|
| Power Output | : | > 180 Watts Max. CW |
| 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 (RFA641D) | : | TTL compatible (> 2.7V, RF O/P=OFF) |
| - or - Analog (RFA641) | : | 0.0 to 10.0V, 1kohm i/p impedance (nominal) |
| RF ON to OFF Ratio | : | 40dB below full power |
| Output Switching Speed | : | < 400/100ns Rise/Fall, 0 to 150 Watts |
| Interlock | : | Open OFF, closed ON, Sink 20mA at 15V |
| Power Supply | : | +24V, 0.25% regulation, <18A |
| Temperature Range | : | 0° to 60°C, Thermal Shutdown Interlock |
| RF Output | : | TNC Connector |
| Interlock enable | : | Binder 719, 3-pin (connect to AO) |
| Control signals - | | 15 pin 'D' type Male |
| RF Gate, Digital | : | +sig pn8, -rtn pn15 |
| Modulation 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) |
| RF monitor, opto-open collector | : | OUT +sig pn3, -sig pn10 (low = OK) |
| Interlock monitor, opto-open collector | : | OUT +sig pn2, -sig pn10 (low = OK) |
| Remote/Manual Power Adjust Select-0 | : | IN +sig pn1, -rtn pn9 |
| Power Input | : | Feed through filter solder tag |

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

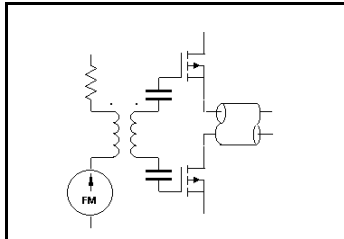
E-mail: ISOMET@ISOMET.COM Web Page: WWW.ISOMET.COM

Quality Assured.

In-house: RF & Digital design

Software Development

OEM manufacture



RFA641-x

RF Driver/Amplifier

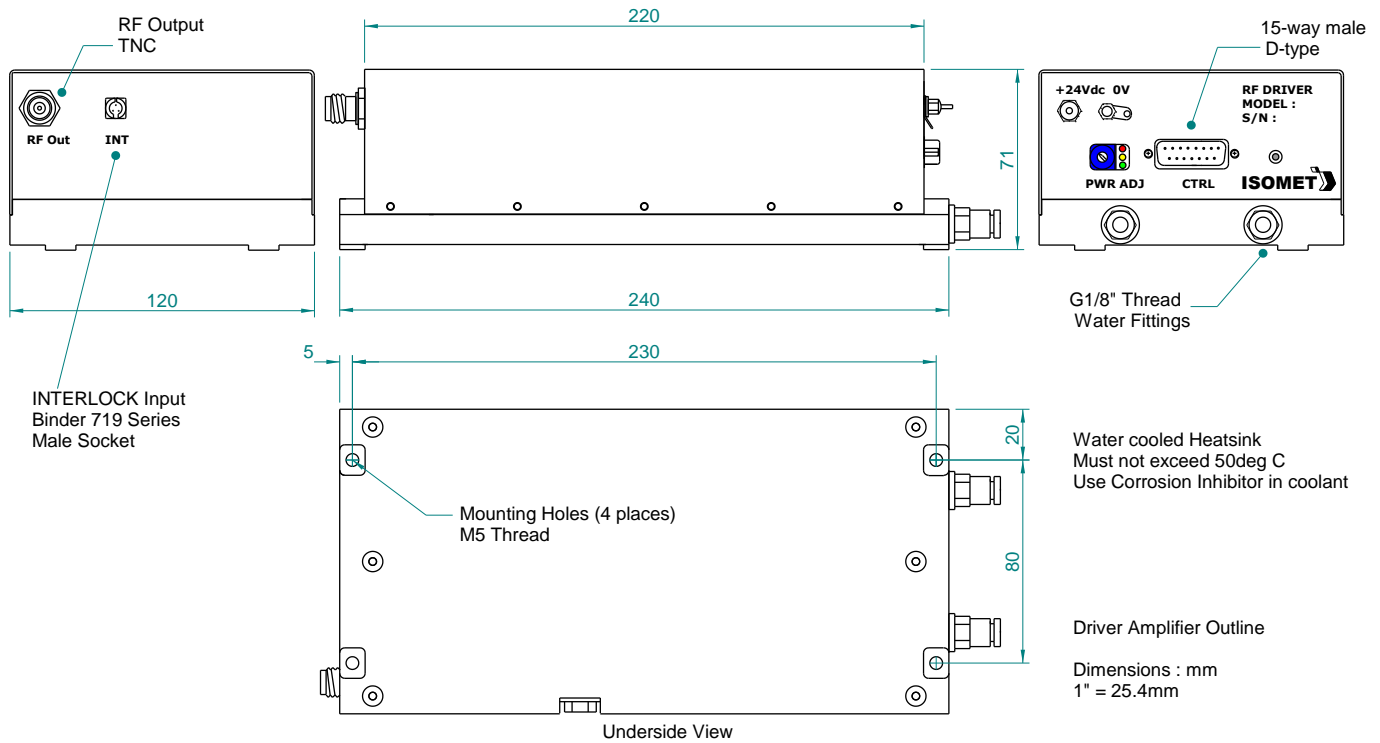


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Dimensions

: (See reverse)

OUTLINE DRAWING



Options -x, multiple combinations possible:

- V : 0-5V analog modulation range
- L : RF gate input not necessary
- D : digital modulation, fast input
- BR : Brass water cooled heatsink (water fittings on RF output face)

Refer application note AN0901 regarding Coolant Specification

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