

# M1340-aQ110-H

## Acousto-Optic Modulator/Deflector



0419

The M1340-aQ110 is high efficiency AO modulator developed specifically for industrial 515/532nm laser applications including:

- Material Processing
- Drilling
- Surface texturing
- Micro machining

### Specifications

Operating Wavelength:	515nm, 532nm
Interaction Material:	Quartz
Centre Frequency (fc):	110MHz
RF Bandwidth:	20MHz
Diffraction Efficiency at fc	85% min, 90% typical
Input Impedance:	50Ω(Nominal)
Input VSWR:	<1.5:1 @ 110MHz
Active Aperture, H:	H=3, 3mm H=5, 5mm
Optical Insertion Loss:	<3% (<2% typical)
Reflectivity:	<0.5%/Surface
DC Contrast Ratio:	>1000:1 min (2000:1 typical)
Laser Polarization:	Vertical, Perpendicular to scan
Water Cooling (Min):	1L/minute @ 25deg C

### Typical Performance

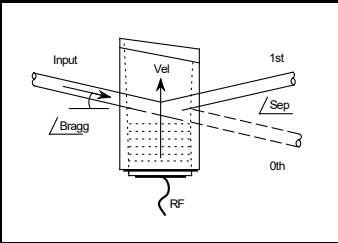
Wavelength:	<u>515nm</u>	<u>532nm</u>
RF Drive Power , H=3mm:	<15W	<16W
H=5mm:	<24W	<25W
Bragg Angle:	5.0mrad	5.1mrad
Separation Angle (at fc):	9.9mrad	10.3mrad
Beam Diameter:	<u>4.0mm</u>	<u>2.0mm</u>
Optical Rise time:	450ns	225ns
Video Bandwidth:	0.8MHz	1.6MHz

### RF Drive Electronics

RFA2110 (water cooled), RFA920-110 (air cooled), RFJ110-1-25 (conduction cooled)

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**Quality Assured.**  
**In-house: Crystal Growth,**  
**Optical Polishing,**  
**A/R coating, Vacuum Bonding**



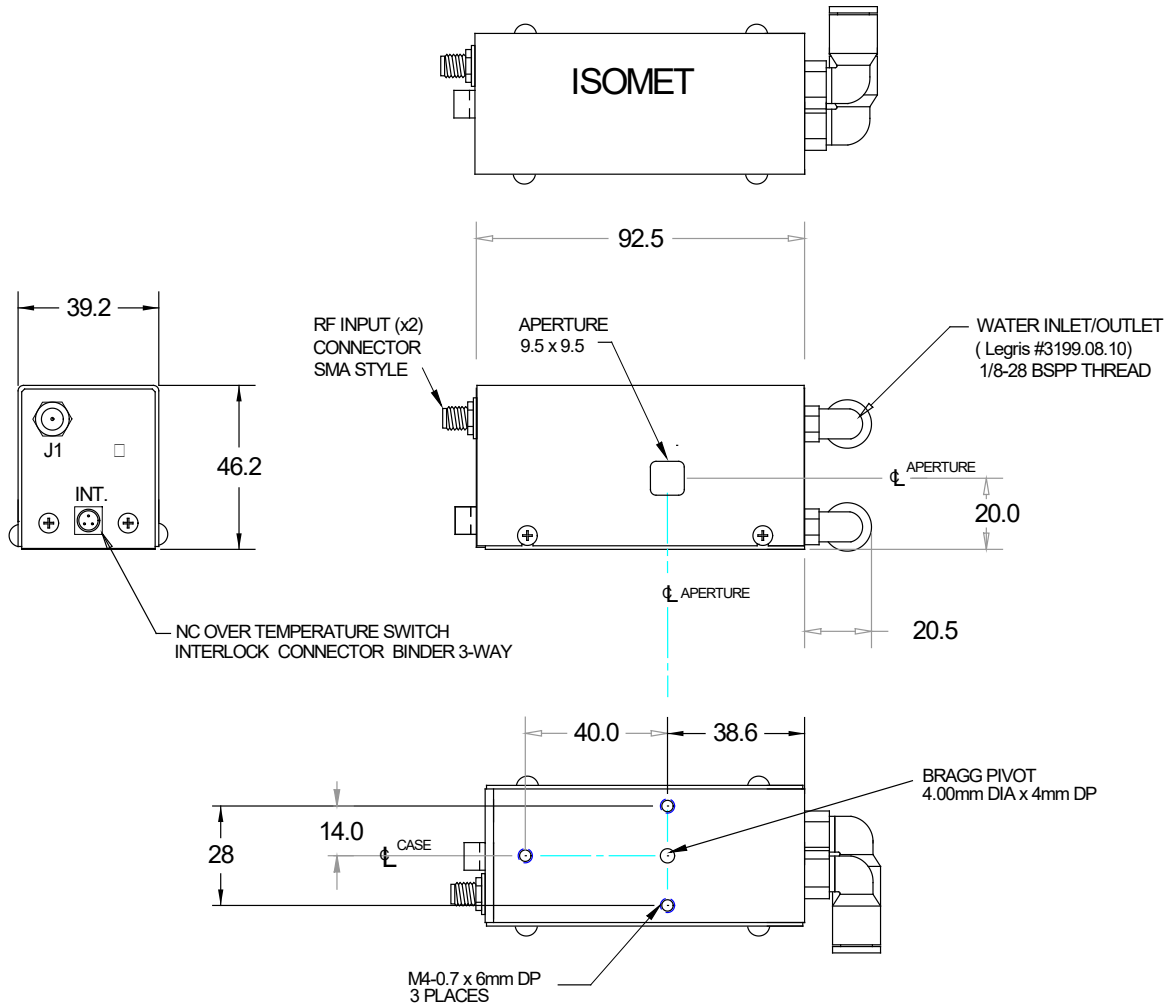
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### OUTLINE DRAWING



Water cooled case parts are made from Aluminium.  
Copper alternative is available as an option

Refer application note AN1606 regarding Coolant Specification

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