

# iSA240-4

## RF Synthesizer/Amplifier



0710

The iSA240-2 is a programmable frequency synthesizer and power amplifier with four phase controlled outputs. It is ideally suited for driving the Isomet Dual Beam Acousto-optic Modulator DBM-G40-H. This driver includes a micro-controller and high speed multi-output synthesizer. Initial set-up and diagnostics are made via a USB interface. Once programmed, operation is from non-volatile memory and the outputs are controlled from dedicated external inputs.

The A/B digital input selects the required +1<sup>st</sup> or -1<sup>st</sup> modulator output beam by switching the relative phase of the driver outputs. Two independent analog modulation input signals control the power level for each AOM output. A separate digital gate input provides global On:Off control.

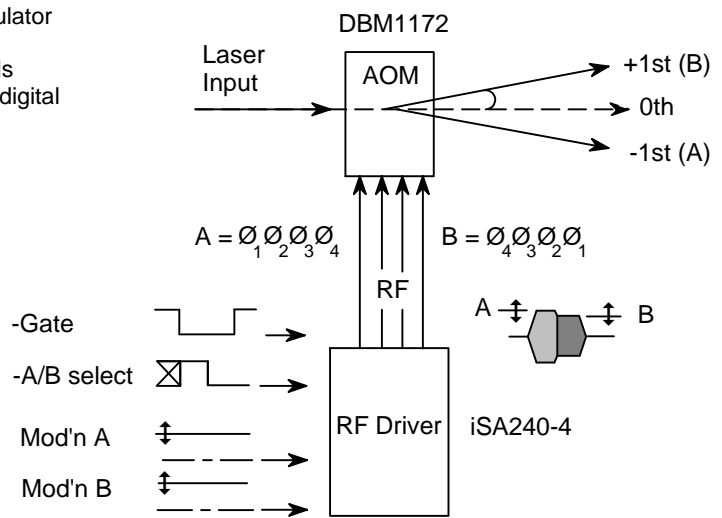
**Diagnostics include:**

- RF power level indication
- AOM and driver temperature
- DC supply voltage and current

**Protection includes:**

- Over temperature shut down
- DC supply over-voltage clamp
- External thermal interlock.

Maximum RF output power is set by means of a single potentiometer. The iSA240-4 will operate from a +24V to +28Vdc supply. LED's indicate the status of the thermal interlocks, DC supply and RF output activity.



**SPECIFICATION**

Power Output (Total)	:	> 160 Watts Max CW (28V supply) > 140 Watts Max. CW (24V supply)
Load Impedance	:	50Ω
RF Outputs	:	BNC (4 off)
Harmonic Distortion	:	>20dB below fundamental
Center Frequency	:	40 MHz (others available)
Frequency stability	:	± 0.003%
Frequency accuracy	:	± 0.005%
Analog Modulation Control	:	0.0V OFF to 10.0V fully ON
Gate Control	:	TTL Compatible (> 2.7V = RF On)
A/B Select	:	TTL Compatible
RF ON to OFF Ratio	:	37dB below full power
Output Switching Speed	:	< 0.25μs Rise/Fall, 0 to 30 Watts per output
Power Supply	:	+24V to +28Vdc, 0.25% regulation, < 12A
Power Input	:	Feed through filter solder tag
Temperature Range	:	0° to 60°C, Thermal Shutdown Interlock Integral water-cooled heatsink

**ALL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE**

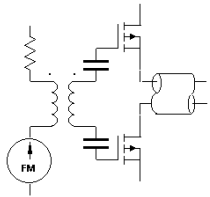
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**Quality Assured.**

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



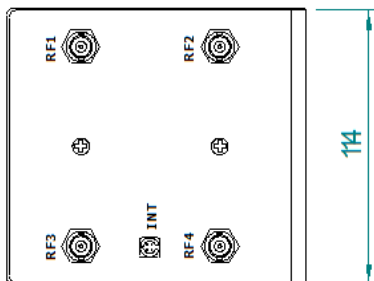
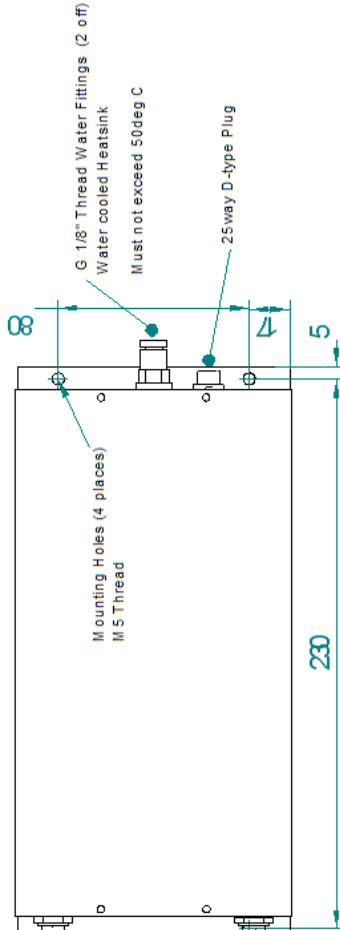
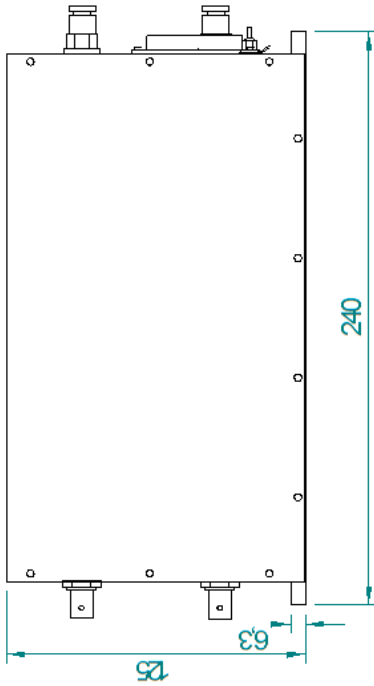
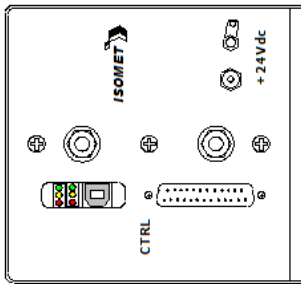
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### OUTLINE DRAWING



RF Outputs  
BNC (4 off)  
INT Input  
4 way Plug  
(Binder 719)

RF Amplifier Outline  
Dimensions : mm  
1" = 25.4mm

Control signals 25 pin 'D' type Male

Function		Sig Pin	Rtn Pin
A/B Select (P0)	In	1	14
Reserved		2	15
Reserved		3	16
Reserved		4	17
Mod'n level B	In	5	18
Mod'n level A	In	6	19
-Gate On:Off (-OHL)	In	7	20
STATUS	Out	8	21
Reserved		9	22
Reserved		10	23
Reserved		11	24
Reserved		12	25
- RESET	In	13	25

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Software Development  
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