

# Liquid Crystal Based Spatial Light Modulator Reflective Spatial Light Modulator (standard model) / SLM-200

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.

SLM-200 series are suitable for various scientific and industrial applications, including beam shaping, wavefront correction and optical manipulations.

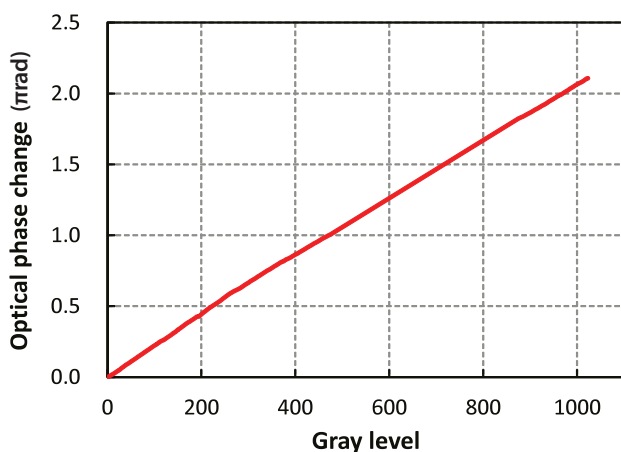
## Features

- ▶ WUXGA (1920 x 1200) resolution
- ▶ 10-bit (1024 gray levels)
- ▶ Excellent phase stability ( $\sim 0.001\pi$  rad.)
- ▶ Frame rate, x2 (120 Hz)
- ▶ Memory function
- ▶ Triggers-input & output

## Applications

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

## Measurement



Separate model



All-in-one model

## Specifications

Item	min	max	Units	Notes
Wavelength range	450	1600	nm	(Refer to appended table about AR coating option)
Panel size	(H)15.36 x (V)9.60		mm	Active area
Pixel resolution <sup>1)</sup>	(H)1920 x (V)1200		pixel	
Pixel size / pitch	7.8 / 8.0		μm	
Panel reflectivity	Typ. > 90		%	Depending on specified wavelength range
Aperture ratio	95		%	
Gray level	10 (1024 levels)		bit	
Frame rate	60 or 120		Hz	Factory setting, default 60 Hz
LCOS drive frequency	1200		Hz	
Phase depth	$2\pi$	-	rad.	
Phase stability	Typ. < 0.001 $\pi$		rad.	
Response time <sup>2)</sup>	Typ. 200		ms	
Interface	DVI* / USB3.0		-	*10-bit using RGB 8-bit, 3 colors
Operating temperature	15	35	°C	No condensation
Storage temperature	0	40	°C	No condensation
Optical power handling <sup>3)</sup>	Typ. 10		W/cm <sup>2</sup>	@1550 nm, CW, 2.0 mm beam diameter
Control software	GUI software and SDK for Windows		-	C#, Python, Matlab, Labview

- 1) Specification on the defect pixels are no object.
- 2) Response time is a typical value and is not affected by frame rate.
- 3) The value is not guaranteed.

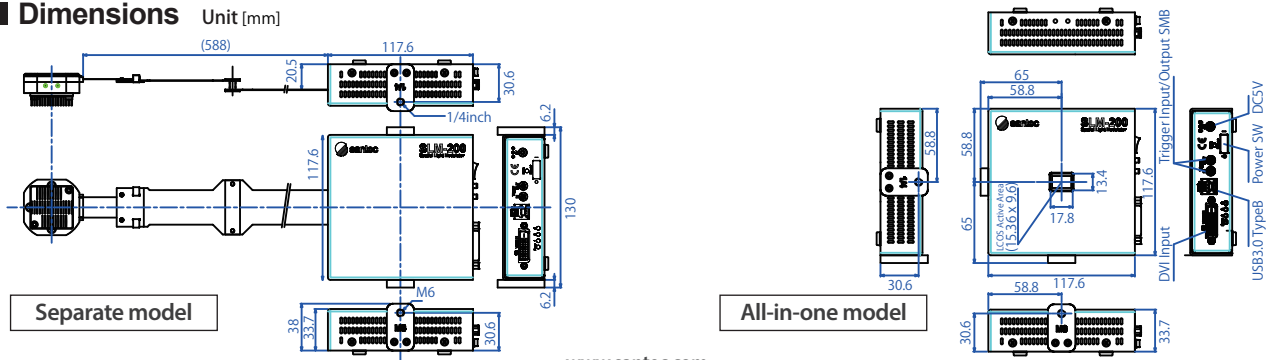
## Ordering code

Ordering code	Model type	Wavelength range (nm)	Response time (ms)	AR coating range <sup>4)</sup> (nm)	AR coating reflectance <sup>5)</sup> (%)
SLM-200-01-0001-00	All-in-one model	450 to 1600	Typ.200	no coating	4
SLM-200-01-0001-01				450-550	<0.5
SLM-200-01-0001-12				400-700	<1.5
SLM-200-01-0001-02				750-850	<0.5
SLM-200-01-0001-03				1000-1100	<0.5
SLM-200-01-0001-04				1500-1600	<0.5
SLM-200-01-0001-14				450-550/1500-1600	<0.6
SLM-200-01-0001-21				450-1600	<2.5
SLM-200-01-0002-00	Separate model	450 to 1600	Typ.200	no coating	4
SLM-200-01-0002-01				450-550	<0.5
SLM-200-01-0002-12				400-700	<1.5
SLM-200-01-0002-02				750-850	<0.5
SLM-200-01-0002-03				1000-1100	<0.5
SLM-200-01-0002-04				1500-1600	<0.5
SLM-200-01-0002-14				450-550/1500-1600	<0.6
SLM-200-01-0002-21				450-1600	<2.5

- 4) We support custom AR coating request. Please contact us for detail.
- 5) Angle of incidence = 0 degree

## Dimensions

Unit [mm]



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