Free-Space Electro-Optical Modulator

(2.5mm aperture, 400nm to 2000nm, DC-MHz)

DATASHEET

BUY NOW

Agiltron's Free-space Electro-optic modulator(FEOM) is an easy-to-use tool to modify the phase, polarization, or amplitude of a free-space laser covering a wide wavelength range. For general applications, the device uses a pair of compensated $LiNbO_3$ crystals. For high-power and short-wavelength applications, the device uses a special crystal pair to overcome $LiNbO_3$ instability. The device should be driven by applying $\pm$ alternative high voltage to avoid internal charge build-up.

We provide driving electronics with modulation ranges from DC to MHz; the modulation depth is related to frequency due to limited amplification power.

Polarization cubes can be aligned and installed at both input and output ports to form an intensity modulator.

Features

- High Performance
- Compact Package
- Easy integration
- Customize Available
- Low cost

Applications

- Laser Modulation
- Holography
- Metal cutting/engraving
- Microfabrication

Specifications

Parameter		Min	Typical	Max	Unit
Wavelength Range	W1	400		600	nm
	W2	600		900	
	W3	900		1250	
	W4	1250		1650	
Clear Aperture		3			mm
Halfwave Voltage, non-resonant			205V @ 633nm		
Extinction Ratio [1]		10			dB
Input impedance, resonant			50		ohms
Input capacitance, non-resonant			14		pF
Max Optical Power Density	532nm		2	10 [2]	W
	1064nm		5	20 [2]	W
Dimension			86 x 32 x 32		mm
Temperature		-20		50	°C

Notes:

[1]: Characterized @ 633nm

[2]: High power version, please call us.

Note: The specifications provided are for general applications with a cost-effective approach. If you need to narrow or expand the tolerance, coverage, limit, or qualifications, please [click this link]:

Rev 08/12/24

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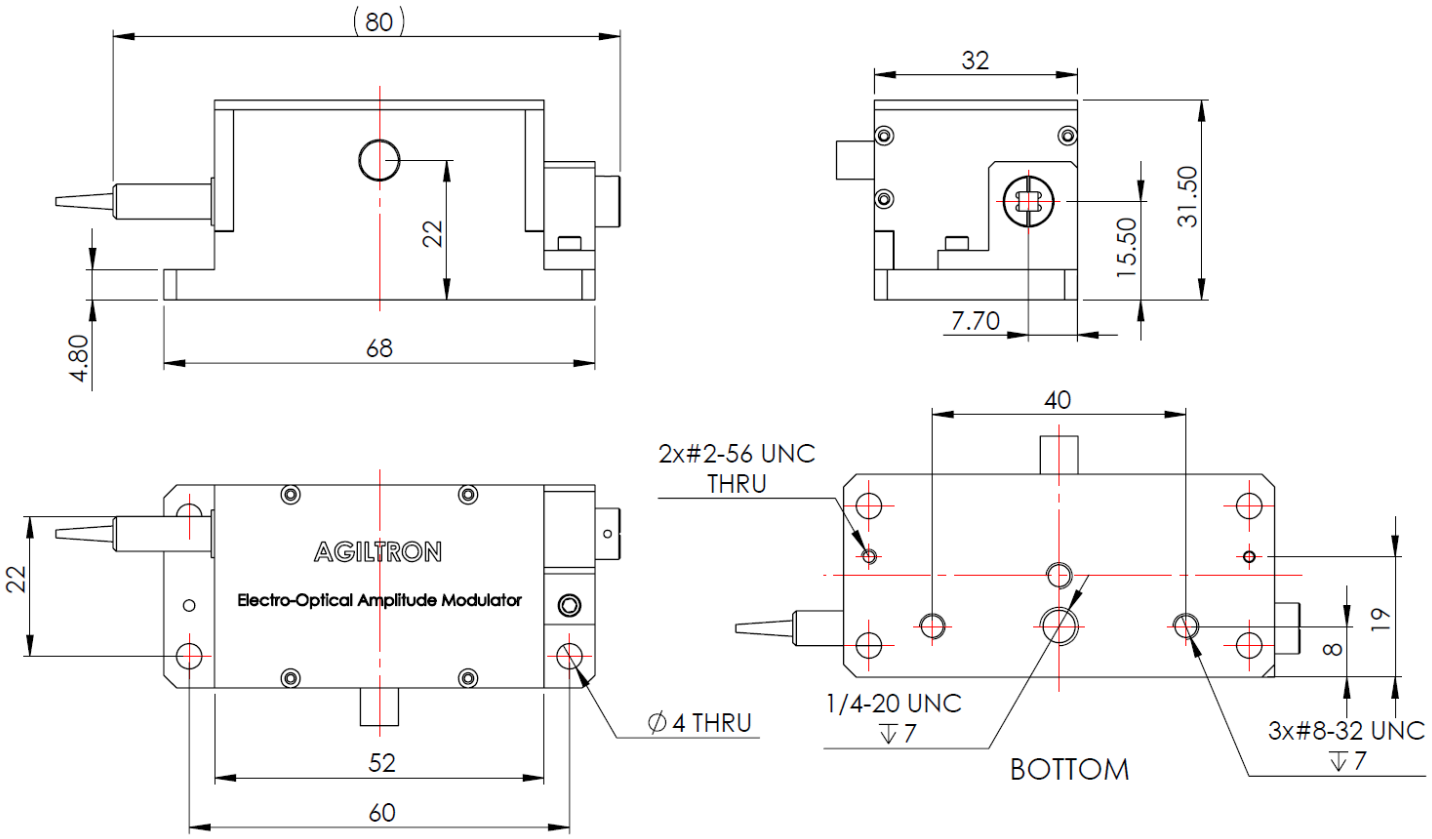
Mechanical Drawing (mm)



