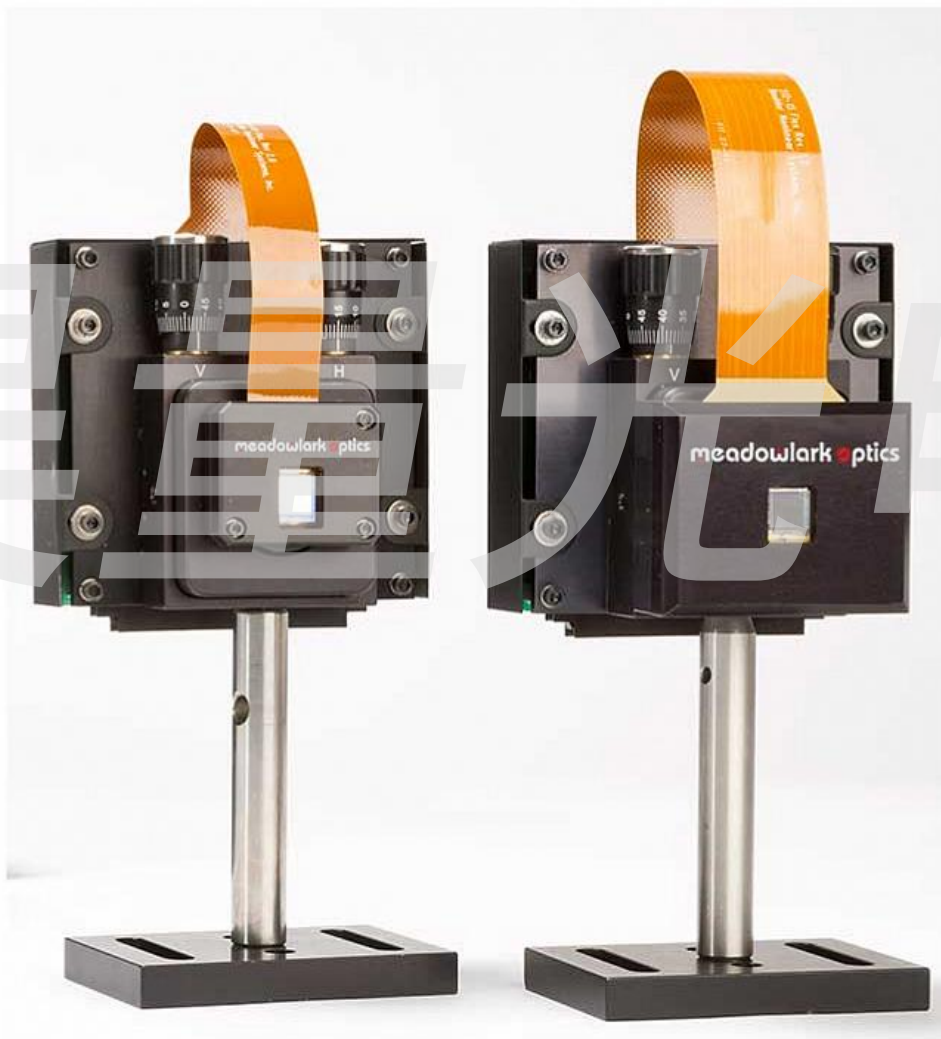


Meadowlark Optics 空间光调制器产品简介

Meadowlark 公司的 XY 系列空间光调制器 (SLM) 具备多种专利的设计, 具有广泛光学领域, 现已在全球的科研实验室广泛使用。XY 系列液晶空间光调制器是一类二维可编程的光学器件, 可以对入射光进行单像素控制, 可以实现纯相位、纯振幅以及位相振幅的混合调制。

XY 系列以及空间光调制器 (SLM) 具有 6KHz 寻址速度, 有效消除相位纹波 (小于 0.1%) ; 500Hz 液晶响应速度; 高达 95% 光能利用效率, 10W/cm² 高损伤阈值等特点。我们可以根据客户的具体应用要求, 提供个性化的 SLM 定制方案!



