

## CRI 飞秒脉冲整形器

**CRI SLM**（透射式飞秒脉冲整形器）是剑桥大学研究与仪器(CRI)与麻省理工学院(MIT)合作开发的液晶空间光调制器(LC\_SLM)。麻省理工学院在一个单一设备上同步实现相位和幅度调制技术拥有**全球独家专利授权**。

这款透射式液晶 SLM 产品具固体封装、对振动不敏感、可进行相位调制，振幅调制、相位振幅混合调制、覆盖可见光和近红外波段、体积小、软件操作简便等优点。CRI 飞秒脉冲整形器在世界上处于技术领先的地位，已申请多项专利。

我们可以提供单 Mask、双 Mask 等多种型号的 **CRI** 飞秒脉冲整形器，用户可根据应用需要进行选择。

**CRI** 液晶飞秒脉冲整形器的主要应用包括：**4f** 飞秒激光束整形,双光子显微镜，脉冲压缩，飞秒化学，相干激光控制，阿秒科学，THz 光谱，超快脉冲整形高谐波产品和手术应用等领域。

参数如下：

|   | P128/A128  | D128                    | P640/A640            | D640                    |
|---|--|-------------------------|----------------------|-------------------------|
| <b>Optics</b>                             |  |                         |                      |                         |
| Number of Masks                           | 1  | 2                       | 1                    | 2                       |
| Pixels per Mask                           | 128  |                         | 640                  |                         |
| Pixel Height                              | 5000 $\mu\text{m}$ (5 mm)  |                         |                      |                         |
| Pixel Pitch                               | 100 $\pm$ 0.005 $\mu\text{m}$  |                         |                      |                         |
| Inter-Pixel Gap <sup>1</sup>              | 2.0 $\mu\text{m}$  |                         |                      |                         |
| Inter-Mask Alignment <sup>2,3</sup>       | -  | $\pm$ 2.0 $\mu\text{m}$ | -                    | $\pm$ 2.0 $\mu\text{m}$ |
| Inter-Mask Separation <sup>2,4</sup>      | -  | 1.03 mm                 | -                    | 1.03 mm                 |
| Spectral Range <sup>5</sup>               | 488 – 900 nm (VN models), 900 – 1620 nm (NM models)  |                         |                      |                         |
| Transmission VN Model <sup>13</sup>       | > 88%  | > 85%                   | > 88%                | > 85%                   |
| Transmission NM Model <sup>13</sup>       | > 92%  | > 90%                   | > 92%                | > 90%                   |
| Pulse Damage Threshold                    | 100 $\mu\text{J}/\text{cm}^2$ (490 nm, 50 fs, 1kHz), 200 $\mu\text{J}/\text{cm}^2$ (890 nm, 50 fs, 1kHz) |                         |                      |                         |
| Maximum Modulation <sup>6,7</sup>         | 3 $\pi$ radians at longest wavelength  |                         |                      |                         |
| Modulation Temp. Coefficient <sup>8</sup> | -0.3% modulation per $^{\circ}\text{C}$  |                         |                      |                         |
| Response Time <sup>9-12</sup>             | 35 ms (2 $\pi$ radians at 900 nm – VN model), 70 ms (2 $\pi$ radians at 1620 nm – NM model)              |                         |                      |                         |
| <b>Electronics</b>                        |  |                         |                      |                         |
| Drive Waveform                            | Bipolar 3.3 kHz square wave  |                         |                      |                         |
| Drive Resolution                          | 12 bit, 2.44 mV per step   |                         |                      |                         |
| Frame Buffers                             | 128  |                         | 32                   |                         |
| Interfaces                                | USB 1.1, 5V / 3.3V logic trigger (TTL compatible)  |                         |                      |                         |
| Power                                     | +24V DC, via universal adapter (included)  |                         |                      |                         |
| <b>Housing</b>                            |  |                         |                      |                         |
| Mechanical Mounting                       | 3 x 1/4" – 20 and 2 x M6 threaded holes  |                         |                      |                         |
| Overall Size                              | 5.29" x 6.90" x 0.98"  |                         | 7.2" x 12.8" x 1.54" |                         |
| <b>Environmental</b>                      |  |                         |                      |                         |
| Operating Temperature                     | 18 $^{\circ}\text{C}$ to 35 $^{\circ}\text{C}$   |                         |                      |                         |
| Storage Temperature                       | -15 $^{\circ}\text{C}$ to 50 $^{\circ}\text{C}$  |                         |                      |                         |

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