

## Liquid Crystal Based Spatial Light Modulator UV Hardened model / SLM-250

SLM-250 is an Ultra Violet (UV) durable spatial light modulator. This product is a world's first for two-dimensional SLM, extending their use into the UV band at that time. The UV hardened SLM-250 has 42 times UV durability when compared to standard SLM devices. A power density up to  $10\text{mW}/\text{cm}^2$  is sustainable using a novel liquid crystal and dielectric mirror design. The SLM-250 is suitable for various scientific and industrial applications, including beam shaping, wavefront correction and optical manipulations.

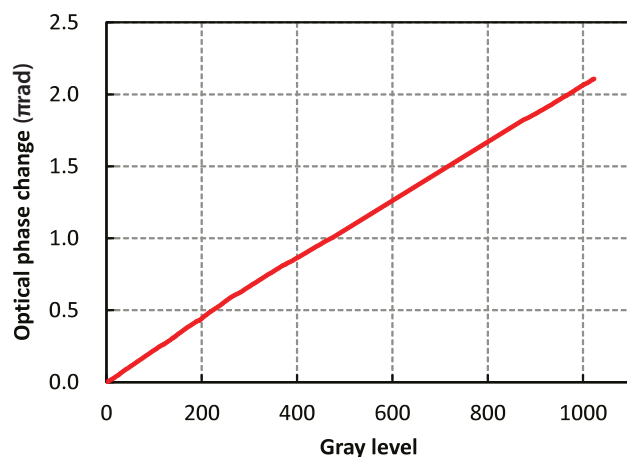
### Features

- ▶ WUXGA (1920 x 1200) resolution
- ▶ 10-bit (1024 gray levels)
- ▶ Excellent phase stability ( $\sim 0.003\pi$  rad.)
- ▶ Memory function
- ▶ Triggers-input & output

### Applications

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

### Measurement



## Specifications

Item	min.	max.	Units	Notes
Wavelength range	365	550	nm	
Panel size	(H)15.36 x (V)9.60		mm	
Pixel resolution <sup>1)</sup>	(H)1920 x (V)1200		pixel	Active area
Pixel size / pitch	7.8 / 8.0		$\mu\text{m}$	
Panel reflectivity <sup>2)</sup>	Typ. > 80@532 nm		%	
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. <0.003 $\pi$		rad.	
Response time <sup>3)</sup>	Typ. 50		ms	
Interface	DVI* / USB3.0		-	*10-bit using RGB 8-bit, 3 colors
Operating temperature range	15	35	$^{\circ}\text{C}$	No condensation
Storage temperature	10	40	$^{\circ}\text{C}$	No condensation
Optical power handling <sup>4)</sup>	Typ. 40		mW/cm <sup>2</sup>	Peak power @355nm, Pulse laser, pulse width 260psec, repetition rate 100Hz
	-	10	mW/cm <sup>2</sup>	@365nm, 24H/day continuous operation
Dimensions	117.6 x 117.6 x 33.7		mm	
Control software	GUI software and SDK for Windows		-	C#, Python, Matlab, Labview

- 1) Specification on the defect pixels are no object.  
 2) Zero-order reflection.  
 Depending on specified wavelength range.

- 3) Response time is a typical value and is not affected by frame rate.  
 Tr: Rise time between 10% and 90% levels in a phase change of 0 to 1023 bit ( $2\pi$  rad.) at 25 $^{\circ}\text{C}$ .  
 Tf: Fall time between 90% and 10% levels in a phase change of 1023 to 0 bit ( $2\pi$  rad.) at 25 $^{\circ}\text{C}$ .

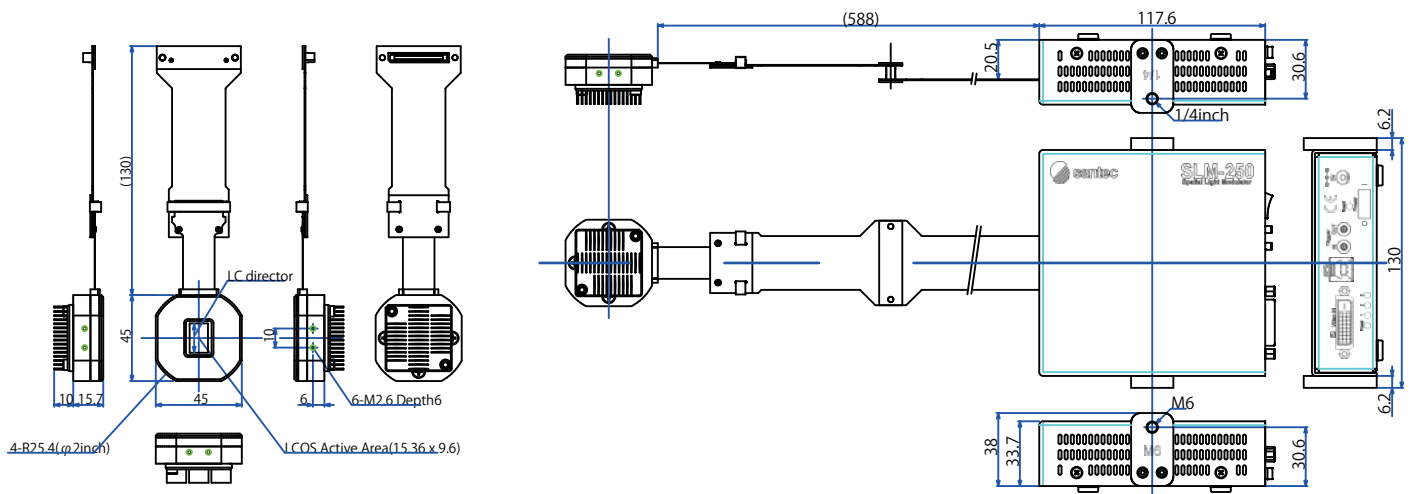
- 4) The value is not guaranteed. Depending on the conditions of the laser oscillator used, the product's life may be significantly shortened due to accumulated exposure time.

## Ordering code

Ordering code	Wavelength range (nm)	Response time (ms)	AR coating range <sup>5)</sup> (nm)	AR coating reflectance <sup>6)</sup> (%)
SLM-250	365 to 550	Typ. 50	365-550	<0.7

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

## Dimensions Unit [mm]



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