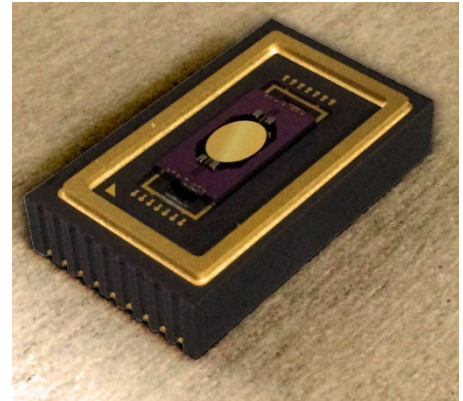


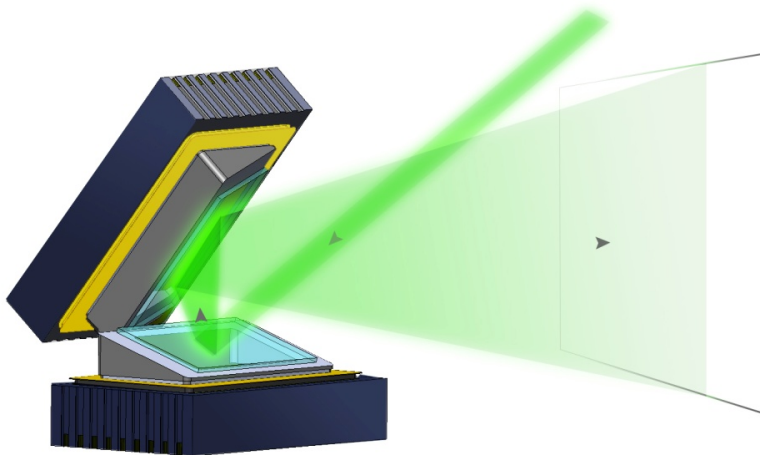
MAR1800_2D | MEMS 2D VECTOR SCANNING MIRROR MODULE

The MAR1800_2D is a MEMS 2D vector scanning mirror module, comprises of 2 single axis vector scanners, attached together.

MAR1800 module supports large laser beam diameters (> 3mm), high deflection angles, multiple scan modes, all with very high accuracy and repeatability. Combining two MAR1800 modules together create a very powerful 2D scanner, which accommodate hi scan flexibility along with hi performance.



2D SCANNING MODULE ILLUSTRATION



FEATURES

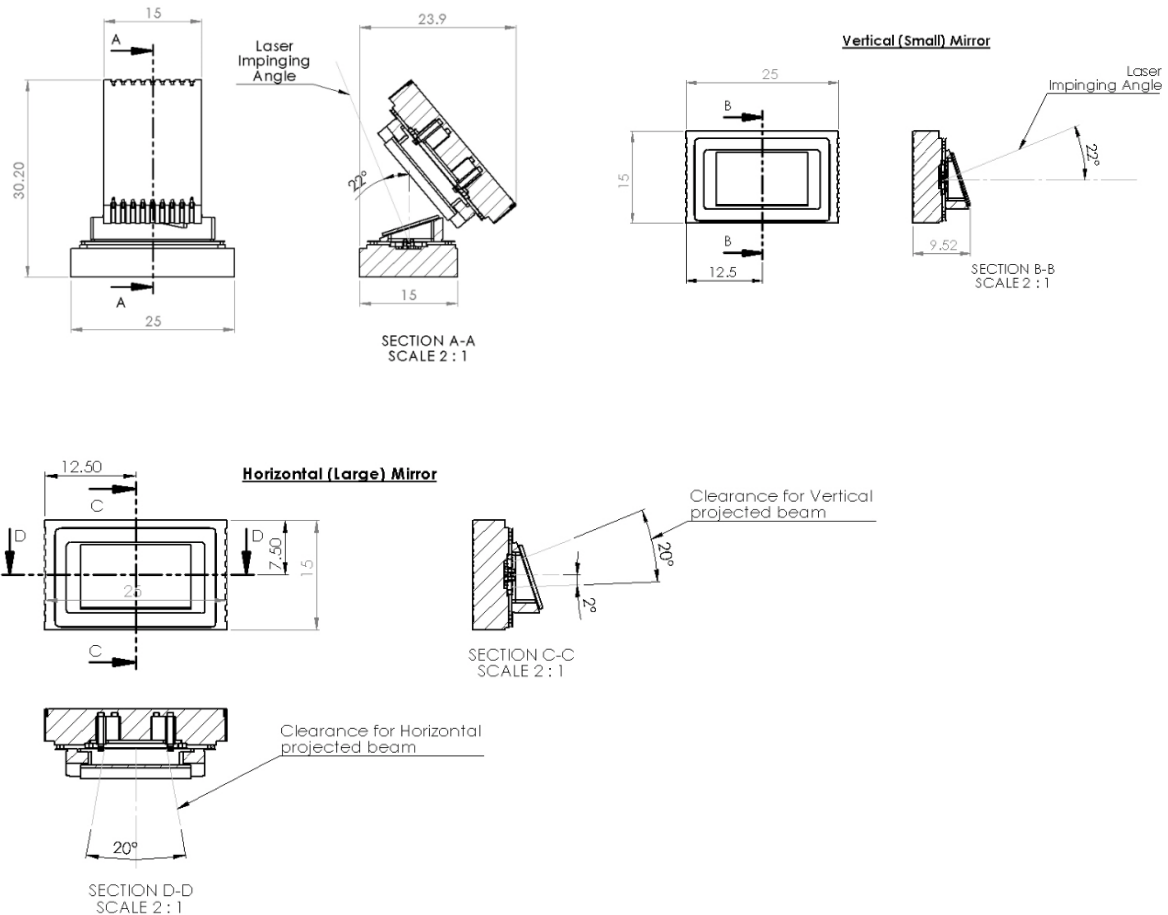
- 2D MEMS vector scanning mirrors module
- Large aperture (Laser spot up to 3mm)
- Electro-magnetic actuators for wide optical field-of-view
- A full, real time FOV control (size and location)
- Accurate and continuous sensing mechanisms for precise mirror control
- Hermetic ceramic package

ELECTRICAL AND OPTICAL CHARACTERISTICS

	Parameter	Min	Typical Value	Max	Unit	Remarks
<i>General</i>	Pixel position error		1		mRad	Both vertical and Horizontal
	Scan Frequency Range	1	100	150	Hz	
	Optical angle (HxV)		20x10	20x20	Deg.	HFOV x VHOV
	Mirrors natural Frequency	1.1	1.3	1.5	KHz	
	Mirrors Effective size		3.6X4.7		mm	
	MEMS Scanning module power consumption			<350	mW	RMS for single mirror. Mirror deflection dependent
<i>Optical</i>	Mirror flatness		350	800	nm	
	Mirror reflectance	90		93	%	Aluminum coating Coating could be adjusted to achieve higher reflectance
	Overall reflectance	84	85	86	%	Mirror and Optical window
	Wave length range for reflection	440		9000	nm	Optical window coating dependent
	laser spot size		2	3	mm	@1/e ²
	Laser max Power			2	W	

OPTO-MECHANICAL INTERFACE

Scanning Module



Scanning Module Electrical Connection

The scanning module should be connected to control board by a specified flat printed flex.

Laser Interface

The optical window of the MAR1800 enables typical projection of a 20[deg]x10[deg] FOV. The laser should be positioned according to the instructions detailed in Figure above.

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