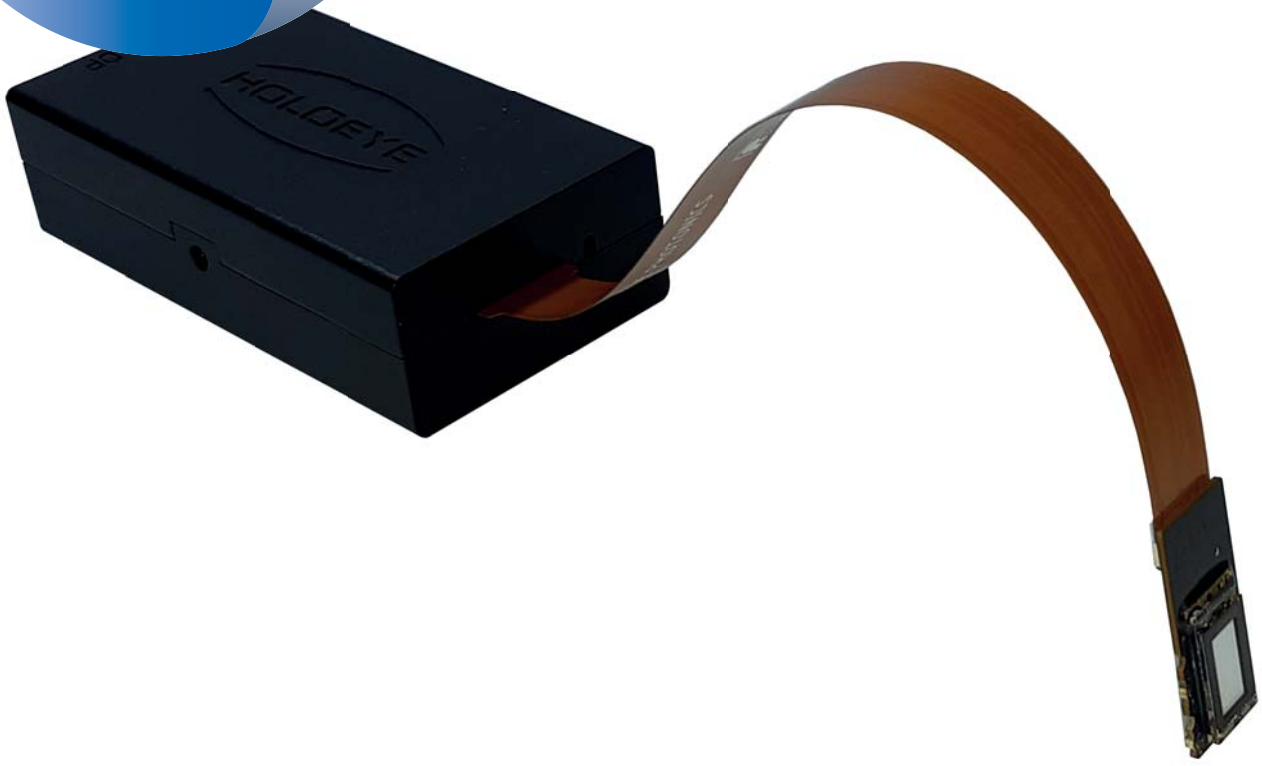
LUNA

Compact Phase Only Spatial Light Modulator

NEW
Available 2nd Quarter of 2020



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LUNA Phase Only Spatial Light Modulators

The new LUNA phase modulator models are based on reflective LCOS microdisplays with a resolution of 1920 x 1080 pixel and small 4.5 µm pixel pitch. The LUNA phase modulator series currently covers a version optimized for the visible range and a version for 1550 nm.

Display Size	0.39” (8.64 x 4.86 mm)
Resolution	1920 x 1080 Pixel
Pixel Pitch	4.5 µm
Fill Factor	>91 %
Max. Spatial Resolution	111 lp/mm
Addressing Bit Depth	8 Bit
Signal Format	Display Port
Input Frame Rate	60 Hz

Plug&Play and Flexible Calibration

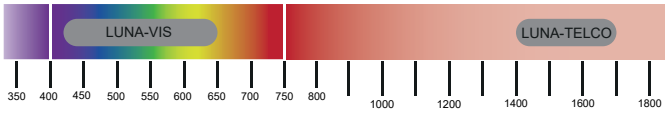
The LUNA SLM is a plug & play phase modulator and can be addressed with phase functions via standard graphics cards as extended monitor device. Addressing can be done using the supplied SLM software or standard image viewer software.

A certain gray level represents a defined average voltage across the LC cell. This voltage leads to a variable tilt of the LC molecules due to their electrical anisotropy. As LC molecules also show optical anisotropy this tilt changes the refractive index of the LC molecules (for a certain incident polarization) which causes a modified optical path length within the LC cell and the addressed gray level is converted into a phase level.

The LUNA driver unit is equipped with an USB interface that allows changing the voltage vs. gray level distribution (gamma control) and dynamic range (voltage across the LC cell) in order to calibrate the SLM for different wave-lengths.

LUNA SLM Series Versions

Different phase display versions can be driven with the same LUNA driver unit. Currently the LUNA series covers a versions for the visible (420-650 nm) and a version for typical telecommunication wavelength in the area of 1400 - 1700 nm (e.g. C-Band 1550 nm).



The phase displays can be addressed at 1920 x 1080 pixel resolution with an input frame rate of 60 Hz. The actual response time of the liquid crystal display depends on the version (wavelength) and configuration.

Compact SLM Unit and Display with integrated ASIC

The LUNA Spatial Light Modulator LCOS microdisplay has a diagonal of just 0.39” and a small active area size of 8.64 x 4.86 mm. The compact driver unit has a dimension of only 44 x 85 x 23.5 mm.

The driver features an up-to-date DiplayPort interface and an USB connector for power and advanced configurations.

The display of the LUNA SLM also features an embedded ASIC which allows horizontal and vertical flipping and programmable sync polarity. The ASIC also features control signals to solid state light sources.

With the integrated ASIC, the small display package and driver dimensions and low chip set power consumption the LUNA Spatial Light Modulator is even suitable for integration in small sized and portable solutions.

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