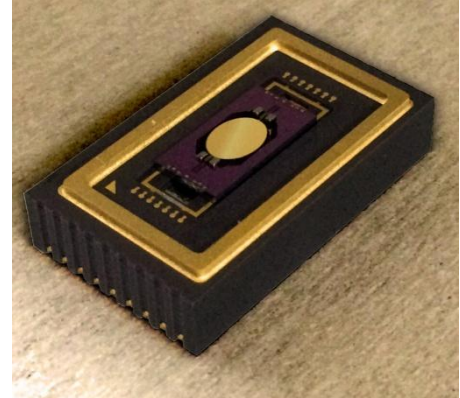


MAR1800 - MEMS 2D VECTOR SCANNING MIRROR MODULE

The MAR1800 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. The MAR1800 is designed for harsh environment conditions, with high stiffness of the mirrors and an innovative hermetic packaging. The MEMS mirrors utilizes Maradin's proprietary powerful electro-magnetic actuator, which yields peak performance under varying conditions, along with a novel controller for accuracy and high performance.



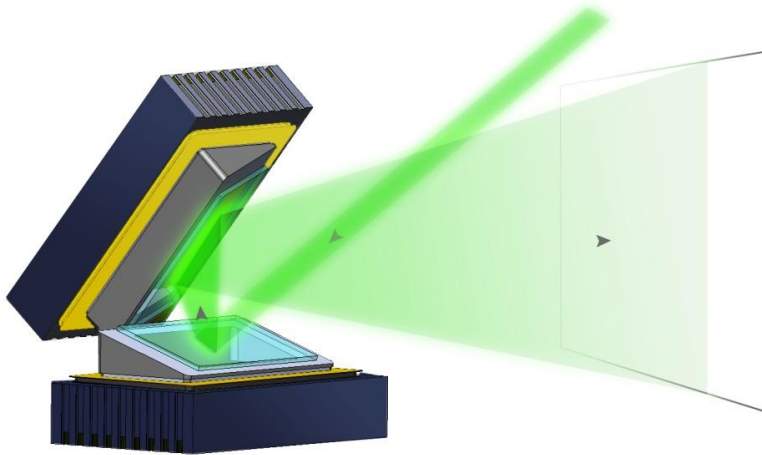
APPLICATIONS



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

2D SCANNING MODULE ILLUSTRATION

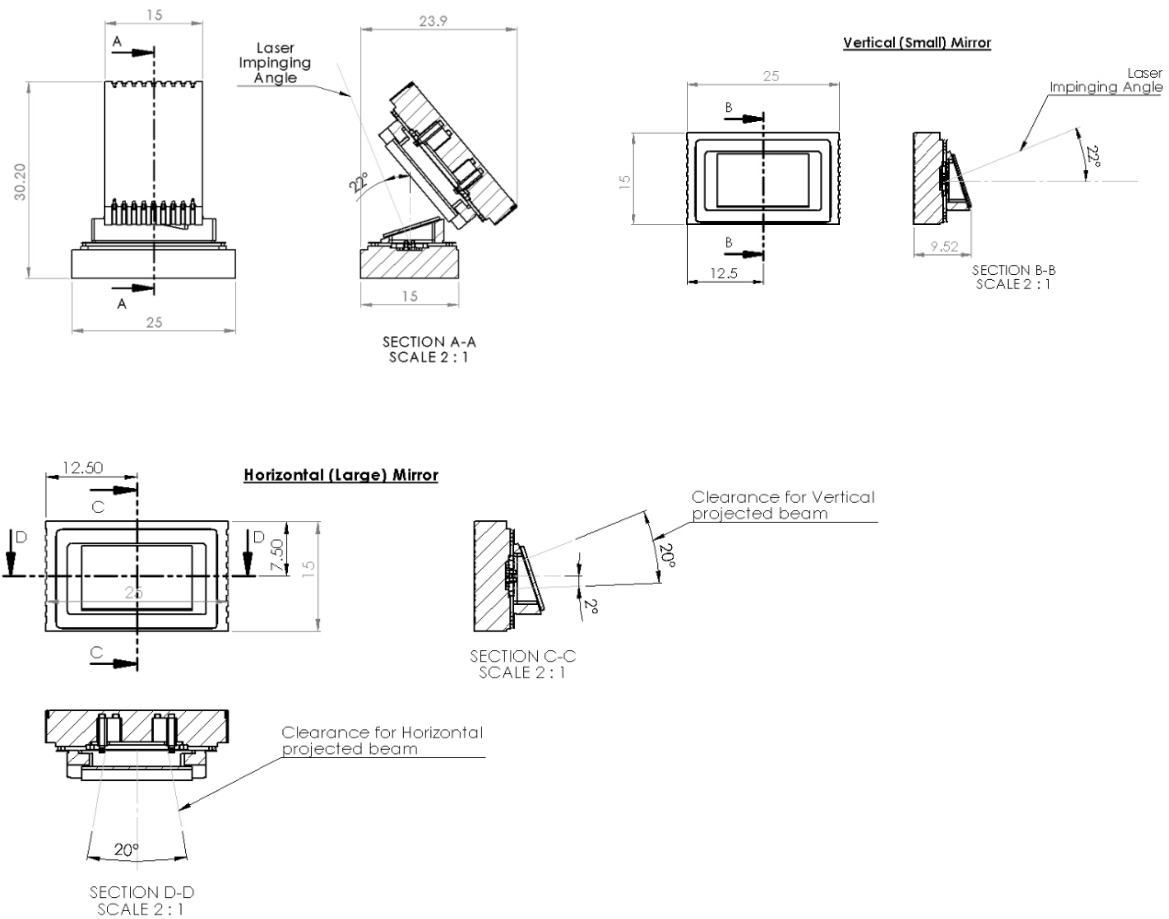


ELECTRICAL AND OPTICAL CHARACTERISTICS

	Parameter	Min	Typical Value	Max	Unit	Remarks
General	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
	V Mirror natural Frequency	1.1	1.3	1.5	KHz	
	H Mirror natural Frequency	0.9	1	1.1	KHz	
	Effective size -V mirror		3.6X4.7		mm	
	Effective size -H mirror		3.6X8.5			
	MEMS Scanning module power consumption			<350	mW	RMS for single mirror. Mirror deflection dependent
Optical	Mirror flatness		350	800	nm	
	Mirror reflectance	90		93	%	Aluminum coating
	Overall reflectance	84	85	86	%	Mirror and Optical window
	Wave length range for reflection	440		9000	nm	Optical window coating dependent
	laser max spot size			3	mm	@1/e ²
	Laser max Power			2	W	
	Parameter	Min	Typical Value	Max	Unit	Remarks

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]x20[deg] FOV. The laser should be positioned according to the instructions detailed in Figure above.

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