

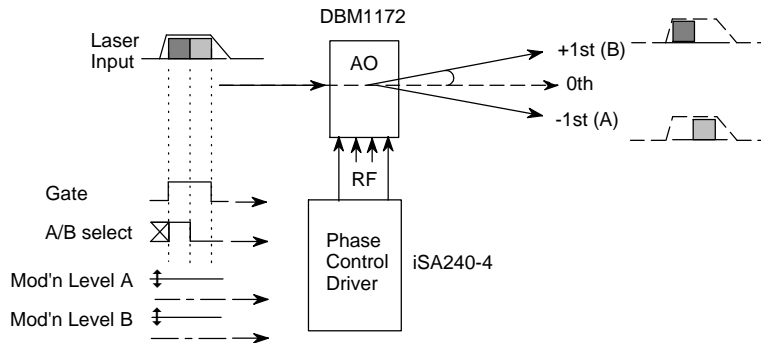
# DBM1172-G40-10



## Dual Beam IR Acousto-Optic Modulator (Preliminary)

1109

The Dual Beam Modulator incorporates a novel acoustic beam steering technique to allow the user to switch between the +1 and -1 Bragg orientations. Under electronic control, the user can generate two sequential output beams from a single laser input. Independent modulation levels can be applied to the A and B first order outputs.



### PRELIMINARY SPECIFICATIONS

Spectral Range:	2.5 $\mu$ m - 11 $\mu$ m
Operating Wavelength:	9.3 or 10.6 $\mu$ m (others on request)
Interaction Medium:	Single Crystal Germanium
Acoustic Velocity:	5.5mm/ $\mu$ s
Centre Frequency (fc):	40MHz (others on request)
RF Bandwidth ( $\Delta$ f):	10MHz
Input Impedance:	50 $\Omega$
Input VSWR:	< 1.7:1 at 40MHz
Optical Insertion Loss:	< 7%
Reflectivity:	< 0.5%/Surface
Laser Polarization:	Linear Horizontal, Parallel to Base
Optical Power :	300 Watts CW
Active Aperture:	9 mmH x 20 mmL
Water Cooling (minimum):	1L/minute at < 20 $^{\circ}$ C

### TYPICAL PERFORMANCE at 10.6 $\mu$ m

Input beam diameter:	7mm
Optical access time:	0.83 $\mu$ s
Diffraction Efficiency:	> 85%
Total RF Power:	100 Watts nominal
Bragg Angle:	38.5mrad
Separation Angle (0 <sup>th</sup> to -1 <sup>st</sup> or +1 <sup>st</sup> ):	+/- 77.1mrad

#### ALL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

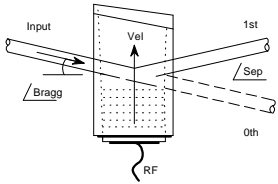
ISOMET CORP, 5263 Port Royal Rd, Springfield, VA 22151, USA.

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#### Quality Assured.

In-house: Crystal Growth,  
Optical Polishing,  
A/R coating, Vacuum Bonding



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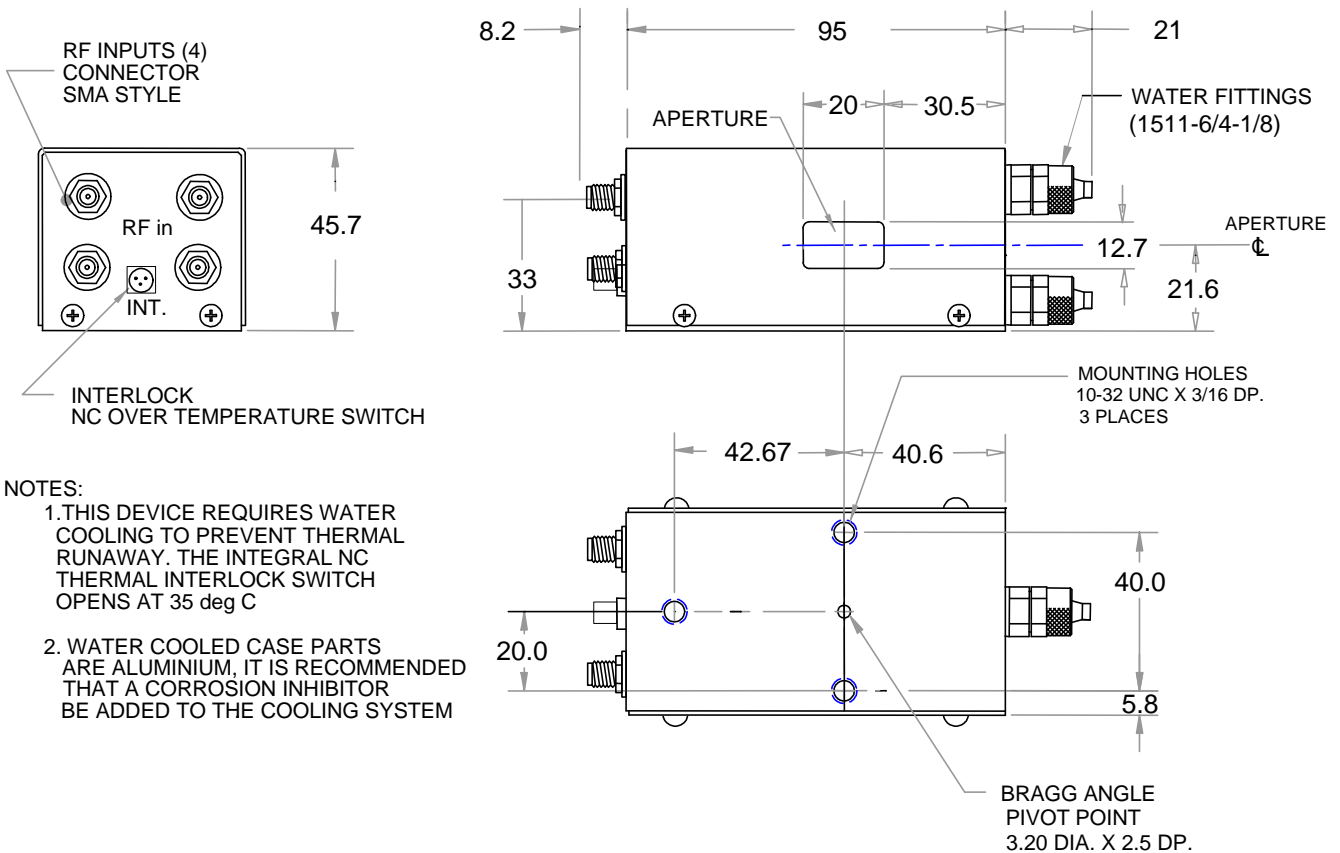


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### OUTLINE DRAWING

All case parts in contact with coolant are fabricated in Nickel plated Aluminium



**NOTES:**

1. THIS DEVICE REQUIRES WATER COOLING TO PREVENT THERMAL RUNAWAY. THE INTEGRAL NC THERMAL INTERLOCK SWITCH OPENS AT 35 deg C
2. WATER COOLED CASE PARTS ARE ALUMINIUM, IT IS RECOMMENDED THAT A CORROSION INHIBITOR BE ADDED TO THE COOLING SYSTEM

- Options:
- BR : Case parts in contact with coolant fabricated in Nickel plated Brass
  - M : Metric M5 mounting hole threads

### DRIVERS

**Modulator Driver/Amplifier**

**iSA240-4**

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