



**MODEL ATM-DA1/DA2 SERIES  
HIGH FREQUENCY, LARGE ACTIVE APERTURE  
ACOUSTO-OPTIC FREQUENCY SHIFTER**

- WIDE CENTER FREQUENCY CHOICE
- USER SPECIFIED CENTER FREQUENCY<sup>1</sup>
- WIDE FREQUENCY SHIFTING RANGE
- HIGH DIFFRACTION EFFICIENCY
- LARGE ACTIVE APERTURE HEIGHT
- LOW DRIVE POWER
- HIGH RELIABILITY



**SPECIFICATIONS**

Range of Center Frequency Choice <sup>1</sup> (F)	80 MHz - 350 MHz
Frequency Shift Bandwidth <sup>2</sup>	50 percent of center frequency
Acousto-optic Material	Tellurium Dioxide (TeO <sub>2</sub> )
Active Aperture Height	2 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 (<2:1 maximum)
Input Connector	SMA
Size (less SMA connector)	0.75 H x 2.00 D x 1.03 W inches 19.0 H x 50.8 D x 26.2 W mm

**MODEL**

Optical Wavelength ( $\lambda$ ) Range<sup>3</sup>

Diffraction Efficiency<sup>3</sup>

RF Drive Power<sup>4,5</sup>

Examples: (200 MHz center frequency)  
(350 MHz center frequency)

**ATM-DA1 Series**

440 nm - 700 nm

90 percent (80 MHz)  
70 percent (350 MHz)

1 watt (633 nm, 80 MHz)

ATM-2002DA1  
ATM-3502DA1

**ATM-DA2 Series**

700 nm - 1100 nm

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

1.5 watts (780 nm, 80 MHz)

ATM-2002DA2  
ATM-3502DA2

<sup>1</sup> Choose center RF frequency to match application.

<sup>2</sup> 35 percent of center RF frequency for high frequency devices

<sup>3</sup> Specifications vary with optical wavelength.

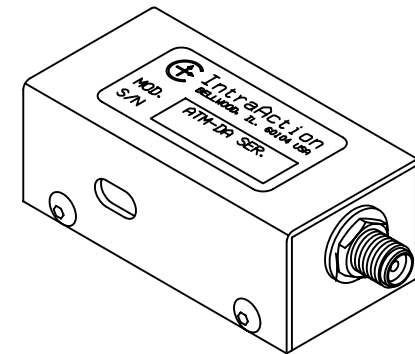
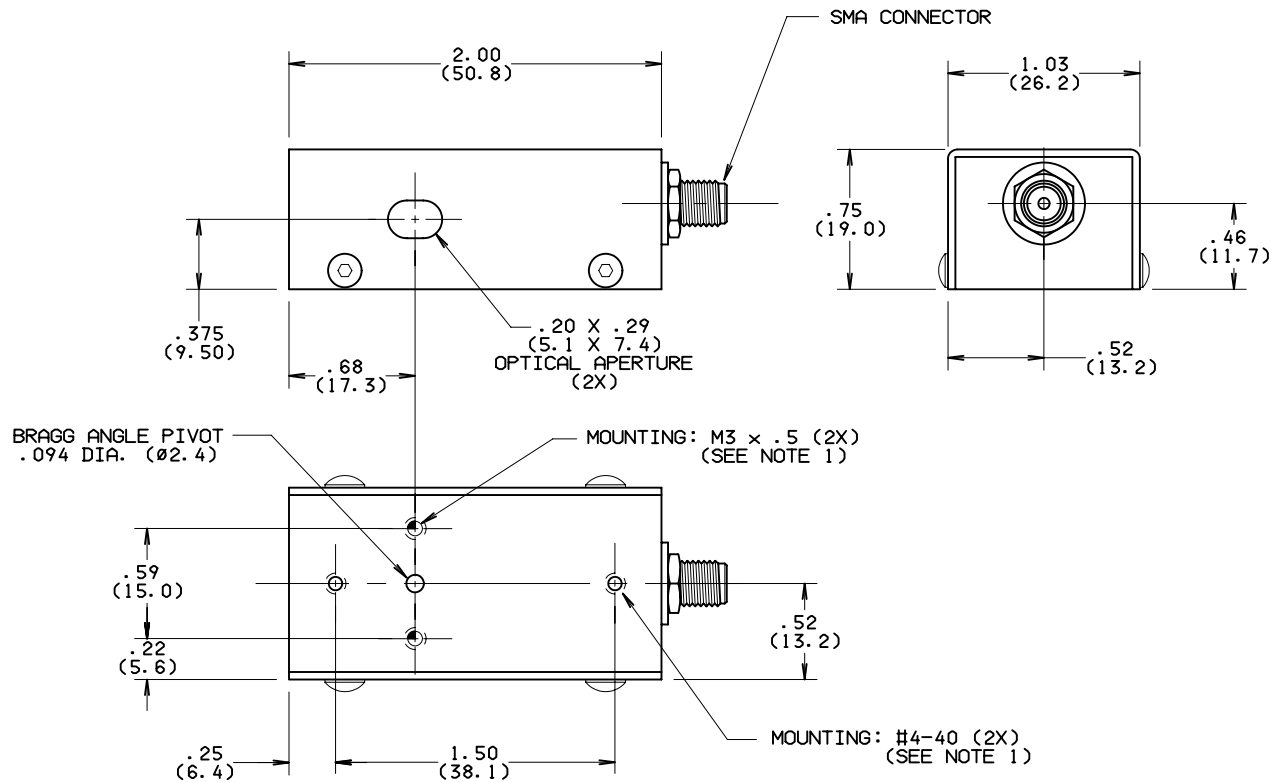
<sup>4</sup> RF drive power required varies as the square of the optical wavelength.

<sup>5</sup> A complete line of drive electronics are available. See VFE series, ME series, and DE series drivers. OEM drivers also available. 12141

ENG210B


## REVISIONS

ISSUE	DESCRIPTION	APPD/DATE
ORIGINAL	GJK 11-03-06	
ALL REVISIONS TO THIS DRAWING MUST BE MADE ON THE 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 APPLY BEFORE FINISHING DO NOT SCALE THIS PRINT	APPROVED DATE	 IntraAction Corp. 3719 WARREN AVE. BELLWOOD, IL 60104		PHONE (708) 547-6644	
	CHECKED DATE				
	DRAWN DATE	TITLE  ATM-DA SERIES MODULATOR			
	GJK 11-03-06				
MATERIAL	FINISH	FSCM NO.	B	DWG. NO.	ISSUE
MF6. INSTR.		SCALE	SIZE	ATM-DA SERIES	
Q.C. INSTR.		UNIT WEIGHT	SHEET 1 OF 1		