Santec spatial light modulator (SLM) is based on reflective liquid crystal on silicon (LCOS) microdisplay technology. The SLMs enable optical phase modulation freely and generate arbitrary 2D phase patterns on a LCOS pixel-by-pixel basis. SLM-200 series are suitable for various scientific and industrial applications, including beam shaping, wavefront correction and optical manipulations.

**Features**
- WUXGA (1920 x 1200) resolution
- 10-bit (1024 gray levels)
- Excellent phase stability (~0.001π rad.)
- Frame rate, x2 (120 Hz)
- Memory function
- Triggers-input & output

**Applications**
- Beam steering
- Wavefront correction
- Pulse/Beam shaping
- Diffractive optics
- Optical manipulation
- Programmable phase pattern

**Measurement**

![Graph showing optical phase change (rad) vs. gray level](#)
Specifications

<table>
<thead>
<tr>
<th>Item</th>
<th>min</th>
<th>max</th>
<th>Units</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wavelength range</td>
<td>450</td>
<td>1600</td>
<td>nm</td>
<td>(Refer to appended table about AR coating option)</td>
</tr>
<tr>
<td>Panel size</td>
<td></td>
<td></td>
<td>mm</td>
<td>Active area</td>
</tr>
<tr>
<td>Pixel resolution</td>
<td></td>
<td></td>
<td>pixel</td>
<td></td>
</tr>
<tr>
<td>Pixel size / pitch</td>
<td>7.8 / 8.0</td>
<td></td>
<td>μm</td>
<td></td>
</tr>
<tr>
<td>Panel reflectivity</td>
<td>Typ. &gt; 90</td>
<td></td>
<td>%</td>
<td>Depending on specified wavelength range</td>
</tr>
<tr>
<td>Aperture ratio</td>
<td>95</td>
<td></td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Gray level</td>
<td>10</td>
<td>(1024 levels)</td>
<td>bit</td>
<td></td>
</tr>
<tr>
<td>Frame rate</td>
<td>60</td>
<td>120</td>
<td>Hz</td>
<td>Factory setting, default 60 Hz</td>
</tr>
<tr>
<td>LCOS drive frequency</td>
<td>1200</td>
<td></td>
<td>Hz</td>
<td></td>
</tr>
<tr>
<td>Phase depth</td>
<td>2π</td>
<td></td>
<td>rad.</td>
<td></td>
</tr>
<tr>
<td>Phase stability</td>
<td>Typ. &lt; 0.001π</td>
<td></td>
<td>rad.</td>
<td></td>
</tr>
<tr>
<td>Response time</td>
<td>Typ. 200</td>
<td></td>
<td>ms</td>
<td></td>
</tr>
<tr>
<td>Interface</td>
<td>DVI™ / USB3.0</td>
<td></td>
<td></td>
<td>10-bit using RGB 8-bit, 3 colors</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>15</td>
<td>35</td>
<td>°C</td>
<td>No condensation</td>
</tr>
<tr>
<td>Storage temperature</td>
<td>0</td>
<td>40</td>
<td>°C</td>
<td>No condensation</td>
</tr>
<tr>
<td>Optical power handling</td>
<td>Typ. 10</td>
<td></td>
<td>W/cm²</td>
<td>@1550 nm, CW, 2.0 mm beam diameter</td>
</tr>
<tr>
<td>Control software</td>
<td>GUI software and SDK for Windows</td>
<td></td>
<td></td>
<td>C#, Python, Matlab, Labview</td>
</tr>
</tbody>
</table>

1) Specification on the defect pixels are no object.
2) Response time is a typical value and is not affected by frame rate.
3) The value is not guaranteed.

Ordering code

<table>
<thead>
<tr>
<th>Ordering code</th>
<th>Model type</th>
<th>Wavelength range (nm)</th>
<th>Response time (ms)</th>
<th>AR coating range (nm)</th>
<th>AR coating reflectance (%)</th>
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</thead>
<tbody>
<tr>
<td>SLM-200-01-0001-00</td>
<td>All-in-one model</td>
<td>450 to 1600</td>
<td>Typ. 200</td>
<td>450-550</td>
<td>&lt;0.5</td>
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<td>SLM-200-01-0001-12</td>
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<td>SLM-200-01-0001-02</td>
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<td>&lt;0.5</td>
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<tr>
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<td>1500-1600</td>
<td>&lt;0.5</td>
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<tr>
<td>SLM-200-01-0001-04</td>
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<td>450-1600</td>
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<td>SLM-200-01-0001-14</td>
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<td>450-1600</td>
<td>&lt;2.5</td>
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<td>&lt;2.5</td>
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<td>SLM-200-01-0002-00</td>
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<td>450-1600</td>
<td>&lt;2.5</td>
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<tr>
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<td></td>
<td>450-1600</td>
<td>&lt;2.5</td>
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<td>450-1600</td>
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<td>SLM-200-01-0002-03</td>
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<td>450-1600</td>
<td>&lt;2.5</td>
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<td>SLM-200-01-0002-04</td>
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<td>450-1600</td>
<td>&lt;2.5</td>
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<td>SLM-200-01-0002-14</td>
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<td></td>
<td></td>
<td>450-1600</td>
<td>&lt;2.5</td>
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</tbody>
</table>

4) We support custom AR coating request. Please contact us for detail.
5) Angle of incidence = 0 degree

Dimensions

Separate model

All-in-one model

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