

# Free-space Acousto-Optic Modulators

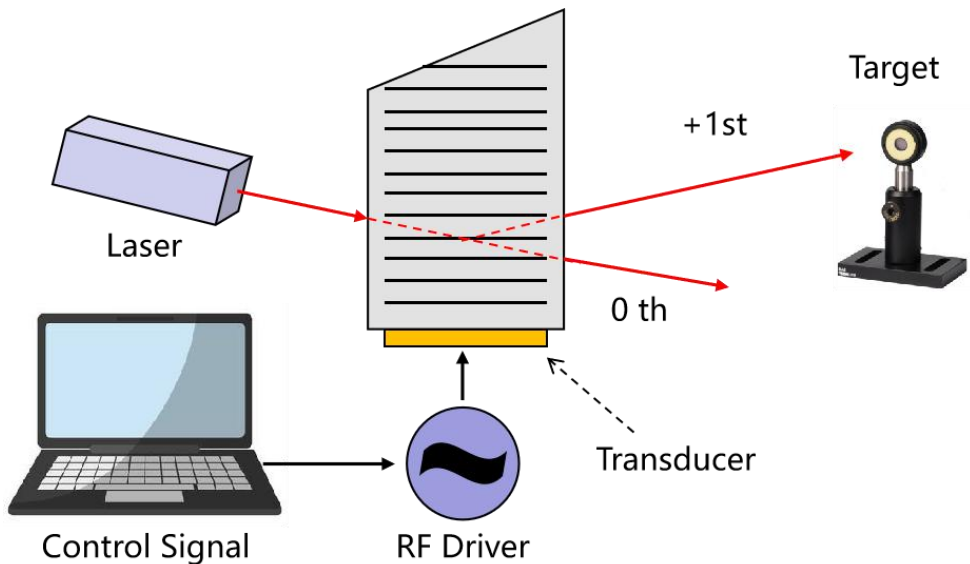
Acousto-optic modulation is an external modulation technology, which can control the intensity of laser beam, and its speed is much faster than that of mechanical shutter. **Acousto-optic modulator (AOM)** can be used in laser modulation, laser graphic processing, laser digital communication and other fields. It has the characteristics of fast modulation speed, compact size, high modulation efficiency, high extinction ratio, easy coding and convenient to use.

CASTECH offers customized services that optimize the modulation scheme according to the demanding speed, wavelength, power, beam diameter and extinction ratio for our customers.



## Applications

- Laser marking
- Lithography
- Material processing
- Medical surgery
- Micromachining



Schematic diagram of free-space acousto-optic modulator

# Free-space Acousto-Optic Modulators

## Free-Space AOM Model Number: CAOM-f-a-mt-w-c-h

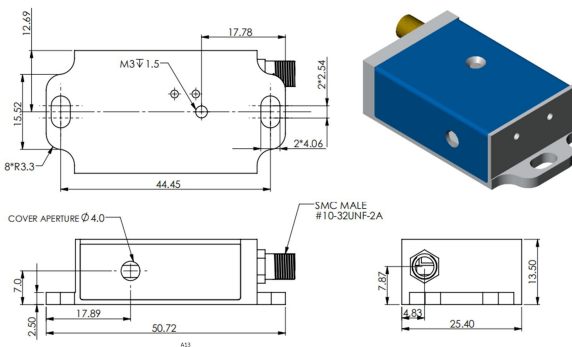
RF Frequency (f)	Aperture (a)	Material (m)	Mode (t)	Wavelength(w)	RF Connector (c)	Housing (h)
68 MHz	005 (0.5 mm)	CQ (Crystalline Quartz) TE (TeO <sub>2</sub> )	C (Compressional) S (Shear)	355 nm	AF (SMA-F) AM (SMA-M) CF (SMC-F) CM (SMC-M) ...	A03
80 MHz	010 (1 mm)			532 nm		A04
100 MHz	015 (1.5 mm)			780 nm		A05
120 MHz	020 (2 mm)			850 nm		A13
150 MHz	025 (2.5 mm)			1030 nm		A29
200 MHz	030 (3 mm)			1064 nm		A62
250 MHz	...			3000 nm		B09
...	...			...		B12
...	...			...		...

## Typical Specifications

Frequency	Active Aperture	Wavelength	Transmission	Diffraction Efficiency	Separation angle
100 MHz	0.5~1 mm	355 nm	≥ 99.0%	≥ 85%	6.2 mrad
100 MHz	0.5~4 mm	1064 nm	≥ 99.0%	≥ 85%	25.3 mrad
120 MHz	0.5~1 mm	1064 nm	≥ 99.0%	≥ 85%	30.4 mrad
200 MHz	0.15~0.5 mm	1064 nm	≥ 99.0%	≥ 70%	50.7 mrad
250 MHz	0.15~0.5 mm	1064 nm	≥ 99.0%	≥ 70%	63.3 mrad

## Housing dimensions(mm):

A13



B09