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

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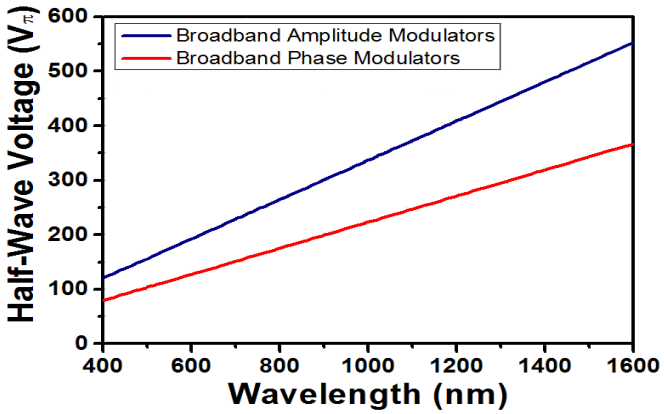
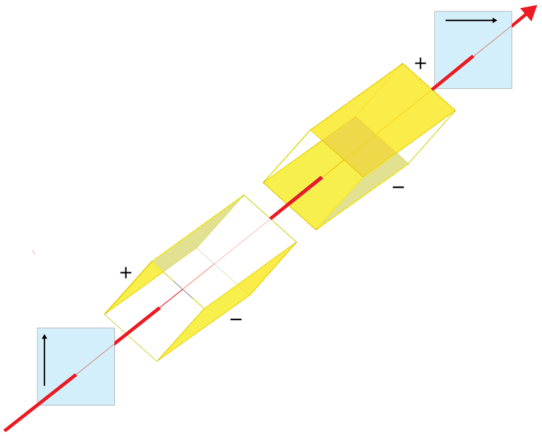
Modulator Half-Wave Voltage



Amplitude Electro-Optic Crystal Configuration (yellow indicates electrode)



Typical Resonance Response (sine wave)

P +1 781-935-1200 E sales@photonwares.com W www.agiltron.com

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Ordering Information

	☐	☐☐	☐	☐	☐	☐	F 0
Prefix	**Type**	**Wavelength**	**Optical Power**	**Config**	**Input Cube [1]**	**Output Cube [1]**	
FEOM-	Amplitude = 5 Phase = 6	400~600 nm = 05 600~900 nm = 07 900~1250 nm = 09 1250~1650 nm = 14	Regular = 1 High Power = 2	Standard = 1 Special = 0	No = 1 Polacore = 3 PBS = 4 Glan-Thompson = 5	No = 1 Polacore = 3 PBS = 4 Glan-Thompson = 5	Non-resonant version = F0

[1]. **Polacore** – CW 10W/cm^2
PBS – CW 15W/cm^2
Glan-Thompson – CW 2kW/cm^2

Polarizer's prices:

Polacore	$**256**
PBS	$**365**
Glan Thompson	$**485**

Polarizer

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