

Free-Space Electro-Optical Modulator

(3.5mm aperture, 400nm to 2000nm, DC-MHz)

Features

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

Product Description

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 Special Crystals. For high-power and short-wavelength applications, the device uses a special crystal pair to overcome Special Crystal instability. The device should be driven by applying \pm alternative high voltage to avoid internal charge build-up. We provide driving electronics with modulation spectrum ranges from DC to MHz range; 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.



Performance Specifications

Parameters	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			
Halfwave Voltage, resonant	15V @ 633nm			
Extinction Ratio	10			dB
Input impedance, resonant	50			ohms
Input capacitance, non-resonant	14			pF
Max Optical Power Density	532nm	2	10*	W
	1064nm	5	20*	W
Dimension	86 x 32 x 32			mm
Temperature	-20			50 °C

*high power version

Applications

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



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Mechanical Drawing

Ordering Information

Prefix	Type	Wavelength	Optical Power	Aperture	Input Cube*	Output Cube*
FEOM-	Amplitude = 1 Phase = 2	400-600 nm = 0500 600-900 nm = 0750 900-1250 nm = 1050 1250-1650 nm = 1450	Regular = 1 High Power = 2	2.5mm = 1 3.5mm = 2 Special = 0	No = 1 Yes = 2	No = 1 Yes = 2

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