

RA2(3)(5)-z-80-1-70
RF Driver / Amplifier

ISOMET

0126

The RAx-80-1-70 drivers are combined 80 MHz oscillator and power amplifiers. The -BR option is recommended for brass and copper cased acousto-optic modulators such as M1346-BR. The standard configuration features both digital gate and analog modulation inputs for the control of the RF amplitude. Protection includes an internal over-temperature sensor, and a 'Tranzorb' over-voltage diode on the DC supply input. An external interlock input is provided for connection to the AO device thermal interlock sensor.

Active modulation	Model	Modulation Input
Digital only	RA2-	5V logic compatable
Analog only	RA3-	0 - 10V *
Dual	RA5-	both, as above

This driver will operate from a +24V to +28Vdc supply. LEDs indicate the status of the thermal interlocks, DC supply and the RF power activity. The RF output power limit is adjusted by means of a pre-set potentiometer.

SPECIFICATION

Power Output (BNC)		:	>80 Watts Max. CW (28V supply) >70 Watts Max. CW (24V supply)
Load Impedance		:	50Ω
Harmonic Distortion		:	>25dB below fundamental
Mismatch Tolerance		:	Driver will not oscillate.
Centre Frequency		:	80.0 MHz
Frequency stability		:	± 25ppm
Frequency accuracy		:	± 25ppm
Control Signals			
RA2- and RA5-	Digital Mod'n	:	TTL compatible (>2.7V, RF active. <2.2V = Off)
RA3- and RA5-	Analog Mod'n	:	0.0 to 10.0V, ~1Kohm i/p impedance*
All models	GATE (Optional)	:	TTL compatible (NC or <0.8V =ON, >2.2V = Off)
RF ON to OFF Ratio		:	40dB below full power
Output Switching Speed		:	< 200ns rise / < 50ns fall, 0 to 50 Watts
Interlock (Binder-719 push connector)		:	Open OFF, closed ON (Sink 20mA at Vdc)
Temperature Range		:	0º to 50ºC, Thermal Shutdown Interlock
Control signals -			9 pin 'D' type Male
	Digital Mod		: IN +sig pn6, -rtn pn7
	Analog Modulation		: IN +sig pn8, -rtn pn9
	-INT-MON: (0V = OK)		: OUT +sig pn1, -rtn pn2
	RF Gate		: IN + sig pn4, -rtn pn7
	Reserved		: DNC pn3
	Reset HRP fault		: IN +sig pn5, -rtn pn9
			(Momentary no voltage contact, pn5 to pn9 to reset)
DC Power Input		:	Filtered screw terminal
Power Supply, Vdc		:	+24V to +28Vdc, 1.0% regulation, <8A

* Other options available 0-1V (-Y), 0-5V (-V)

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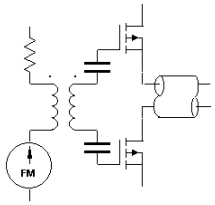

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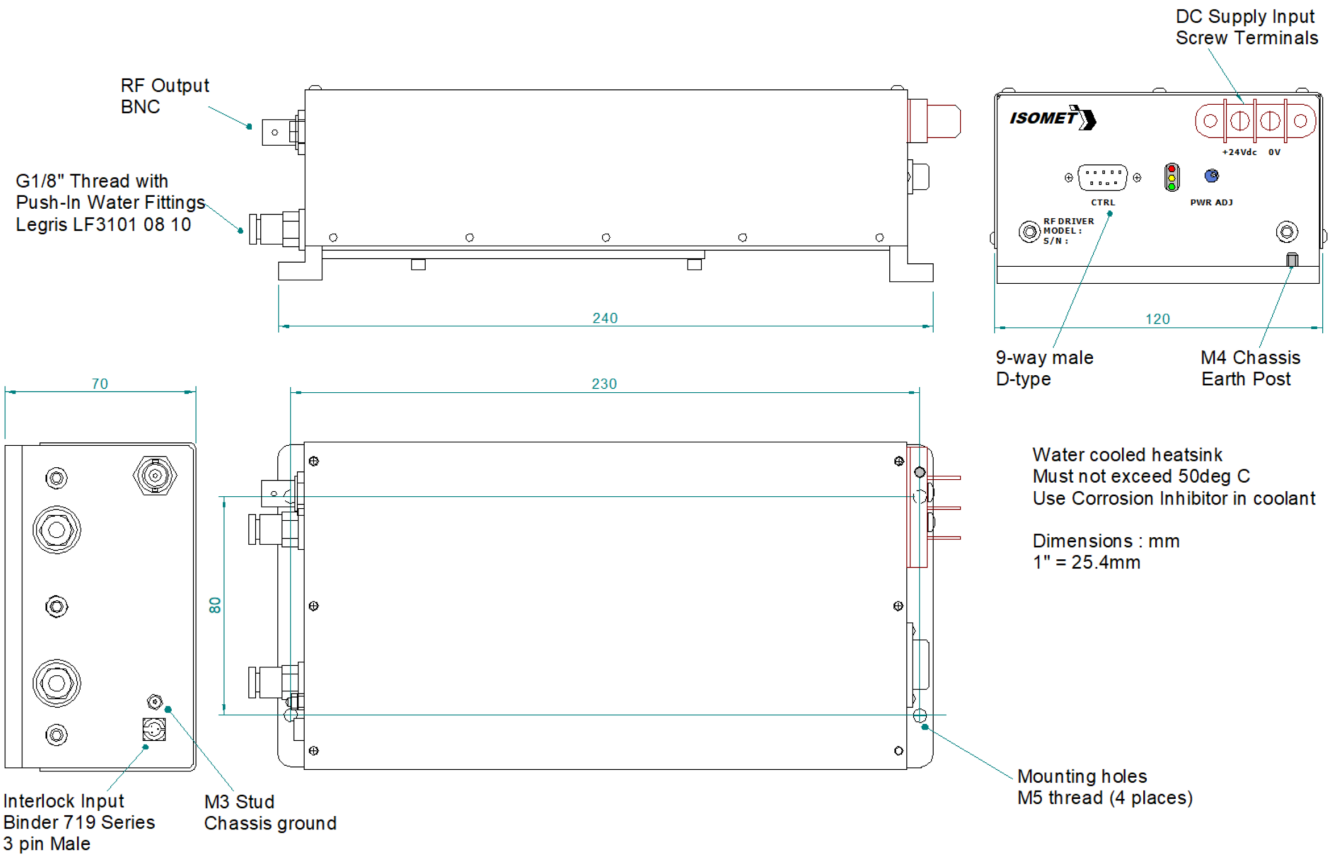
OUTLINE DRAWING



Options –z, multiple combinations possible:

- BR : integral brass water-cooled heatsink (e.g. RA5-BR-80-1-70 shown above)
- Y : 0-1V analog modulation range
- V : 0-5V analog modulation range
- L : active low gate (no connection = RF disabled)

Refer application note AN1906 regarding Coolant Specification

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