

MODEL ATM-A1/A2 SERIES ACOUSTO-OPTIC FREQUENCY SHIFTER

- WIDE CENTER FREQUENCY CHOICE
- USER SPECIFIED CENTER FREQUENCY¹
- WIDE FREQUENCY SHIFTING RANGE
- HIGH DIFFRACTION EFFICIENCY
- BEAM DEFLECTION
- LOW DRIVE POWER
- HIGH RELIABILITY



SPECIFICATIONS

Range of Center Frequency Choice ¹ (F)	80 MHz - 350 MHz
Frequency Shift Bandwidth ⁵	50 percent of center frequency
Acousto-optic Material	Tellurium Dioxide (TeO ₂)
Active Aperture Height	1 mm
Sound Velocity (V)	4260 m/sec (longitudinal)
Beam Separation	$(\lambda \times F) / V$
Optical Rise Time	151 nsec/mm beam diameter
Static Optical Insertion Loss	<4 percent
Input Impedance	50 ohms
Input VSWR	<1.5:1 at center frequency
Input Connector	SMA
Size (less SMA connector)	0.63 H x 2.00 D x 0.9 W inches 16.0 H x 50.8 D x 22.9 W mm

MODEL

Optical Wavelength Range² (λ)

Diffraction Efficiency³

RF Drive Power^{3,4}

Examples: (90 MHz center frequency)
(270 MHz center frequency)

ATM-A1 Series

440 nm - 700 nm

85 percent (80 MHz)
70 percent (350 MHz)

1 watt (633 nm)

ATM-901A1
ATM-2701A1

ATM-A2 Series

700 nm - 1100 nm

80 percent (80 MHz)
60 percent (350 MHz)

1.5 watts (780 nm)

ATM-901A2
ATM-2701A2

¹ Choose center RF frequency to match application.

² Specifications vary with optical wavelength.

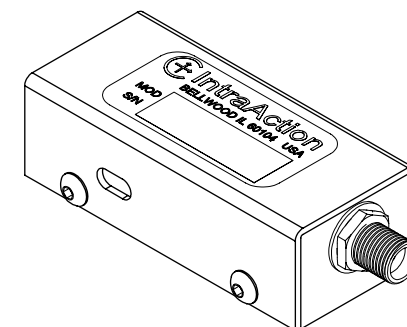
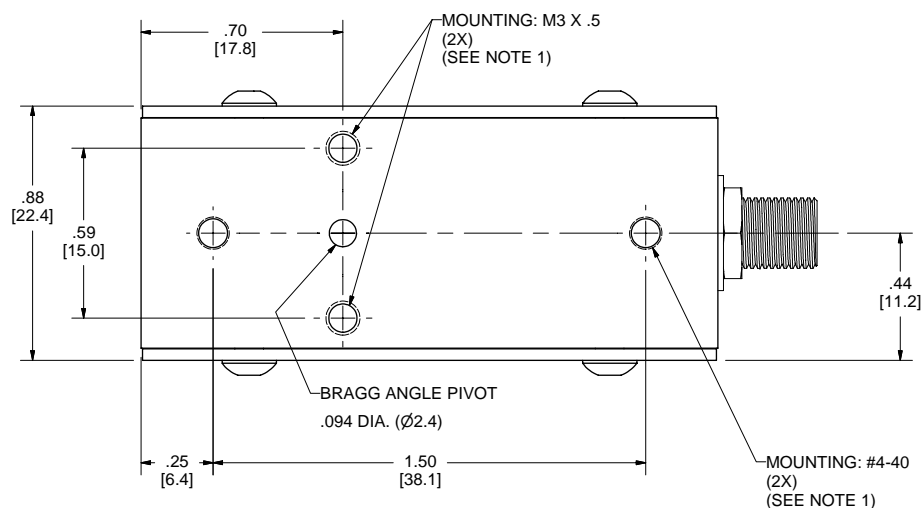
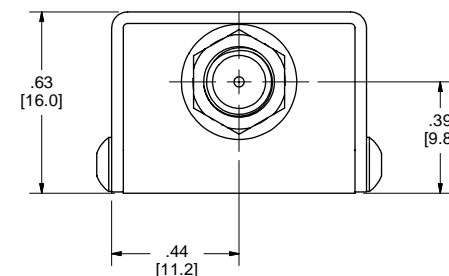
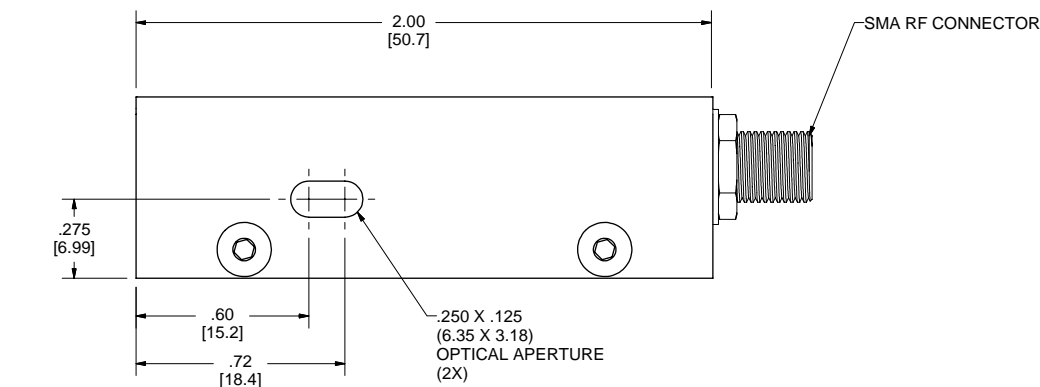
³ RF drive power required varies as the square of the optical wavelength.

⁴ A complete line of drive electronics are available. See VFE series, ME series, and DE series drivers. OEM drivers also available.


⁵ Depending on optical wavelength, RF frequency, and RF frequency deviation, the Bragg angle condition may need to be readjusted.

REVISIONS		
ISSUE	DESCRIPTION	APPD/DATE
	ORIGINAL RM 7-27-98	JL
A	ADDED METRIC MOUNTING. MFI 01-20-03	JL 01-20-03

ALL REVISIONS TO THIS DRAWING
MUST BE MADE ON THE AUTODESK CAD SYSTEM



NOTES:
1. MOUNTING SCREW DEPTH MUST NOT EXCEED 0.13 (3.3 mm) INCHES MAX.

UNLESS OTHERWISE SPECIFIED TOLERANCES AND DIMENSIONS ARE IN INCHES LINEAR : .XX ± .010 .XXX ± .005 ANGULAR ± ° DIAMETERS ± LIMITS MAY APPLY BEFORE FINISHING DO NOT SCALE THIS PRINT		APPROVED DATE		<div> IntraAction Corp.</div> <div>3719 WARREN AVE. PHONE (708) BELLWOOD, IL 60104 547-6644</div>	
		CHECKED DATE			
MATERIAL		DRAWN DATE		ATM-A1/A2 SERIES FREQUENCY SHIFTER	
		RM 7-27-98			
MFG. INSTR. Q. C. INSTR.		FINISH		FCSM NO. C DWG. NO. ISSUE SIZE ATM-A1/A2 SERIES A	
				SCALE 3:1 UNIT WEIGHT SHEET 1 OF 1	

DWG NO. ATM-A1/A2 SERIES 1