

# HDSLM80R

## HDSLM80R LIQUID CRYSTAL SPATIAL LIGHT MODULATOR



The HDSLM80R series of liquid crystal spatial light modulators use a highly stable LCoS chip as the core light modulation element, and its Phase capability greater than  $2\pi$  in the 400-1600nm wavelength. Depending on the coating and function, there are three phase-only sub-models(HDSLM80R、HDSLM80R-NIR、 HDSLM80R-TEC) and one amplitude-only ( HDSLM80RA). It has been purchased and used by famous Chinese universities, government enterprises and Fortune 500 companies such as Shanghai Jiao Tong University, China Shipbuilding Group and Huawei. It is the first choice for industrial applications and scientific research experiments.

### Product Specifications

Modulator name	Modulation type	Resolution	Frame rate	Pixel size	Fill factor	Amplitude contrast	Phasing depth	Applicable wavelength
HDSLM80R	Phase only	1920*1200	60Hz	8 $\mu$ m	95%	\	6.7 $\pi$ @532nm	420~1100nm
HDSLM80R-NIR	Phase only	1920*1200	60Hz	8 $\mu$ m	95%	\	2 $\pi$ @1064nm	1064nm
HDSLM80R-TEC	Phase only	1920*1200	60Hz	8 $\mu$ m	95%	\	2 $\pi$ @1550nm	1550nm
HDSLM80RA	Amplitude only	1920*1200	60Hz	8 $\mu$ m	95%	1000: 1	\	450~700nm

Phase stability: 0.0003 $\pi$ @24h / Linearity: 99.9% /  
[Test method: power test demodulated phase, 25°C ambient temperature, 532nm laser source].

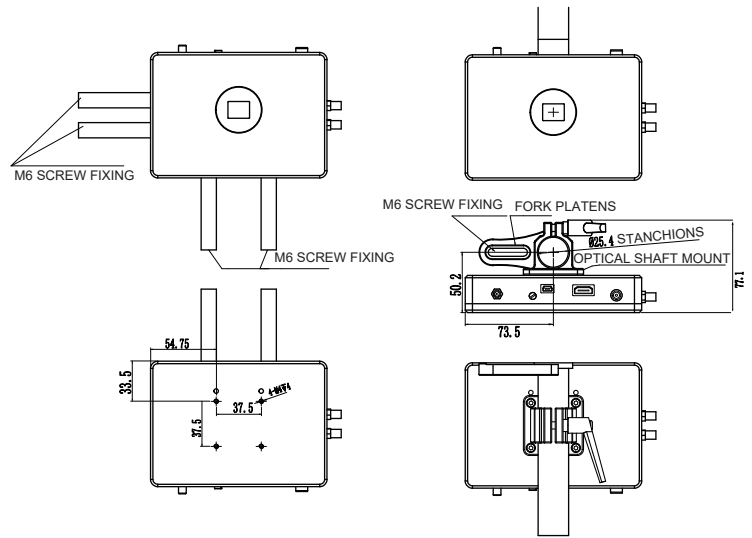
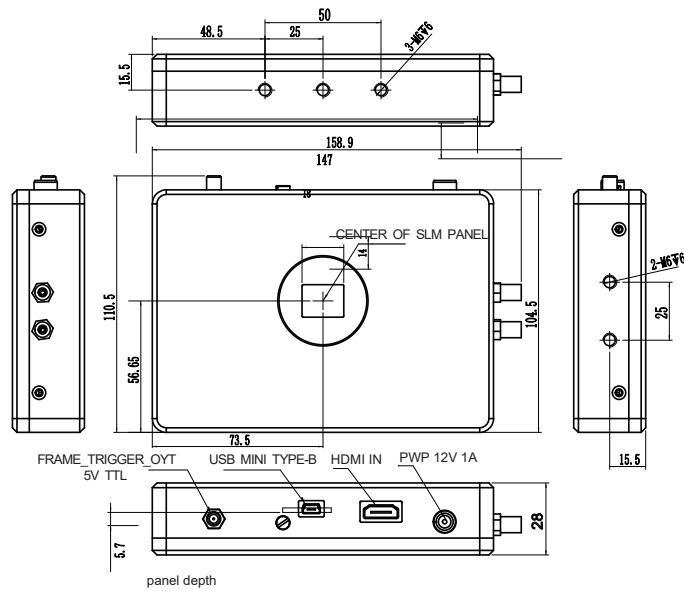
Damage threshold: >5W/cm<sup>2</sup>, water-cooled version 10W/cm<sup>2</sup> or more.



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## Product Structure Diagram

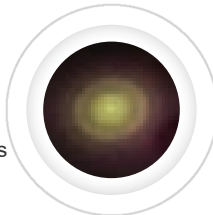


Product installation diagram Unit: mm

## Application

### Laser Stealth Dicing technology

It can be applied to cutting equipment for thin, brittle and transparent materials. The damage threshold exceeds 10W and 140μJ femtosecond lasers can be used. It has been used in research projects of famous universities in China and verified by large-scale laser processing equipment companies.



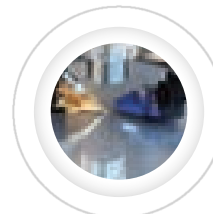
### WSS Development

Its interpolation loss is 0.36dB lower than the industry and is a core component in the development of optical device products such as WSS and TOF.



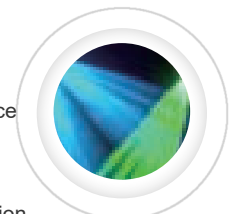
### Projection lithography

Amplitude type is the core component for the development of 3D printers and exposure machines. Phase type can be used for the development of holographic printing and nanolithography application equipment.



### Beam deflection

The 1550nm model is the core beam control device for the development of multi-point laser trackers and vibrometers. The HD SLM80R has a highly stable beam pointing capability and can be used with a tunable laser source to achieve high precision tracking over long periods of time.



## Features



### Very small pixel pitch

Pixel pitch as small as 0.18 μm



### Excellent stability

0.0003π@24h



### Self-developed products

Multiple patented software copyrights



### Outstanding quality

A classic product that sells well every year

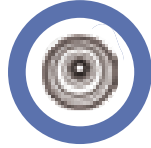
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## Supporting Software



Physical Optics



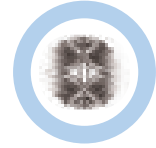
Diffractive optics



Digital Holography



Vortex beam



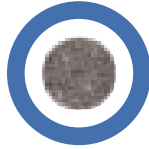
Diffraction-free beam



Colour Dynamic Holography



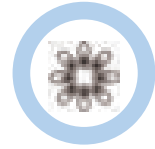
Liquid crystal optoelectronic properties measurement



Computational Ghost Imaging



Turbulence Modeling



Light field modulation

A wide collection of software, compatible with Matlab, Labview, C/C++ and other development tools, to facilitate your project research; for more software requirements, please contact us for custom development.

## Examples Of Light Field Regulation



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