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XY 系列液晶空间光调制器产品参数特点:

| Small 512 x 512 Spatial Light Modulator | | | | | | | |
|---|---------------------------|-----------------------------|-----------------------------|--|-----------------------------|-----------------------------|--|
| Design Wavelength, custom wavelengths available for UV - MW/IR | Model | $\lambda = 532 \text{ nm}$ | $\lambda = 635 \text{ nm}$ | $\lambda = 785 \text{ nm}$ | $\lambda = 1064 \text{ nm}$ | $\lambda = 1550 \text{ nm}$ | |
| Array Size | | | | 7.69 x 7.69 mm | | | |
| Zero-Order Diffraction Efficiency (Standard) | PS12, HSFS12, OPFS12 | | | 61.5% (maximum) | | | |
| Zero-Order Diffraction Efficiency (Hi-Efficiency) | PDM512, HSPDM512, OPDMS12 | | | 90 - 95% (maximum) | | | |
| External Window | | | | AR coated, Rang < 1.25% @ λ | | | |
| Fill Factor (standard) | | | | 83.4% | | | |
| Fill Factor (Hi-Efficiency) | | | | 100% | | | |
| Format | | | | 512 x 512 (262,144 active pixels) | | | |
| Phase Stroke (Double Pass) | | | | 2 π @ λ | | | |
| Pixel Pitch | | | | 15 x 15 μm | | | |
| Phase Ripple | | | | As low as 0.1%, based on SLM configuration | | | |
| Reflected Wavefront Distortion (RMS Calibrated) | | $\lambda/7$ | $\lambda/8$ | $\lambda/10$ | $\lambda/10$ | $\lambda/12$ | |
| Liquid Crystal Response Time, 10-90% (Standard) | PS12 | $\leq 33.3 \text{ ms}$ | $\leq 33.3 \text{ ms}$ | $\leq 55.5 \text{ ms}$ | $\leq 66.7 \text{ ms}$ | $\leq 100 \text{ ms}$ | |
| Maximum Liquid Crystal Switching Frequency (Standard) | PS12 | $\geq 30 \text{ Hz}$ | $\geq 30 \text{ Hz}$ | $\geq 18 \text{ Hz}$ | $\geq 15 \text{ Hz}$ | $\geq 10 \text{ Hz}$ | |
| Liquid Crystal Response Time, 10-90% (Hi-Efficiency) | PDM512 | $\leq 45 \text{ ms}$ | $\leq 45 \text{ ms}$ | $\leq 80 \text{ ms}$ | $\leq 100 \text{ ms}$ | $\leq 130 \text{ ms}$ | |
| Maximum Liquid Crystal Switching Frequency (Hi-Efficiency) | PDM512 | $\geq 22 \text{ Hz}$ | $\geq 22 \text{ Hz}$ | $\geq 12.5 \text{ Hz}$ | $\geq 10 \text{ Hz}$ | $\geq 7.7 \text{ Hz}$ | |
| Liquid Crystal Response Time, 10-90% (Hi-Speed) | HSFS12 | $\leq 7 \text{ ms}$ | $\leq 12 \text{ ms}$ | $\leq 17.2 \text{ ms}$ | $\leq 10 \text{ ms}$ | $\leq 20 \text{ ms}$ | |
| Maximum Liquid Crystal Switching Frequency (Hi-Speed) | HSFS12 | $\geq 142 \text{ Hz}$ | $\geq 83 \text{ Hz}$ | $\geq 58 \text{ Hz}$ | $\geq 100 \text{ Hz}$ | $\geq 50 \text{ Hz}$ | |
| Liquid Crystal Response Time, 10-90% (Hi-Speed & Hi-Efficiency) | HSPDM512 | $\leq 10 \text{ ms}$ | $\leq 16.7 \text{ ms}$ | $\leq 22.2 \text{ ms}$ | $\leq 16.7 \text{ ms}$ | $\leq 28.5 \text{ ms}$ | |
| Maximum Liquid Crystal Switching Frequency (Hi-Speed & Hi-Efficiency) | HSPDM512 | $\geq 100 \text{ Hz}$ | $\geq 60 \text{ Hz}$ | $\geq 45 \text{ Hz}$ | $\geq 60 \text{ Hz}$ | $\geq 35 \text{ Hz}$ | |
| Liquid Crystal Response Time, 10-90% (Ultra Hi-Speed) | OPFS12 | 1.5 - 3.5 ms | 2 - 4 ms | 2.5 - 4.5 ms | 3 - 5 ms | 4 - 6 ms | |
| Maximum Liquid Crystal Switching Frequency (Ultra Hi-Speed) | OPFS12 | $\geq 285 - 667 \text{ Hz}$ | $\geq 250 - 500 \text{ Hz}$ | $\geq 222 - 400 \text{ Hz}$ | $\geq 200 - 333 \text{ Hz}$ | $\geq 166 - 250 \text{ Hz}$ | |
| Liquid Crystal Response Time, 10-90% (Ultra Hi-Speed & Hi-Efficiency) | OPDMS12 | 2.5 - 4.5 ms | 3 - 5 ms | 3.5 - 5.5 ms | 4 - 6 ms | 5 - 7 ms | |
| Maximum Liquid Crystal Switching Frequency (Ultra Hi-Speed & Hi-Efficiency) | OPDMS12 | $\geq 222 - 400 \text{ Hz}$ | $\geq 200 - 333 \text{ Hz}$ | $\geq 181 - 285 \text{ Hz}$ | $\geq 166 - 250 \text{ Hz}$ | $\geq 142 - 200 \text{ Hz}$ | |

