

RN2(BR)-3050-2-90 **RN3(BR)-3050-2-90** **RF Driver/Amplifier**



0424

The RNxBR-3050-2 is a combined 30/50 MHz oscillator and power amplifier suitable for driving the Isomet High Power Acousto-optic "beam steered" Modulator/Deflector series D600. This driver features digital or analog inputs for the control of the RF amplitude and a digital input to select the carrier frequency. The drive frequency can be rapidly switched between 30 and 50MHz for dual spot applications. Protection includes an internal over temperature switch, and a 'TranZorb' over voltage diode on the DC supply input. An external interlock (or RF enable) input is provided. The amplifier includes an integral water-cooled heatsink (Brass). The driver operates from a +24V to +28Vdc supply. An LED indicates when the RF outputs are 'live'. The maximum RF output power for each frequency can be adjusted independently by means of pre-set potentiometers.

SPECIFICATION

Power Output	:	> 190 Watts max CW (28V supply) > 180 Watts max CW (24V supply)
Load Impedance	:	50Ω
Harmonic Distortion	:	>20dB below fundamental
Mismatch Tolerance	:	Driver will not oscillate.
Center Frequency	:	30MHz / 50MHz
Differential output phase	:	Frequency defined for acoustic beam steering
Frequency Select	:	TTL compatible, L=30MHz, H=50MHz
Frequency stability	:	± 25ppm
Frequency accuracy	:	± 25ppm
Modulation Control Voltage		
Digital RN2BR-3050-2	:	TTL compatible (> 2.7V, RF O/P=on)
Analog RN3BR-3050-2	:	0.0 to 10.0V, 3Kohm i/p impedance (nominal)
RF ON to OFF Ratio	:	40dB below full power
Output Switching Speed	:	< 0.4 / 0.1μs Rise/Fall, 0 to 70 Watts
Power Supply	:	+24V to +28Vdc, 0.25% regulation, < 16A
Temperature Range	:	0° to 60°C, Thermal Shutdown Interlock
RF Output	:	BNC (2 off)
Power Input	:	Filtered screw terminal, 6/32 UNC
Control signals:		
Connector	:	<u>15 pin 'D' type Male</u>
Frequency select, TTL	:	+sig pn8, -rtn pn15 (High=40MHz, Low=60MHz)
Modulation control, (0-10V or On:Off)	:	+sig pn7, -rtn pn14 (common to both frequencies)
Over temp fault, voltage free	:	+sig pn2, -rtn pn10 (Closed = OK)
High reflected RF power (HRP), voltage free	:	+sig pn6, -rtn pn13 (Closed = OK)
HRP fault reset	:	+sig pn3, -rtn pn11 (Momentary close)
Connector	:	<u>Binder 719 3pin Male</u>
Interlock enable, (connect to AO)	:	+sig pn1, -sig pn2 (Closed = on)

ALL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

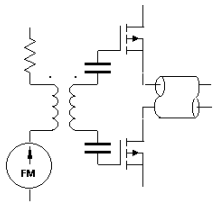
ISOMET CORP, 10342 Battlevue Parkway, Manassas, VA 20109, USA.

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



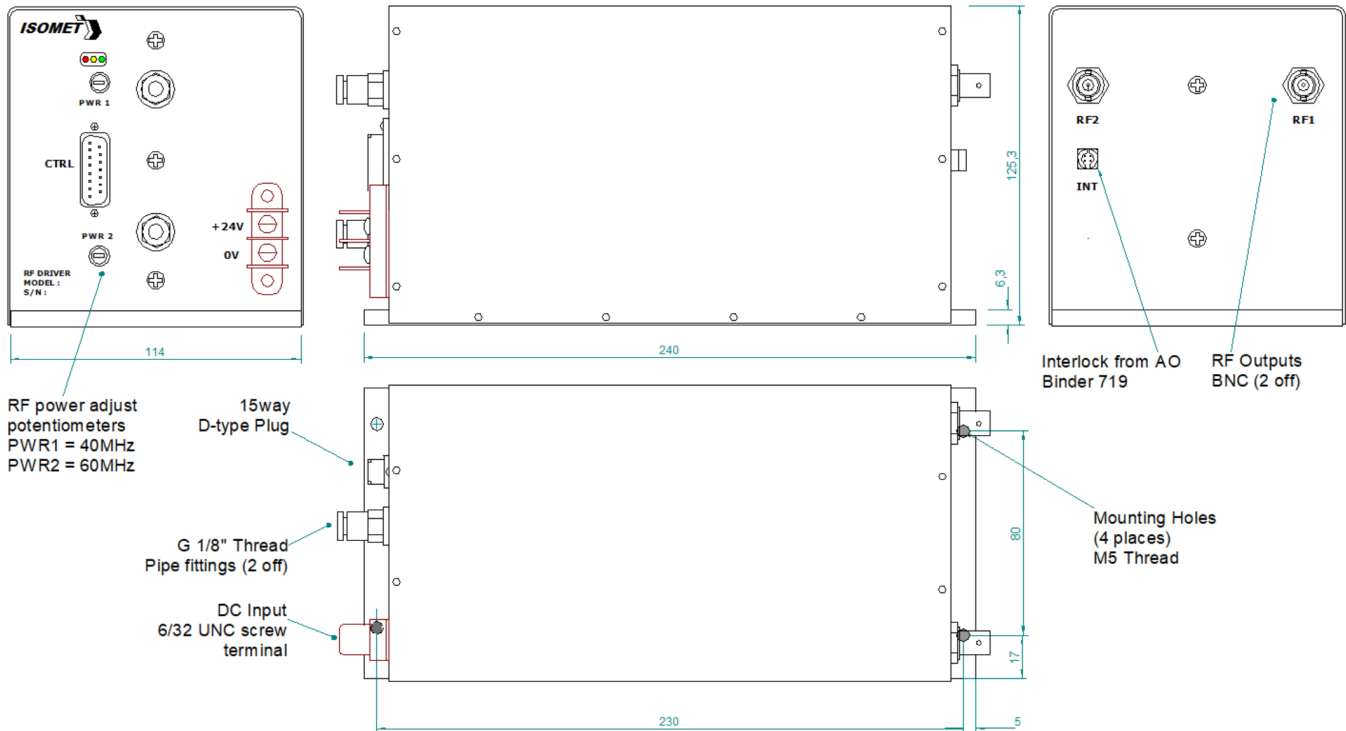
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OUTLINE DRAWING

Dim's = mm



Heatsink in contact with coolant water. Default aluminium. See BR option.
Water-coolant fittings supplied are suitable for 8mm OD / 6mm ID pipe.

Options -x, multiple combinations possible:

(BR) : Brass water cooled heatsink

Refer application note AN1906 regarding Coolant Specification

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