Want to see what you have missed?
Cavitar Ltd is an expert in illumination lasers based on diode laser technology. We offer versatile products, systems and solutions for end-users of R&D applications and integrators of industrial monitoring systems.

Laser light
for monitoring and high-speed imaging

Freeze even the fastest terrestrial motion.

Accurate imaging of small and/or fast objects and processes.

See through heat and blinding brightness.

Powerful and versatile lighting for high-speed imaging and monitoring.

Variability through fiber coupling and pulse generation.

CAVILUX® Smart
Laser light for monitoring and high-speed imaging

Welcome to the invisible world
CAVILUX® Smart System

Unique advantages

- Powerful and versatile pulsed diode laser light source designed for high-speed imaging and monitoring
- Excellent for ultra-high-speed imaging
- Accurate imaging of processes involving extremely small and/or fast objects - without motion blur
- Monitoring of hot and bright objects - without blinding brightness
- Versatility by varying pulse duration and repetition rate
- Possibility to generate up to five pulses per one camera exposure
- Changeable illumination optics provides flexibility
- Efficient lighting of processes even in limited space and hard-to-reach places
- Monochromatic and low-coherence light ensures the best possible image quality – without chromatic aberrations or speckle
- Light is immune to surrounding lighting conditions such as ambient or sunlight, as well as to process vibrations

For visualization of various applications:

- Flows, droplets, sprays and jets
- Shockwave
- Schlieren imaging
- Welding
- Industrial webs
- Ballistics and explosions
- Materials testing

Pulse duration / frequency

<table>
<thead>
<tr>
<th>Pulse duration</th>
<th>Normal mode (1)</th>
<th>High-speed mode (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 ns</td>
<td>30.000 Hz</td>
<td>100.000 Hz</td>
</tr>
<tr>
<td>50 ns</td>
<td>6.000 Hz</td>
<td>20.000 Hz</td>
</tr>
<tr>
<td>100 ns</td>
<td>3.000 Hz</td>
<td>10.000 Hz</td>
</tr>
<tr>
<td>500 ns</td>
<td>600 Hz</td>
<td>2.000 Hz</td>
</tr>
<tr>
<td>1 µs</td>
<td>300 Hz</td>
<td>1000 Hz</td>
</tr>
<tr>
<td>10 µs</td>
<td>30 Hz</td>
<td>100 Hz</td>
</tr>
</tbody>
</table>

*with reduced output power • (1) duty cycle 0.3 % without time limit • (2) duty cycle 1 % for 10 s

CAVILUX® Smart System features

- Consists of a control unit, laser unit(s), control software and illumination optics
- One control unit can drive 1…4 laser units (including CAVILUX HF unit) and synchronize 1…4 cameras
- Output power options 200 W, 300 W, 400 W and 500 W
- Wavelength options 640 nm (visible) and 810 nm (invisible)
- Laser class 3B or 4 (depending on the output power and wavelength)
- Pulse duration 10 ms - 10 µs
- Duty cycle 1 % for max 10 s (also ultra-high-speed mode available)
- Continuous mode with 0.3 % duty cycle
- Generation of single pulses or bursts of pulses (max. 5 pulses / bursts) at high repetition rate
- Stand-alone operation
- Versatility through changeable fiber optic illumination

Hi-Tech Electronics Pte Ltd
60 Kaki Buki Place, #03-13, Eunos Techpark, Singapore 415979
Tel: (+65) 67472555
Email: sls@hitech.com.sg
Website: www.hitech.com.sg