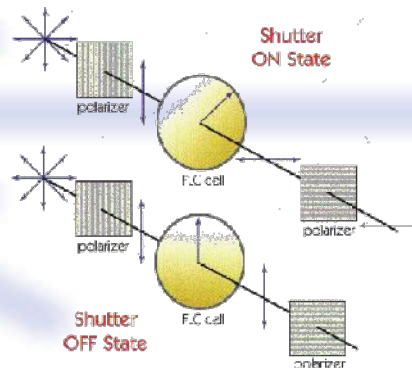


Liquid Crystal Shutters

Shutters using Ferroelectrics Liquid Crystal (FLC) technology offer the speed of electronic shutters (< 100 microseconds) on large diameters and the vibration free standard of liquid crystal shutters. Voltage applied between 2 electrodes switches the orientation of the FLC molecules optic axis in one of two states, changing the polarization of the outgoing light. FLC cells become shutters when placed between linear crossed polarizers or alternatively by the use of a polarized light source and one linear polarizer. Drivers can be provided with or without integrated signal generator.

Specifications (at 21°C)

Specification	Typical Value	Guaranteed Value
Open shutter Transmission	28 - 30 %	> 25%
Closed shutter Transmission	< 0.03 %	< 0.05 %
Contrast "on/off"	1000:1 (30 dB)	500:1 (20 dB)
Spectral Range		400 - 700 nm**
Angular Acceptance		20° max
Rise time/Fall time :		
10-90% / 90-10%	35µs	<50µs
0-90%/100-10%	70µs	<100µs
Optical Damage Threshold :***		
Polariser		2.5 W / cm ²
Liquid Crystal		4 kW / cm ²



*The specified transmission are available for integrated polarizer and for unpolarised white source

**Available from 400-1500nm on request

***The FLC material will be damaged by exposure to UV radiation, use of a protected UV filter might be recommended

Standard Models

Reference	Polarizers	Clear Aperture	Outer Dimensions
LV1300-AC	Adjustable	diam 12.7 mm	diam 44.5 mm
LV2500-AC	Ajustable	diam 25.4 mm	diam 57.2 mm
LV1300P-OEM	Fixed	diam 12.7 mm	diam 25.2 mm
LV2500P-OEM	Fixed	diam 25.4 mm	diam 37.9 mm
LV4500P-OEM	Fixed	diam 45.0 mm	diam 65.0 mm
LV2525P-SQ	Fixed	25.4 x 25.4 mm	43.2 x 41.2 mm
LV3325P-OEM	Fixed	33.4 x 25.4 mm	49.7 x 38.4 mm

Spatial Light Modulator

Specifications

Integrated circuit Spatial Light Modulators (SLM) allows a user to spatially encode information on a beam of coherent light. The electronically addressed chip offers :

- High resolution (256 x 256 pixels)
- High frame rate (up to 3,000 frames per second)
- High efficiency (due to large fill factor and high reflectivity)

These SLM can be used either as amplitude (on/off) or phase (0/180°) modulators.

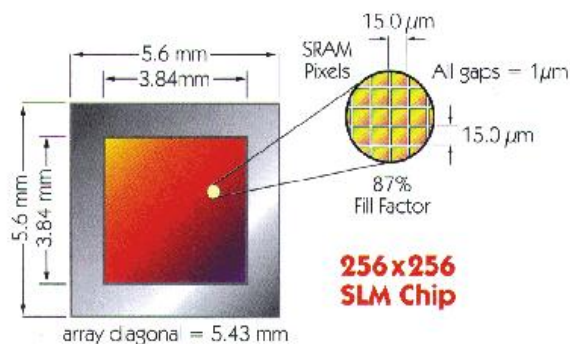
Drivers are also available and plug directly into the parallel port of a host computer.

Resolution	256 x 256 pixels
Modulation	Amplitude or phase
Pixel pitch	15 μ m
Gap Width	1 μ m
Fill factor	87%
Active area	3.84 x 3.84 mm
On/Off Contrast ratio *	100:1 à 633 nm (order 0 at 633nm) 80:1 white light O.N. 0.04 25:1 white light, O.N. 0.10
On Throughput, Diffractive zero order **	>25% at 633 nm
Peak operating wavelength	680 nm
Illumination tolerance	500 mW / cm ²
Optical rise /fall time(10-90% / 90-10%)	250 μ s (at 23°C, Vdd = 5V)
SLM full frame rate ***	3 kHz (25°C)

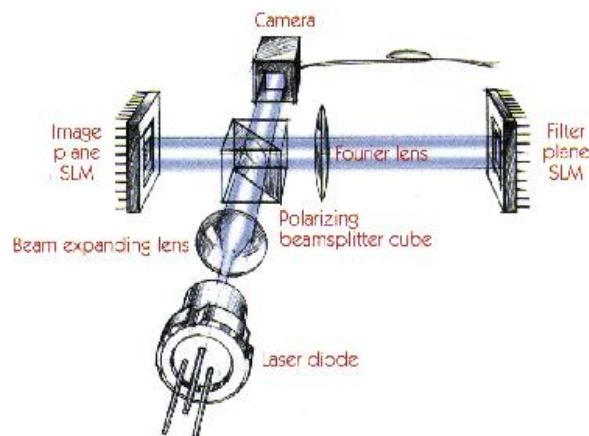
* No attempt was made to eliminate gap leakage.

** Polarization Loss are not included.

*** Maximum achievable frame rate if all of the frames rows must be optically valid at the same time.



Main Dimensions



Optical correlation system