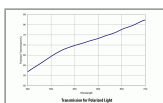
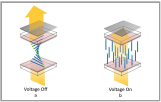


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HIGH CONTRAST OPTICAL SHUTTER

[Home \(index.php\)](#) / [Liquid Crystal Devices \(https://www.meadowlark.com/liquid-crystal-devices-mid-2\)](https://www.meadowlark.com/liquid-crystal-devices-mid-2)/ [High Contrast Optical Shutter](#)[\(images/products_large/high-contrast-optical-shutter1_0_15030.jpg\)](#)[\(images/products_large/high-contrast-optical-shutter1_0_15030.jpg\)](#)[\(images/products_large/high-contrast-optical-shutter_2_1_15030.jpg\)](#)[\(images/products_large/high-contrast-optical-shutter_fig4_16_1_13910_2_15030.gif\)](#)



(images/products_large/twisted_nematic_shutter_diagram__for_tom__2_14659_3_15030.jpg)

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Resources (applications_notes.php)

HIGH CONTRAST OPTICAL SHUTTER

DESCRIPTION	LEARN MORE	SPECS	ORDERING INFO	SELECTION GUIDE
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Specifications - High Contrast Optical Shutters

Liquid Crystal Configuration	Twisted nematic
Substrate Material	Optical quality synthetic fused silica
Polarizer Material	Dichroic polymer
Wavelength Range	450-1800 nm
Contrast Ratio (average)	1,000:1
Acceptance Angle	25° incidence angle with some reduction above 10°
Switching Time (10% to 90% at room temperature)	
Closed to open:	5 milliseconds
Open to closed:	0.4 milliseconds
Transmitted Wavefront Distortion	≤ λ/2
Surface Quality (scratch-dig)	60-40
Beam Deviation	≤ 5 arc min
Reflectance (per surface)	≤ 0.5% at normal incidence
Laser Damage Threshold	1 W/cm², CW
Glass Thickness	0.48-0.52 in.
Polarization Direction	Vertical on input face, horizontal on output face
Storage Temperature	-20°C to +80°C
Operating Temperature	0°C to +50°C

RELATED PRODUCTS



Achromatic Ferroelectric (High Speed) LC Shutters & Rotators



CONTACT INFO



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NEWS & EVENTS (NEWS.PHP)

SPIE. LASER DAMAGE

(http://spie.org/conferences-and-exhibitions/laser-damage)

September 23-26, 2018 (news.php)

(http://spie.org/conferences-and-exhibitions/laser-damage)

SPIE. LASER DAMAGE (HTTP://SPIE.ORG/CONFERENCES-AND-EXHIBITIONS/LASER-DAMAGE)

Boulder Millennium Hotel, Boulder, CO



**SOCIETY for
NEUROSCIENCE**

*Advancing the Understanding of
the Brain and Nervous System*

(https://www.sfn.org/annual-

meeting/neuroscience-2018)

November 3-7, 2018 (news.php)

(https://www.sfn.org/annual-meeting/neuroscience-2018)

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Joshua A. Gordon
@NIMHDirector

Anne and Kelly of Meadowlark Optics, one of our small business grantees, exhibiting their super fast spatial light modulators at #SFN18.



FEATURED PRODUCTS



High Resolution 1920 x 1152
Spatial Light Modulator



(product-family-details.php?pid=119)

Our engineers are continuously developing new product designs while refining our existing product portfolio. Browse our *featured products* (featured_products.php) where you will find our latest innovations.

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