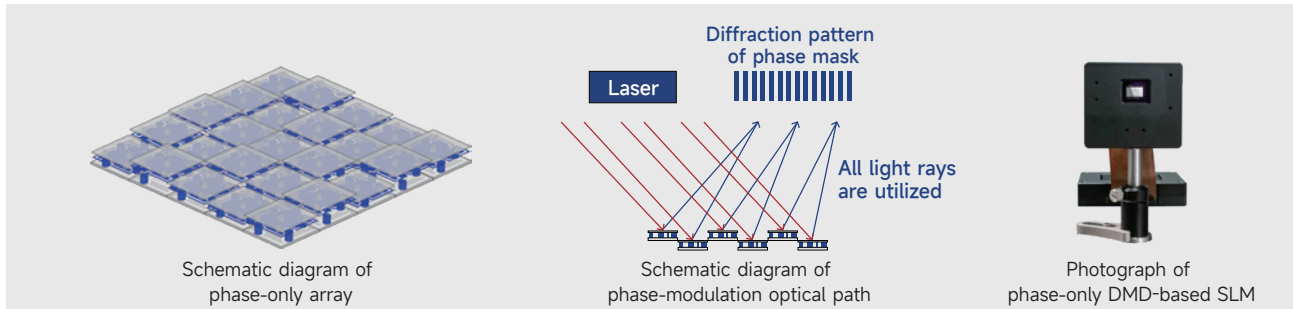


Phase-only DMD spatial light modulator

HDSLM PLM

The UPOLabs phase-only DMD spatial light modulator is developed based on the PLM series chips from Texas Instruments (TI). The piston-like movement of the micromirror array modulates the optical path difference of the reflected light, inducing phase variations in the spatial domain at the target plane, thereby generating the desired modulated light field.



Features

The HDSLM PLM is a device based on a 0.67-inch phase spatial light modulator (PLM). It enables customers to apply DLP® PLM technology to a variety of applications, including High Dynamic Range (HDR), optical networking, Head-Up Displays (HUD), LIDAR, and beam steering.

Holograms can be input into the device via the HDMI interface at frame rates of 30 Hz or 60 Hz. Through a unique phase hologram encoding applied to each bitmap of the 24-bit RGB input, a hologram display rate of up to 1.44 kHz can be achieved at a 60 Hz input.

The device features a built-in micromirror bias power supply. Coupled with the built-in adjustment software, this allows for the rapid tuning of the PLM mirror displacement (phase retardation) based on different wavelengths.

The device provides a synchronization signal that can be used to control RGB lasers.

It offers an output trigger signal for controlling cameras during image acquisition.

Additionally, an input trigger interface is available for external signal control to switch PLM images.

The HDSLM PLM Control Software is used to control the device. Its built-in HDSLM PLM Holography module can generate and load holograms, while the built-in HDSLM PLM Mirror Bias Voltage module performs phase calibration for the device.

Multifunctional encapsulated libraries (SDKs) are provided for all the aforementioned software, helping customers achieve flexible control and customization.

Specifications

Type	HDSLM PLM-VIS	HDSLM PLM-NIR
Chipset	PLM&DLPC900	PLM&DLPC900
Wavelength	405-650nm	750-1630nm
Resolution	1358×800	904×800
Micromirror pitch	10.8μm×10.8μm	16.2μm×10.8μm
Bit Depth	4Bit (16 Levels)	5Bit (32 Levels)
FPC Cable Length	1440Hz	
Frame Rate (Full-array)	Length: 295mm; Width: 50mm; Flexible Cable Length: 260mm	
PC Connection	HDMI 2716×1600 @ 60Hz/30Hz	
Interface	USB2.0 (TYPE-C)	
Software	HDSLM PLM Control Software; HDSLM PLM Bias Voltage & Optical Power Acquisition Software; HDSLM PLM Holographic Software Note: The Acquisition Software and Holographic Software can be launched either independently or from the Control Software.	