

NEW

Liquid Crystal Based Spatial Light Modulator LCOS-SLM

Santec spatial light modulator (SLM) is based on reflective liquid crystal on silicon (LCOS) microdisplay technology. The SLMs enable optical phase modulation freely and generate arbitrary 2D phase patterns on a LCOS pixel-by-pixel basis. The SLMs are characterized by ultra-low phase fluctuation from high drive frequency over 1kHz and 10bit high resolution addressing. These abilities are suitable for various applications including laser material processing, optical switching devices, wavefront correction and pulse shaping.

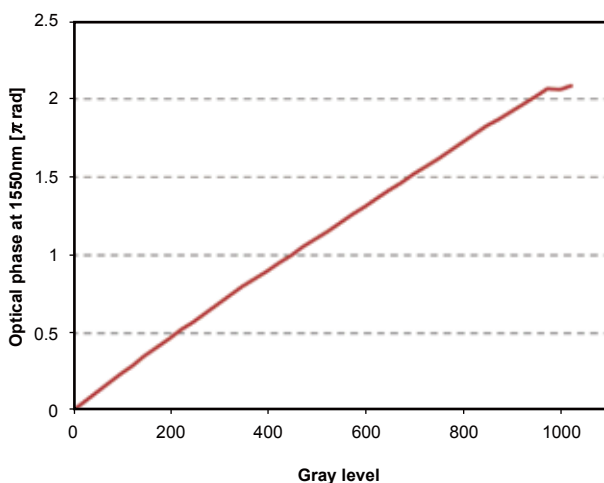
Features

- ▶ No-mechanical motion
- ▶ Ultra-low phase fluctuation
- ▶ High resolution phase control
- ▶ User-friendly graphical user interface

Applications

- ▶ Beam steering
- ▶ Wavefront correction
- ▶ Pulse/Beam shaping
- ▶ Diffractive optics
- ▶ Optical manipulation
- ▶ Programmable phase pattern

Measurement



All-in-one model



Separate model

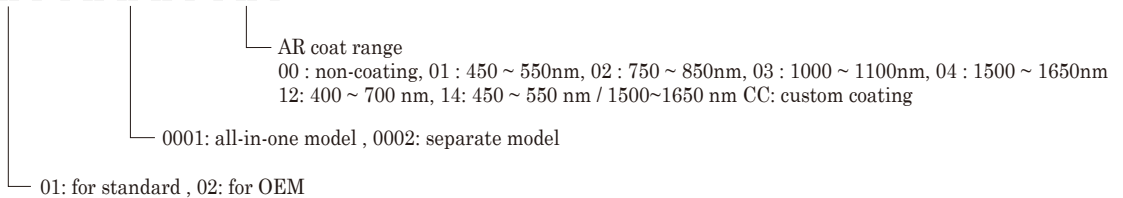
■ Specifications

Item	Parameter						Unit	Note
Operating wavelength range	500-1650 (User specified)						nm	
AR coat option	-01	-02	-03	-04	-12	-14	-	
AR coat range	450-550	750-850	1000-1100	1500-1650	400-700	450-550 / 1500-1650	nm	
AR coat reflectance	≤0.5			≤1.5		≤0.6	%	AOI=0 degree ³⁾
Panel size	(H)14.98 x (V)10.92						mm	Active area
Pixel Resolution	(H)1440 x (V)1050 ¹⁾						pixel	
Pixel size / pitch	10.0 / 10.4						μm	
Panel reflectivity	Typ. > 80						%	Depending on specified wavelength range
Aperture ratio	92						%	
Gray level	10 (1024)						bit	
DVI Video frame rate	60						Hz	
LCOS drive frequency	1200						Hz	
Phase depth	> 2π						rad.	<1550nm
Phase fluctuation	typ. < 0.002π						rad.	
Response time	typ. 100 ²⁾						ms	
Signal format	DVI						-	10-bit using RGB 8-bit, 3 colors
Operating temperature range	15 - 35						degC	
Storage temperature	0 - 40						degC	
Optical power handling	typ. 10 ⁴⁾						W/cm ²	@1550nm, CW, 2.0mm beam diameter
Dimensions	130 x 100 x 33						mm	
Control software	Trial GUI software for Windows						-	

- 1) Specification on the defect pixels are no object.
- 2) Tr, Tf: response time between 10% and 90%levels at 25degC typ.
- 3) AOI: angle-of-incidence
- 4) The value is not guaranteed. Please refer santec SLM technical sheet in one instance for judgement of useable light power.

■ Ordering Code

SLM-100-XX-XXXX-XX



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