

AOM640 / AOM650 -H

High Power AO Modulator



0618

APPLICATIONS

- Material Processing
- Via Hole Drilling
- Surface texturing

The AOM6x0 series of high power IR modulators have been designed to minimize thermal lensing and reduce beam degradation for CW and high duty cycle CO₂ laser applications.

SPECIFICATIONS (TYPICAL)

A/R Wavelength:	9.4μm, 9.6μm or 10.6μm (as specified)*
Interaction Material:	Germanium
Static Insertion Loss:	< 5%
Maximum Optical Power:	600 Watts, 7mm dia. Gaussian beam
Laser Polarization:	Linear, Horizontal
Water Cooling (minimum):	> 2 Liter/Min. @ < 20°C

Active Aperture: H=7	7mmH x 30mmW
H=8	8mmH x 30mmW
H=9	9mmH x 30mmW

VSWR < 2:1 at 60W per RF input

	AOM640-H	AOM650-H
Centre Frequency (fc):	40 MHz	50 MHz
Minimum RF Bandwidth:	5 MHz	5 MHz

Combined RF Power for maximum Diffraction Efficiency:

Active Aperture	9.3μm	9.6μm	10.6μm
H=7 mm	105W	115W	140W
H=8 mm	120W	130W	160W
H=9 mm	135W	145W	180W

Angles	9.3μm		9.6μm		10.6μm	
Centre Freq	40MHz	50MHz	40MHz	50MHz	40MHz	50MHz
Bragg Angle, mrad	33.9	42.4	34.9	43.6	38.6	38.3
Separation Angle, mrad	67.7	84.8	69.8	87.3	77.1	96.5

Laser Polarization:	Linear, Horizontal
Water Cooling (minimum):	> 2 Liter/Min. @ < 20°C

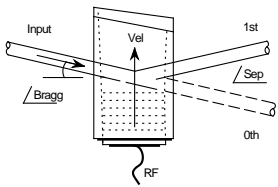
AOM640-7 Modulator performance for 6mm beam

Optical Rise Time	700nsec (0.12usec/mm)
Diffraction Efficiency	85% minimum, 90% typical
Modulator Drive Electronics:	RFA240-2-x (40MHz) or RFA-250-2-x (50MHz)

* Optional designs are available for other wavelengths in the 2.5μm - 11.2μm range.

ALL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE
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Quality Assured.
In-house: Crystal Growth,
Optical Polishing,
A/R coating, Vacuum Bonding



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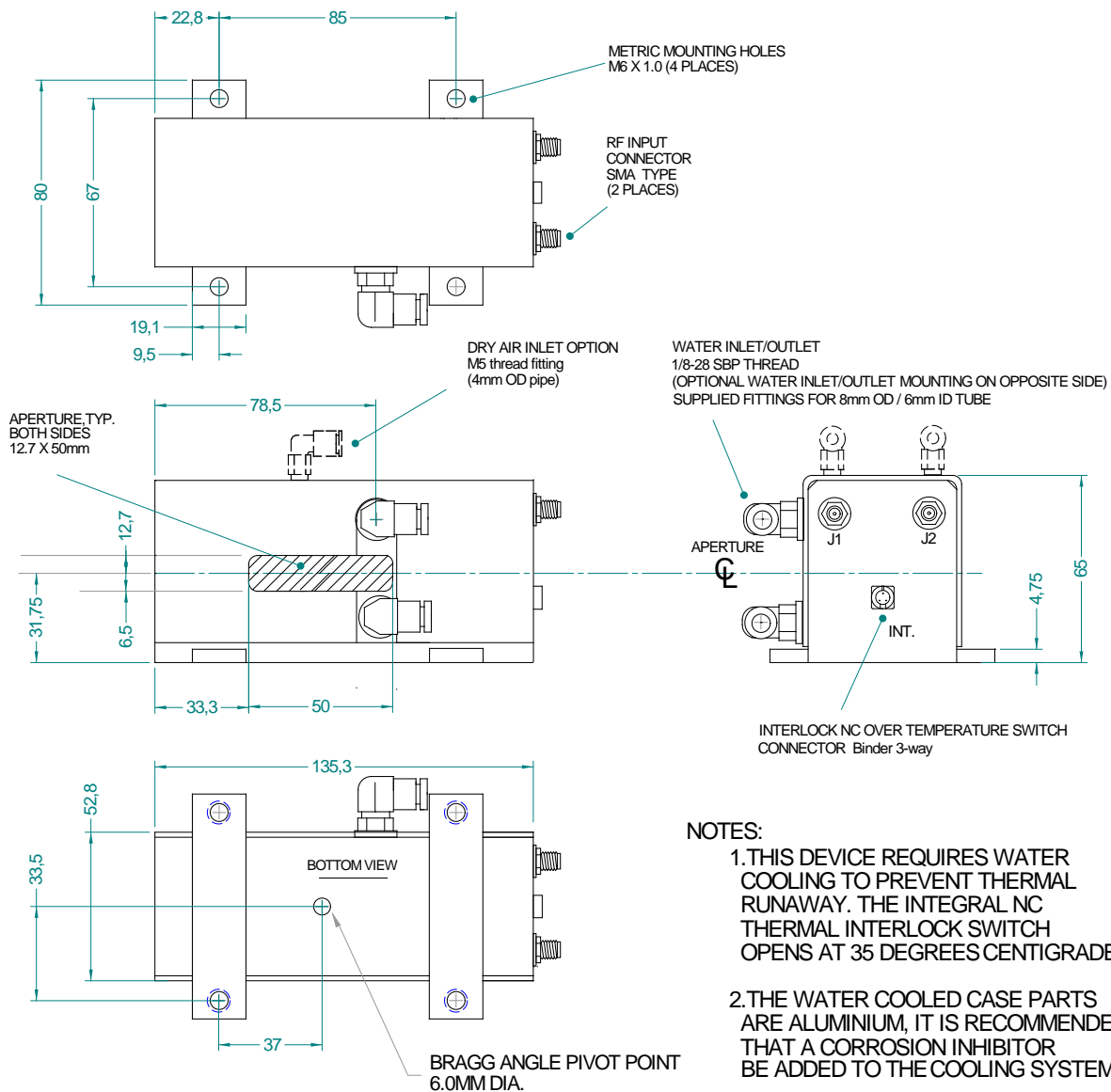
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OUTLINE DRAWING

Dimensions:
mm



Refer application note AN1606 regarding Coolant Specification
Alternative low corrosion Brass case parts, add option '-BR'

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