**DSS 1064-450**

Diode pumped passively Q-switched solid state laser

- 1064 nm
- single pulse
- < 1.7 ns
- 1 – 100 Hz (up to 1 kHz optional)
- > 450 μJ

### Optical Data

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wavelength</td>
<td>1064 nm</td>
</tr>
<tr>
<td>Spatial Mode</td>
<td>TEM₀₀</td>
</tr>
<tr>
<td>M²</td>
<td>&lt; 1.5</td>
</tr>
<tr>
<td>Beam Divergence (full angle)</td>
<td>&lt; 6.5 mrad</td>
</tr>
<tr>
<td>Beam Ellipticity</td>
<td>&lt; 2:1</td>
</tr>
<tr>
<td>Waist Diameter (located at about 110mm inside the laser head)</td>
<td>380 ± 100 μm</td>
</tr>
<tr>
<td>Beam Diameter (at laser exit)</td>
<td>650 ± 150 μm</td>
</tr>
<tr>
<td>Peak Power</td>
<td>&gt; 250 kW @ 1 - 100 Hz</td>
</tr>
<tr>
<td>Pulse Energy</td>
<td>&gt; 450 μJ @ 1 - 100 Hz (&gt;150μJ @ 1kHz option)</td>
</tr>
<tr>
<td>Pulse Repetition Rate (with external trigger)</td>
<td>1 - 100 Hz</td>
</tr>
<tr>
<td>Pulse Width (FWHM)</td>
<td>&lt; 1.7 ns</td>
</tr>
<tr>
<td>Polarization Ratio</td>
<td>&gt; 100:1, vertical</td>
</tr>
<tr>
<td>Long term pulse energy stability (6 hours) ¹)</td>
<td>&lt; ± 6 %</td>
</tr>
<tr>
<td>Pulse-To-Pulse Stability ²)</td>
<td>&lt; 1 % rms</td>
</tr>
<tr>
<td>Laser Classification</td>
<td>3B / IIIb</td>
</tr>
</tbody>
</table>

### Optical Output

- Free Beam

### Electrical Data

- Electrical Power Consumption: < 70 W
- Line Voltage: 100 - 240 V AC (50-60 Hz) or 24 V DC

### Interface

- RS 232, USB

### Miscellaneous

- Warm-up Time: < 15 min
- Operating Temperature: 18 - 38 °C
- Laser Head Size: 217 x 65 x 45 mm (core dimensions)

### Options

- SMA-connector for fiber with core diameter ≥ 200 μm
- Synchronization signal output (rise time < 2 ns)
- Manual shutter or electrical beam blocker
- Upgrade to 1 kHz repetition rate (parameters on request)
- External telescope (e.g. M=5)
- Manual or electrical attenuator
- Stand Alone System (incl. key-switch, heat sink, manual shutter; CDRH compliant)

¹) Drift over 6 hours, energy averaged over 10 sec after 5 min of continuous operation, temperature variation < 3 °C/hour.
²) RMS over 1000 pulses after 5 min of continuous operation.
Laser Head and Controller

Laser Safety Labels
The DSS1064-450 lasers are class 3B / IIIb according to IEC 60825-1:2014

- Wavelength: 1064 nm
- Max. output: 1 mJ
- Pulse duration: <2 ns
- Max. repetition rate: 200 Hz

© Jan. 2019, Rev 2.0, CryLaS GmbH. All rights reserved. Product specifications are subject to change without notice.