

Liquid Crystal Addressing Light Projector – LC-PROJ

FEATURES

Spatially shaped and reconfigurable light source (LED or laser diode).

Intensity modulation provided by an integrated Liquid Crystal Spatial Light Modulator (SLM).

Optical power and wavelength customizable depending on the application.

Working distance customizable from a few cm to infinity.

Common properties

- Output spot size 35mm
- Spatial resolution 25 μ m
- Linearly polarized output
- Response time 15ms
- Dimensions 156mmx100mmx95mm
- Weight 1.57kg
- Power supply 19-24 V_{DC}

DESCRIPTION

LC-PROJ is a reconfigurable light projector specifically developed for the needs of shaped light applications, and, in general, lighting applications.

The output light is amplitude modulated by using an integrated liquid crystal spatial light modulator to obtain real grey levels of the light intensity.

The output light spot is arbitrarily shaped on its transverse section and has a diameter of 35 mm, with 1080 pixels over it.

The output light is linearly polarized. Phase modulation is also available on demand.

The case is made with anodized Aluminum with ergonomic form to facilitate orienting and positioning of the light source.

An HDMI port is used for communication.

A specifically developed software permits elaborating and sending images or sequences of images to the LC-PROJ.

APPLICATIONS

- Photo-addressing
- Photo-polymerization, photo-bleaching
- Lithography and Material Processing
- Microscopy
- Interferometry
- Biomedical imaging
- Optical neural systems and Complex optics
- Education

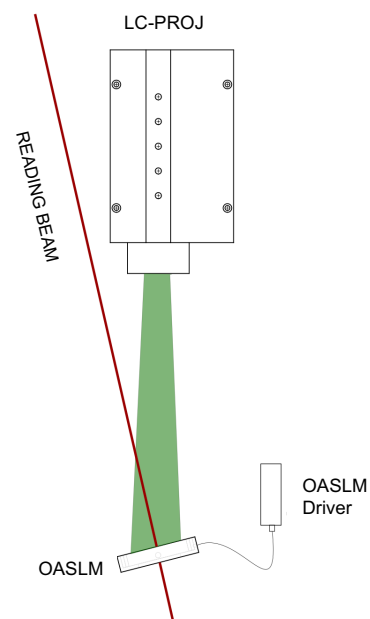
Photo-addressing can be easily implemented by using the LC-PROJ with the desired optical wavelength and power.

Examples

- Computer generated holograms
- Light projection
- Optical tweezers
- Addressing of OASLM

OASLM Addressing

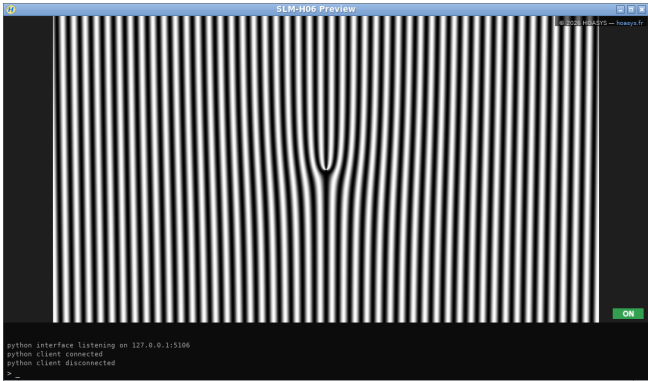
LC-PROJ is specifically adapted for providing reconfigurable intensity masks to an Optically Addressable SLM.



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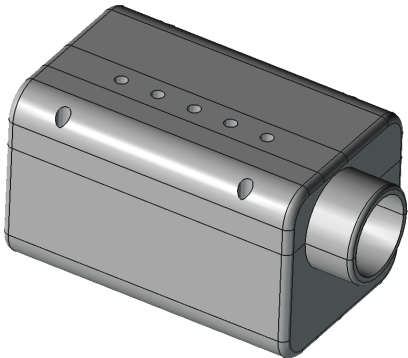
GRAPHICAL INTERFACE

Reconfigurable phase or intensity masks can be programmed by using a graphical interface.



MECHANICAL DRAWING

Power supply (19 - 24 V_{DC})
HDMI port



VIEWS



CHARACTERISTICS

Item	LC-PROJ
SLM Panel Resolution	1920x1080 (WUXGA)
Pixel Pitch	8.5 μm
Frame rate	60 Hz
Bit depth	8 Bit; 0 - 255 Gray Level
Weight	1.57 kg
Dimensions	156mm x 100mm x 95mm
Power supply	19-24 VDC
PC connection	HDMI