

SPATIAL LIGHT MODULATORS

—Transmissive

HEX SPATIAL LIGHT MODULATOR

Our two dimensional SLMs are designed for adaptive optics applications. A two dimensional array of Liquid Crystal Variable Retarders acts as a real time programmable phase mask for wavefront correction of a linear polarized source.

Unwanted aberration effects are removed by introducing the opposite phase shift through the Hex SLM. The most common applications involve high-resolution imaging where viewing through an aberrant medium is unavoidable. Examples include astronomical imaging with ground-based telescopes and medical imaging through bodily fluids. High-energy laser users also benefit from active phase compensation for beam profile correction.

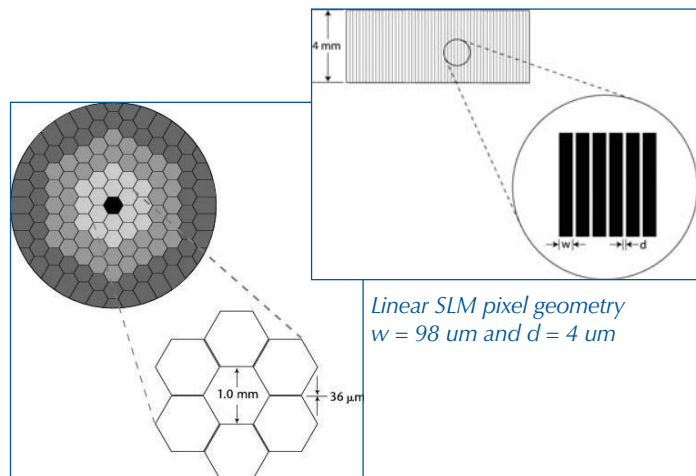
LINEAR ARRAY SPATIAL LIGHT MODULATOR

The Linear SLM has a linear pixel array geometry. This system can be used to alter the temporal profile of femtosecond light pulses via computer control. Applications requiring these short pulses include analysis and quantum control of chemical events, optical communication and biomedical imaging. These SLMs find use in other applications including Hadamard spectroscopy, optical data storage and wavefront compensation.

SPATIAL LIGHT MODULATOR CONTROLLER

Meadowlark Optics Spatial Light Modulator Controller allows for independent voltage control of up to 128 liquid crystal cells or pixels.

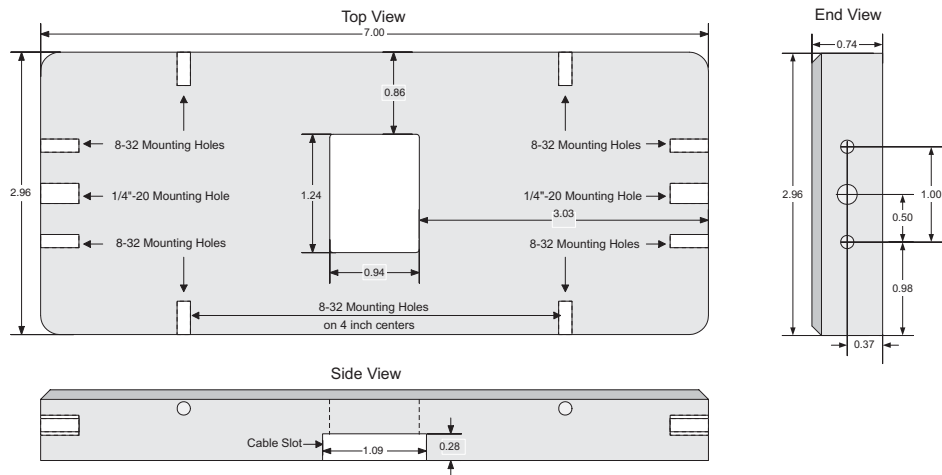
The SLM Controller connects via USB cable to a Windows™ based computer. Supplied software allows for convenient setting of individual pixel retardance and for the programming of retardance profiles across a pixelated device. Custom software can be written using the included LabVIEW™ Virtual Instrument Library to allow for integration into custom applications.



Hexagonal SLM pixel geometry

Key Features

- High transmission
- Compact optical housing design
- Computer controlled
- Phase or amplitude modulation



OPTICAL HEAD SPECIFICATIONS	
Retarder Material	Nematic liquid crystal
Substrate Material	Optical quality synthetic fused silica
Center Wavelength	450-1800 nm (specify)
Modulation Range	
Phase (minimum) Amplitude	1λ optical path difference 0-100%
Retardance Uniformity	≤ 2% rms variation over clear aperture
Transmitted Wavefront Distortion	≤ λ/4 (P-V @ 633) [≤ λ /10 (RMS @ 633)]
Surface Quality	40-20 scratch-dig
Beam Deviation	≤ 2 arc min
Transmittance	> 90% (without polarizers)
Reflectance (per surface)	≤ 0.5% at normal incidence
Dimensions (L x W x H)	7.00 x 2.96 x 0.74 in.
Recommended Safe Operating Limit	500 W/cm ² , CW 300 mJ/cm ² , 10 ns, 532 nm
Temperature Range	10° C to 45° C
CONTROLLER SPECIFICATIONS	
Output Voltage	2 kHz ac square wave digitally adjustable 0-10 V rms
Voltage Resolution	2.44 mV (12 bit)
Computer Interface	USB
Power Requirements	100-240 V ac 47-63 Hz 1A
Dimensions (L x W x H)	9.50 x 6.25 x 1.50 in.
Weight	2 lbs.

Note that the D31258 is included with the purchase of the SLM system

ORDERING INFORMATION			
Name	Pixel Geometry	Version	Part Number
1 x 128	98 μm x 4 mm linear	Phase	SSP - 128P - λ
		Amplitude	SSP - 128A - λ
Hexagonal 127	1 mm across flats	Phase	Hex - 127P - λ
		Amplitude	Hex - 127A - λ

Please specify your operating wavelength λ in nanometers when ordering. Custom SLM sizes and formats are available.

OPTIONAL POLARIZERS		
Type	Wavelength Range (nm)	Part Number
Visible	450 - 700	SDP - VIS
Near Infrared 1	775 - 890	SDP - IR1



meadowlark optics
polarization solutions

**PHOTO
TECHNICA**

www.phototechnica.co.jp
フォトテクニカ株式会社

〒336-0017 埼玉県さいたま市南区南浦和 1-2-17
TEL:048-871-0067 FAX:048-871-0068
e-mail:voc@phototechnica.co.jp

©Meadowlark Optics - D700054