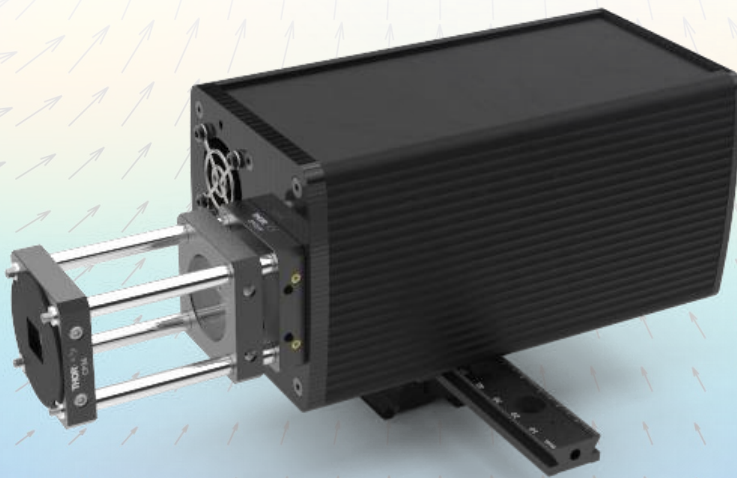
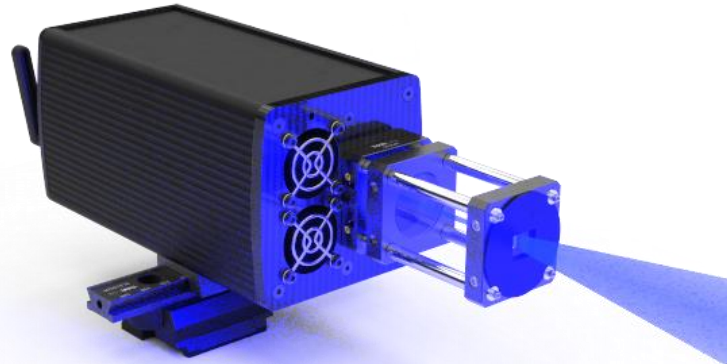


## LD-PS/40: Laser module for Particle Image Velocimetry (PIV)

The OPTOLUTION LD-PS (laser diode pulsing system) is a low-cost, high power and easy to operate solution for PIV studies.

### Main Features:

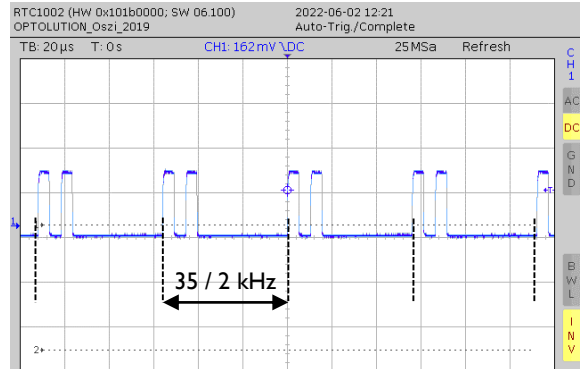
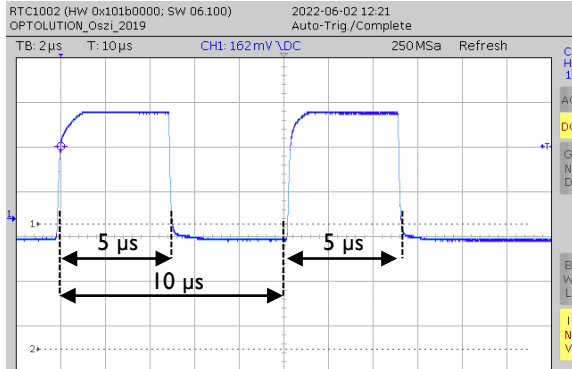
- Designed for PIVlab, the free PIV toolbox in MATLAB
- Synchronizer for Chronos (Kron Technologies), Panda and Pixelfly cameras (pco) built-in
- Wireless remote control
- Thin laser sheet (< 1 mm)
- Laser sheet optics included (full sheet opening angle approx. 15°)
- Cost-effective and extremely compact design (235x85x82 mm including light sheet optics, 1.3 kg)
- 40 W optical output power
- Up-to-date 5 W OSRAM laser diode array
- Wavelength:  $450 \pm 20$  nm (blue)
- Duty cycle: 0 – 50 %
- Double pulse repetition rate: 1 Hz – 17 kHz
- Max. laser modulation frequency: 200 kHz
- Pulse length: 5  $\mu$ s – 10 ms
- Min. interframe time: 10  $\mu$ s
- Rise and fall time: 100 ns
- Typical diode life time: 20.000 hours
- Optical rail and Manfrotto tripod mount included
- 100 - 240V AC power supply, 180 W



## LD-PS/40: Laser module for Particle Image Velocimetry (PIV)

### Pulse characteristics:

Laser operated at 35 kHz (17.5 kHz double pulse repetition rate), with 5  $\mu$ s pulse length and 10  $\mu$ s interframe. Light emission measured with a photo diode.



### Safety notes:

This laser is a *laser class 4 OEM product*. It must only be sold to trained personnel and is not available for any individuals.

As a OEM product, the laser is *only prepared* for safe use. But it must *always* be integrated into a system that fully complies to the legal rules. The device must *never be used as a stand-alone system*. In the condition as supplied to the customer, this OEM device has a very high risk of serious harm to the user, and it does not or only partly comply to legal rules.

The laser must only be used when integrated into a system that does not allow laser radiation to exit the system. Any eye and skin exposure of the light must be strictly prevented. *Never operate the device without the cylindrical divergent lens.*

Never point the laser beam at humans or animals or flammable materials. Fire, serious injury or death might result from this action. Never adjust the laser while it is turned on. Always use safety goggles designed for a wavelength of 400-500 nm.

Abstract of relevant standards:

DIN EN 12254:2010-07

DIN EN 60825-1:2015-07

DIN EN 60825-4

## Laser Radiation

Avoid eye and skin exposure by direct or scattered laser light.

Laser Class 4

DIN EN 60825-1:2015-07

Output power ( $P_o$ ): 40W max.

Wavelength ( $\lambda$ ): 400-500nm



# LD-PS/40: Laser module for Particle Image Velocimetry (PIV)

## Easy setup:

Connect the camera (Chronos 1.4, by Kron Technologies shown here) to the laser using a trigger cable and plug in the power supply. Connect wirelessly to your computer (dongle included), start MATLAB and control your PIV experiment directly from PIVlab.