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| Large 512 x 512 Spatial Light Modulator | |
|---|--|
| Standard Design Wavelengths | 532, 635, 785, 1064, & 1550 nm |
| Array Size | 12.8 x 12.8 mm |
| Zero-Order Diffraction Efficiency | 88% (maximum) |
| External Window | AR coated, Ravg < 1.25% @ λ |
| Fill Factor (standard) | 0.96 |
| Format | 512 x 512 (262,144 active pixels) |
| Phase Stroke (Double Pass) | $2\pi @ \lambda$ |
| Pixel Pitch | 25 x 25 μm |
| Phase Ripple | As low as 0.1%, based on SLM configuration |
| Reflected Wavefront Distortion (RMS Calibrated) | $\lambda/7 - \lambda/12$ |
| Liquid Crystal Response Time, 10-90% (Standard) | 30 - 100 ms |
| Maximum Liquid Crystal Switching Frequency (Standard) | 10 - 33 Hz |
| Liquid Crystal Response Time, 10-90% (Hi-Speed) | 2 - 15 ms |
| Maximum Liquid Crystal Switching Frequency (Hi-Speed) | 67 - 500 Hz |

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| 1920 x 1152 Spatial Light Modulator | |
|---|--|
| Standard Design Wavelengths | 532, 635, 785, 1064, & 1550 nm |
| Array Size | 12.7 x 10.6 mm |
| Zero-Order Diffraction Efficiency | 87% |
| External Window | AR coated, Ravg < 1.25% @ λ |
| Fill Factor (standard) | 95.7% |
| Format | 1920 x 1152 (2,211,840 active pixels) |
| Phase Stroke (Double Pass) | $2\pi @ \lambda$ |
| Pixel Pitch | 9.2 x 9.2 μm |
| Phase Ripple | As low as 0.1%, based on SLM configuration |
| Reflected Wavefront Distortion (RMS Calibrated) | $\lambda/7 - \lambda/12$ |
| Liquid Crystal Response Time, 10-90% (Standard) | 30 - 100 ms |
| Maximum Liquid Crystal Switching Frequency (Standard) | 10 - 33 Hz |

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