



DL nSec

Diode Laser with Sub Nanosecond Digital Modulation

Key Features

- Pulses down to 300 ps FWHM
- Variable pulse-width from sub-ns to cw
- Rise/fall times <1 ns
- >25 MHz bandwidth digital modulation
- Full on/off ratio
- LVTTTL compatible digital input/output
- Stand-alone operation with auto-trigger function
- Jitter free SYNC out
- Easy to use USB interface
- Only standard software drivers required

Specifications*

Light output

CW Power 80 mW

Digital inputs/outputs

TRIG input	SMA female, 50 Ohm terminated
TRIG high level	2.8 V
SYNC output	SMA female, 50 Ohm matched
SYNC output high level	>1.25 V on 50 Ohm
SYNC output rise/fall time	< 2ns
	SYNC jitter < 50 ps

General parameters

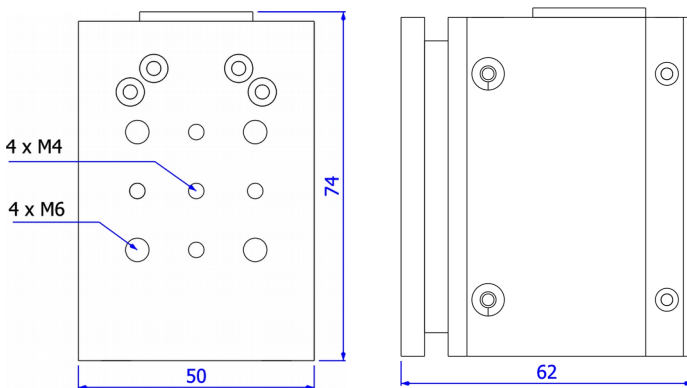
Laser diode current	1–300 mA
Power input	2.1 mm hollow jack
Power supply	9 V / 3 .0 A switching power supply

Control interface

Connector	USB mini type B receptacle
Software driver	Only standard drivers required
Communication protocol	Virtual serial, plain text format

Dimensions

L x W x H 74 x 50 x 62 mm

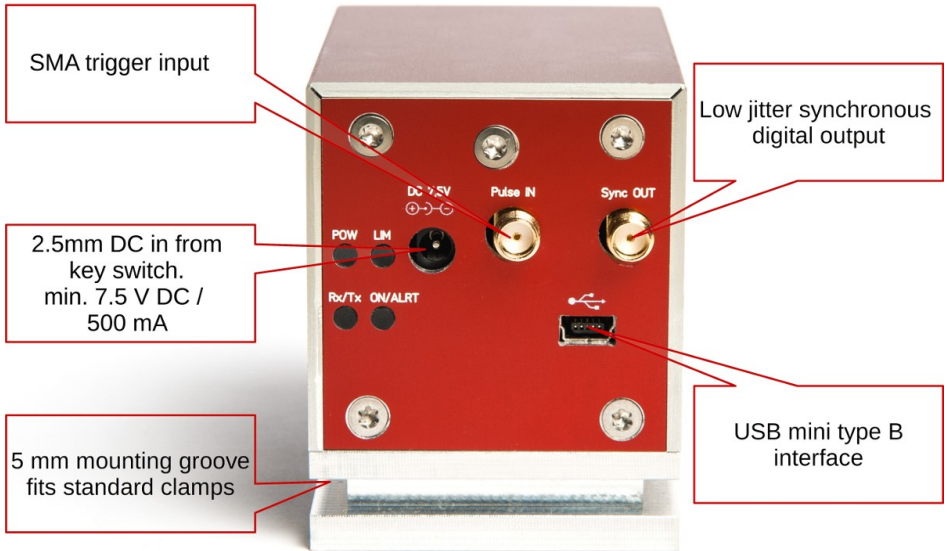


Housing

Anodized aluminum, multiple mounting options (M4, M6, mounting groove)

*With standard 520nm / 80mW laser diode. Numbers may differ for other configurations.

Convenient control interface and powering



Other available wavelengths*

WAVELENGTH	POWER (CW)
● 405 nm	30 mW
● 520 nm	40 mW
● 633 nm	80 mW
● 637 nm	90 mW
● 638 nm	30 mW
● 642 nm	60 mW
● 658 nm	30 mW
● 670 nm	10 mW
● 705 nm	40 mW
● 730 nm	40 mW
● 808 nm	125 mW
● 852 nm	35 mW

Please request a quotation for required wavelength, even if not listed here.

