

Electro-Optic Modulator

Fast and Phase Stable Pulse Modulation

Amplitude Modulator

APE's Electro-Optic Modulator (EOM) is an accessory for laser sources based on decades of experience in optoelectronic design. It is a dedicated modulator designed for use in Stimulated Raman Scattering (SRS) and other applications requiring an amplitude modulated signal. The resonant EOM can be used with most cw lasers, mode-locked lasers and synchronously pumped OPOs in the VIS to NIR range (such as the Levante Emerald). It modulates the amplitude of the beam at a fixed frequency of either 10 MHz or 20 MHz. This modulation frequency can be phase-locked to the laser repetition rate of 40 MHz or 80 MHz. Modulators are available for various wavelengths between 420 nm and 1600 nm.

The EOM combines an electro-optic crystal with a polarizer in a single housing and can be easily mounted on the optical table. The included driver is connected to the computer via USB. Power and phase can be controlled easily and remotely using the control software. For easy synchronization, the modulator can be connected to the sync output of the pump laser (typically a signal from a fast photo diode). Alternatively, the frequency can be generated internally.



- Suitable for most cw, mode-locked lasers or OPOs in the VIS to NIR range
- Fixed frequency modulation at 10 MHz or 20 MHz for precise amplitude control
- Multiple wavelength ranges available from 420 nm to 1600 nm
- Easy to mount on optical table with USB connected driver and control software
- Syncs to pump laser or generates frequency internally

Electro-Optical Modulator Specifications

EOM	420	690	900	1030	1200
Wavelength ranges	420 ... 600 nm	690 ... 900 nm	900 ... 1200 nm	1030 ... 1064 nm	1200 ... 1600 nm
Modulator frequency	Either 10 MHz or 20 MHz fixed modulation frequency. (Must be specified at time of order. Frequency can be phase locked to laser frequency: f/4 or f/8)				
Laser frequency*	76 ... 84 MHz (\pm 0.5 MHz)				
Modulator damage threshold	2 W/mm ² at 532 nm 4 W/mm ² at 1064 nm				
Modulation depth	> 85% (after initial warm up)				

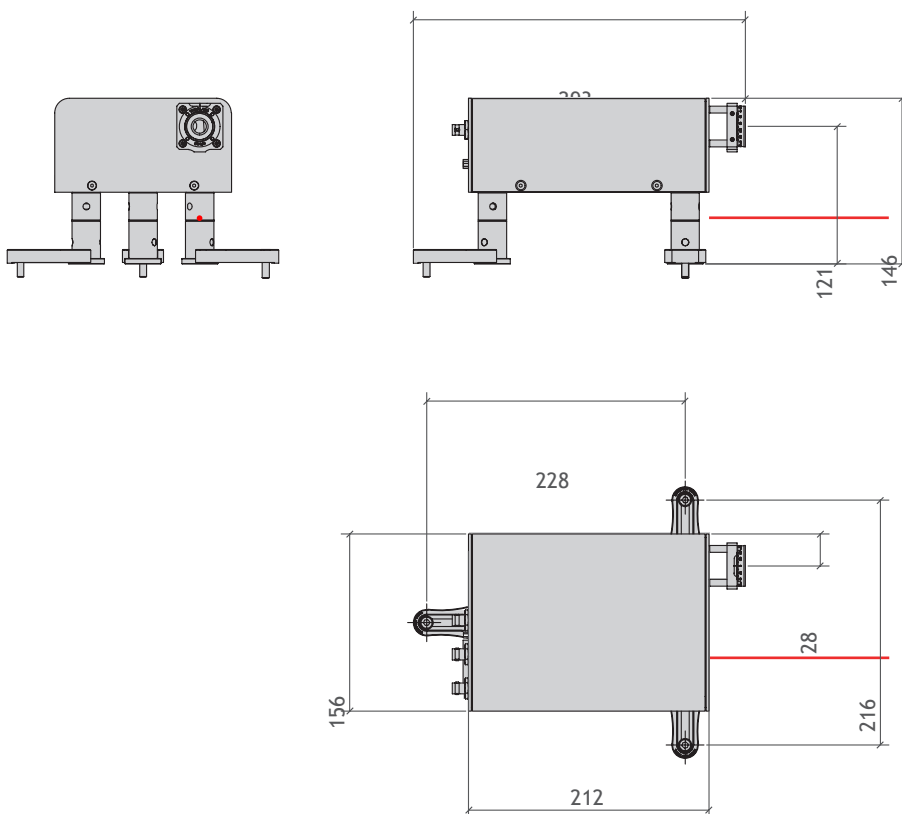
* If synchronisation of modulation frequency to laser frequency is required.

Appendix Technical Drawings

All dimensions in mm

Electro-Optic Modulator

■ laser modulator



Contact

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APE follows a policy of continued product improvement.
 Therefore, specifications are subject to change without notice.

