Free-Space Acoustic-Optic Modulators/Shifters

(532 to 2300nm, 0.7 to 2mm aperture, 100, 120, 200 MHz driving)

DATASHEET

BUY NOW

These series of fiberoptic acoustic modulators are designed for laser systems. The device can be used in several configurations in which the common one is normally opaque and becomes transparent when the acoustic brag diffraction condition is met. In addition to beam diffraction, it inevitably produces a wavelength frequency shift. We produce devices with three resonance frequencies of 100MHz, 120MHz, and 200MHz with different rise/fall response times.

Features

- Low Loss
- Low Cost
- Stable

Applications

- Fiber Lasers
- Pulse Picker
- Sensor

Specifications

Parameter		Min	Typical	Max	Unit
Center Wavelength		523		2300	nm
Wavelength Bandwidth			±30		nm
Optical Aperture		0.7		2	mm
Acoustic Frequency		100	120	200	MHz
Modulation Bandwidth [1]		DC	15	50	MHz
Wavelength Shift	(100MHz)		±100		MHz
	(120MHz)		±120		
	(200MHz)		±200		
Deflection Angle	(100MHz)		25		mrad
	(120MHz)		30		
	(200MHz)		50		
Diffraction Efficiency		75		85	%
Rise/Fall Time [2]		60	100	400	ns
Return Loss		40			dB
Average Optical Power			1	20	W
Peak Pulse Optical Power				30	kW
Input Impedance			5		Ω
RF Power			2.5	4.5	W
Electrical Interface			SMA		
Ultrasonic Velocity			4200		m/s
Operating Temperature		-30		65	°C
Storage Temperature		-45		85	°C

Note:

[1]. It is approximately proportional to the driving frequency and inversely to the aperture size.

[2]. It is approximately proportional to the aperture size and inversely to the driving frequency.

Rev 07/17/23

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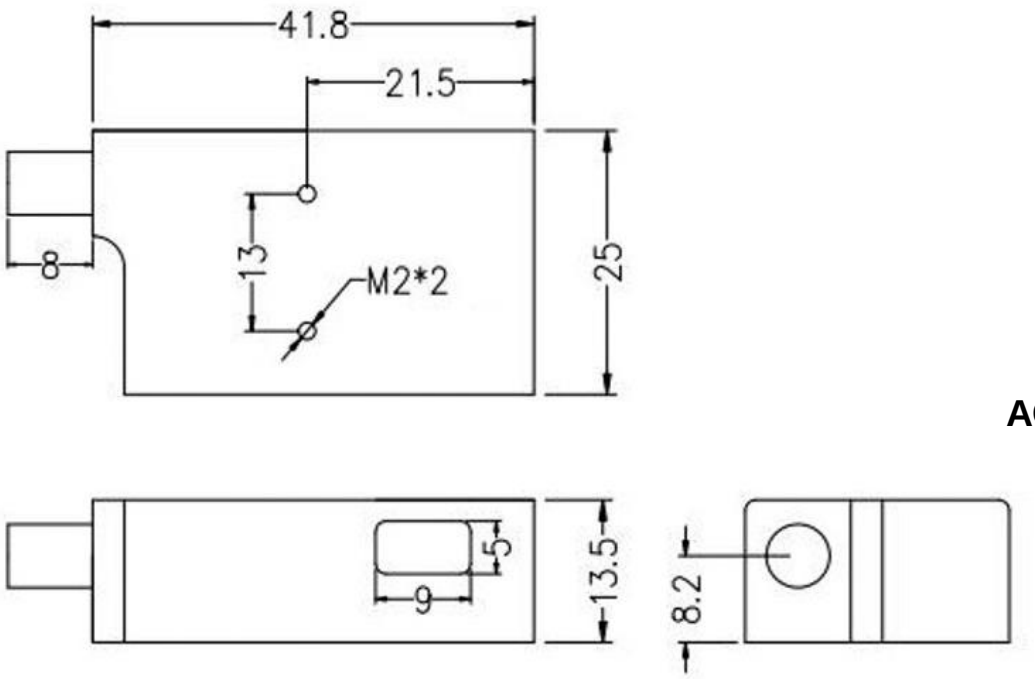
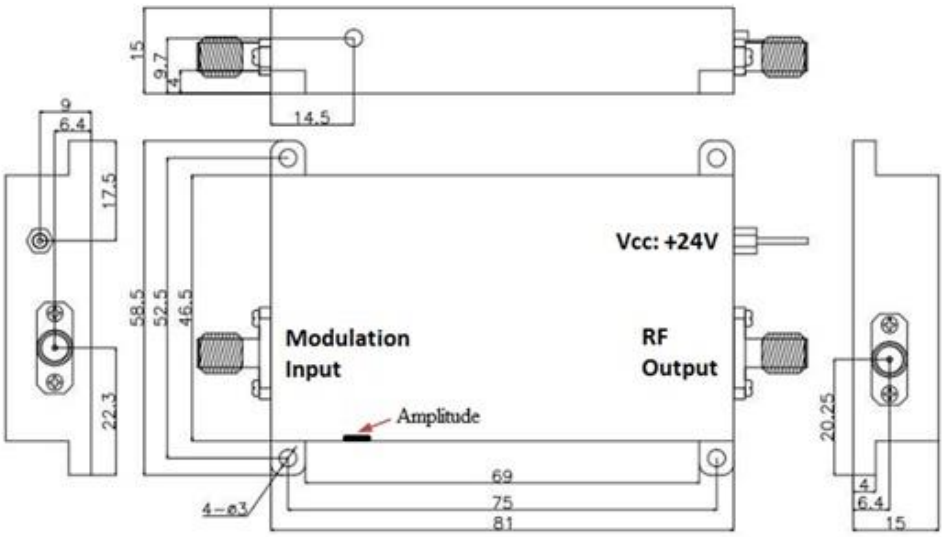
Mechanical Dimensions (mm)