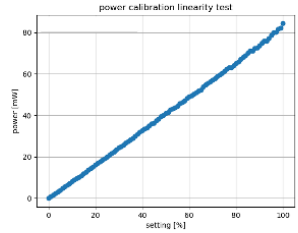
Example characteristics

Electrical and Optical Properties

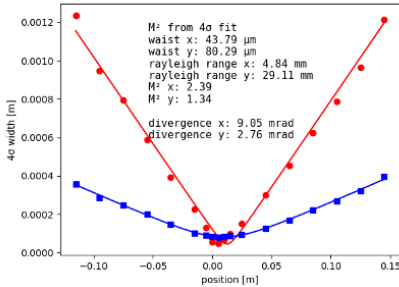
Light output

- CW Power 80 mW
- center wavelength 520 ± 10 nm
- beam diameter* horiz.: 0.42 mm typ., vert.: 1.5 mm typ.
- beam divergence** horiz.: 0.39 mrad typ., vert.: 0.10 mrad typ.

*) 5 mm behind output aperture. **) when collimated correctly with the included lens

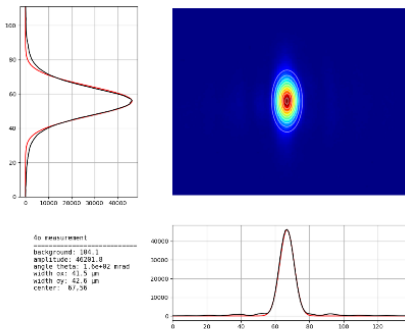


M² ***



*** 4σ widths measured from high quality, virtually zero-background camera images.

Focal spot****



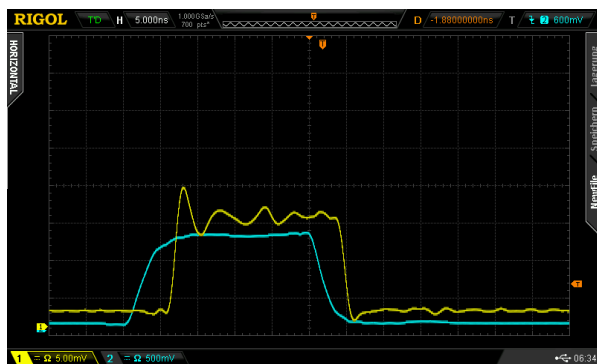
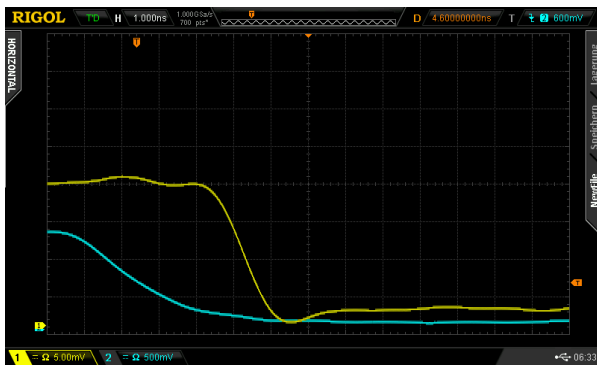
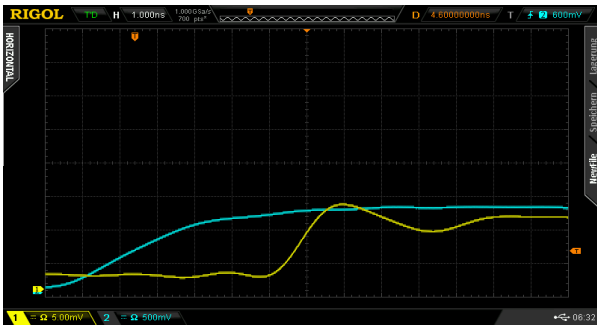
The red lines are perfect Gaussians as guides to the eye.

****) beam quality measured with a f = 200 mm plano-convex lens 205 mm behind aperture

Switching characteristics*

Rise/fall times $\leq 1 \text{ ns}$

Digital modulation bandwidth $>25 \text{ MHz}$



*) Example characteristics for a DLnsec 520nm at 80mW
measurements limited by photo detector and oscilloscope bandwidths.
yellow and blue traces represent the photodiode signal and sync out, respectively.