JENOPTIK

MORE LIGHT

SLM-S640(d) USB/Ethernet & SLM-S320(d) USB/Ethernet

Liquid crystal spatial light modulators

Spatial Light Modulators SLM-S320(d) / 640(d) are linear array SLMs based on nematic liquid crystals and are proven tools for modulation of ultrashort laser pulses in the wavelength range 430-1600 nm.

The SLMs are available as single mask configuration for phase or amplitude/polarization modulation and as dual mask SLMs for simultaneous modulation of phase and amplitude in a 4f-arrangement or in a chirped pulse amplification system.

The large active area allows modulation even of high power lasers.

Benefits

- Extensive LabView instruction set, MATLAB and C-libraries for an easy and comfortable operation
- ADC port, e.g. for feedback pulse optimization
- Optional custom-made AR coatings
- Optional removable mirror for reflective mode

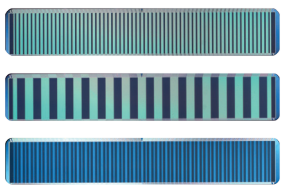
Application

- High-resolution laser light modulation in phase and amplitude particularly for pulse shaping of ultrashort laser pulses and high power lasers

Liquid crystal spatial light modulators
SLM-S640(d) USB/Ethernet & SLM-S320(d) USB/Ethernet

Specifications

		Single Mask Configuration		Dual Mask Configuration	
		SLM-S640	SLM-S320	SLM-S640d	SLM-S320d
Active area		64 mm x 10 mm	32 mm x 13 mm	64 mm x 10 mm	32 mm x 13 mm
Number of addressable strips		640	320	2× 640	2× 320
Strip size		97 µm (3.8 mil) × 10 mm	97 µm (3.8 mil) × 13 mm	97 µm (3.8 mil) × 10 mm	97 µm (3.8 mil) × 13 mm
Liquid crystal orientation (Extraordinary axis n_e)		0 ° (horizontally aligned) (other orientations on request)		± 45 °	
Transmission (@ 450 nm ... 1100 nm, without polarizers)		> 80 %		> 75 %	
Gap		3 µm (0.12 mil)			
LC type		nematic			
Phase modulation	Phase shift @ 430 nm Phase shift @ 1600 nm	approx. 7 π approx. 2 π			
Wavelength range		430 nm ... 1600 nm			
Pulse Damage Threshold		100 µJ/cm² (485 nm, 52fs, 1.85 kHz), 1100 µJ/cm² (780 nm, 250fs, 1.85 kHz)			
Driving voltage		0 V ... 8 V | 0 V ... 5 V (switchable) 12 bit resolution			
Frame buffers		0 ... 63			
ADC port		0 V ... 1.0 V 12 bit resolution			
Interfaces		USB 2.0 | Ethernet			
Trigger in/out		via optocoupler			
Functions		extended instruction set integrated in firmware (based on SLM-S640/12 instruction set)			
Software driver requirements and programming interface		Microsoft Windows: LabView and MATLAB drivers C-Interface: Microsoft Windows			
Mirror (optional)		enabling operation in reflective configuration (removable for operation in transmissive configuration)			
Antireflective coating (optional)		customized coatings on request (broad or narrow band)			



Examples of strip patterns

Delivery includes

- LC display with controller unit and PC connection
- USB cable
- ADC / Trigger cable
- Power supply
- Printed documentation
- LabView, MATLAB and C-library drivers for Microsoft Windows
- Demonstration software
- Transportation case

It is our policy to constantly improve the design and specifications. Accordingly, the details represented herein cannot be regarded as final and binding.

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04/2019 | Specifications may change in compliance with our quality management system.