

iSA241-4

RF Synthesizer/Amplifier



0312

The iSA241-4 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 DBM1172-G41-9. 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 +1st or -1st modulator output beam by switching the relative phase of the driver outputs. Two independent analog modulation inputs control the power level for each AOM output. A separate digital gate input provides global On:Off control.

Diagnostics include:

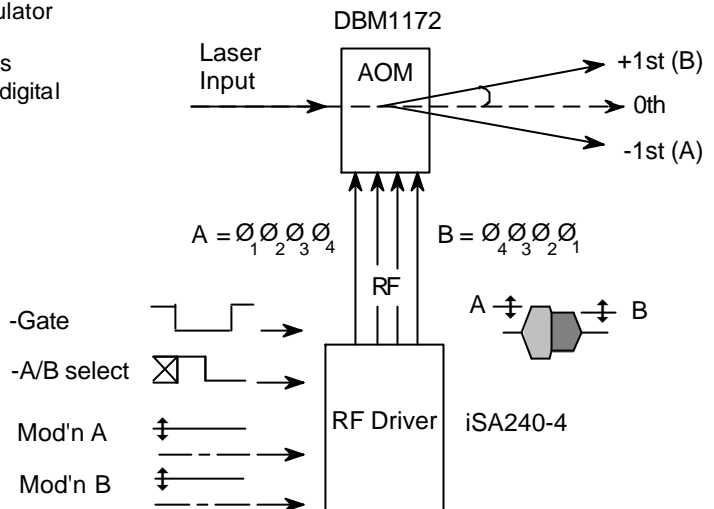
- RF power level indication
- AOM and driver temperature
- DC supply voltage and current

Protection includes:

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

The iSA241-4 will operate from a +24V to +28Vdc supply. LED's indicate the status of the thermal interlocks, DC supply and RF output activity.

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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 (wavelength specific)	:	40.84MHz
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, < 16A
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

ISOMET CORP, 5263 Port Royal Rd, Springfield, VA 22151, USA.

Tel: (703) 321 8301 Fax: (703) 321 8546

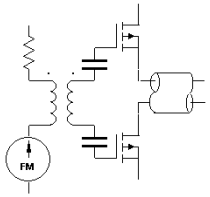
E-mail: ISOMET@ISOMET.COM Web Page: WWW.ISOMET.COM

Quality Assured.

In-house: RF & Digital design

Software Development

OEM manufacture



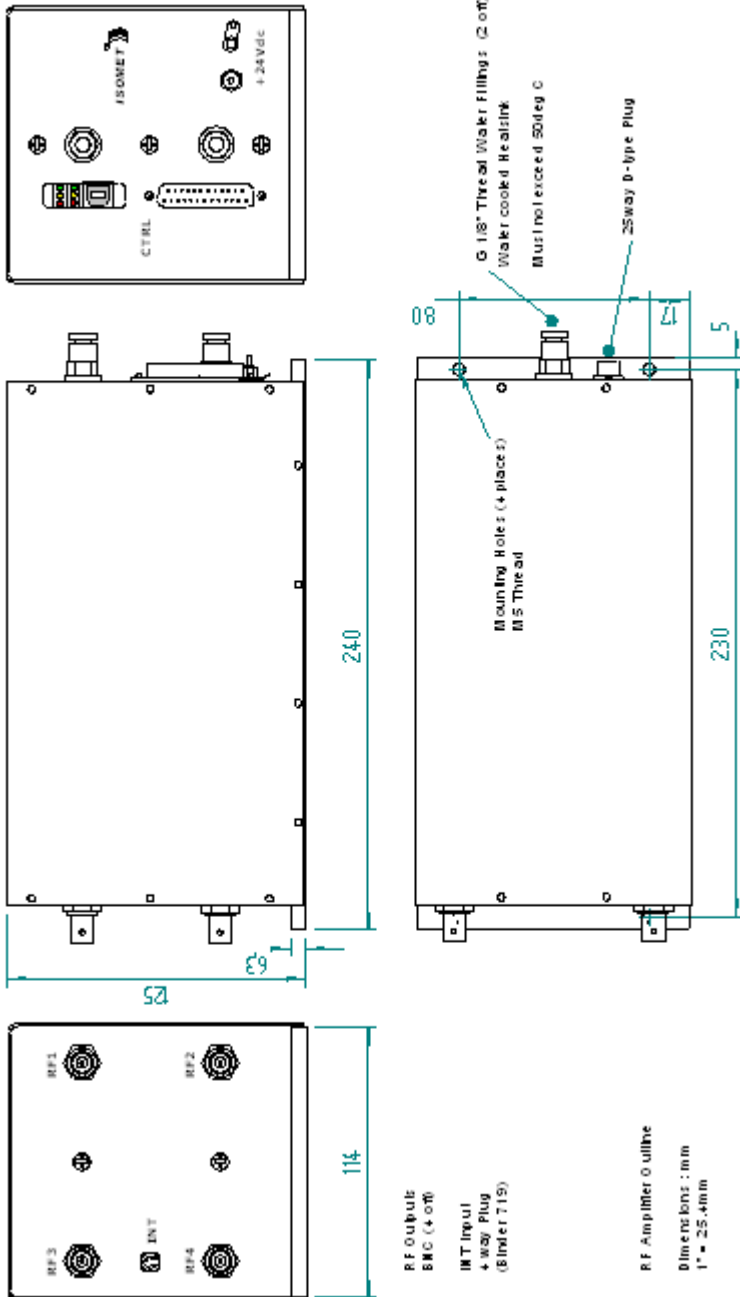
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OUTLINE DRAWING



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
OEM manufacture