AOM



AOM Driver

*Product dimensions may change without notice. This is sometimes required for non-standard specifications.

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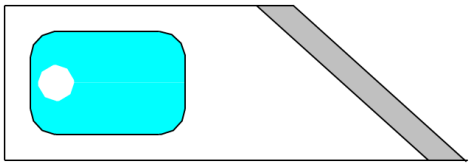
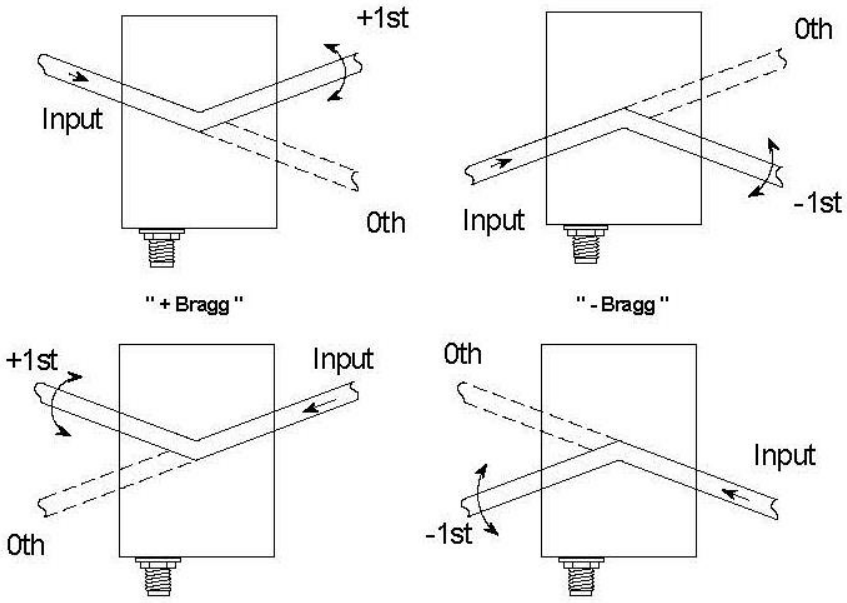
Laser Beam Passthrough Arrangement



Typical AOM Aperture Geometry- Rectangle



Possible laser beam input and output arrangements

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Electrical Connection

Connect the device to the driver via the SMA connections

Ordering Information

	☐☐	☐	☐	☐	☐	1	1	1
Prefix	**Type**	**Wavelength ***	**Aperture**	**Frequency**	**Driver**			
AOMS-	TeO2 = 11 Special = 00	1060 nm =1 1550 nm = 5 1310 nm = 3 980 nm = 9 630 nm = 6 750 nm = 7 530 nm = 5 450 nm = 4 2000 nm = 2 Special = 0	0.7mm = 1 1.0mm = 2 1.5mm = 3 Special = 0	100MHz = 1 120MHz = 3 200MHz = 2	Yes = 1 No = 2			

Red means special order

Operation Manual

1. Connect the driver to +24V using the provided cable but do not turn the power on.

Note: Applying the wrong polarity will burn the driver.
Note: Powering the driver without the load will damage the driver.

2. Connect the driver OUTPUT to the accustom-optic device via the two SMAs.
3. Turn on the +24V power
4. Input TTL control signal to the Modulation connection port