PDL 200

Pulsed Diode Laser Driver

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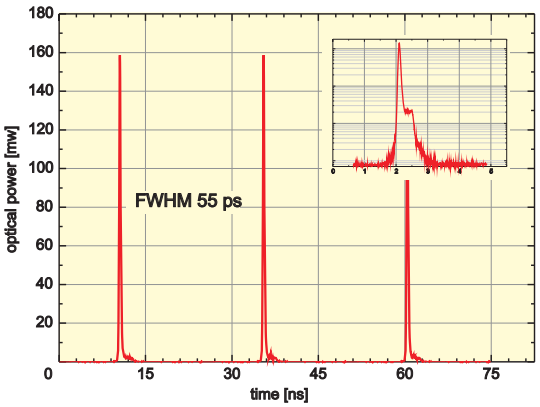
http://www.picoquant.com



- Laser pulses as short as 50 ps (FWHM)
- Easy selectable repetition rates of 8, 4, 2, 1 and 0.5 MHz
- Laser power and pulse width adjustable via driver unit
- Laser heads from 375 to 1550 nm, LED heads from 255 to 600 nm
- Synchronization output

Applications

- Time-resolved fluorescence spectroscopy
- Single Molecule Spectroscopy (SMS)
- Test and measurement of detectors and optical fibers
- Diffuse Optical Tomography (DOT) of biological tissue
- Quantum cryptography
- Confocal microscopy
- Stimulated Emission Depletion (STED) microscopy
- Materials research

Picosecond Pulsed Diode Laser Driver

The PDL 200 is a stand-alone driver for the picosecond ultraviolet to aquamarine (375 to 485 nm) and red (635 to 1550 nm) diode laser heads of the LDH Series and the sub-nanosecond LEDs (255 to 600 nm) of the PLS Series. The PDL 200 features easy-to-use controls for repetition frequency and laser power level. User-selectable repetition frequencies of 8, 4, 2, 1 and 0.5 MHz are derived from the internal crystal oscillator that generates a low jitter base frequency. A synchronization output allows the PDL 200 to trigger other components such as TCSPC electronics. Wavelengths can be changed quickly by simply plugging in a different laser or LED head.

Besides the PDL 200, four other drivers of the PDL family are available:

- PDL 800-B - single-channel driver with internal repetition rates up to 80 MHz and external trigger input
- PDL 800-D - single-channel driver with repetition rates from 32.5 kHz to 80 MHz, pulsed and cw operation
- PDL 808 “Sepia” - modular, multi-channel driver for up to 8 laser or LED heads
- PDL 828 “Sepia II” - modular, high-end computer controlled multi-channel driver for up to 8 laser or LED heads

Picosecond pulsed diode laser modules are also available in OEM quantities for system suppliers. These compact, cost-effective diode lasers with fixed parameters (repetition frequency, output power and wavelength) can easily be integrated into complex systems.

Pulsed Light Sources

LDH Series
Picosecond Laser Diode Heads

Available wavelengths: 375 - 485 nm and 635 - 1550 nm
Options: peltier cooled, high power version, narrow spectral bandwith, selected short pulses, fibre coupling to single-mode and multi-mode optical fibres

PLS Series
Sub-nanosecond pulsed LEDs

Available wavelengths: 255 - 600 nm
Optional: spectral bandpass filter

Specifications

Internal Oscillator

Type	Crystal locked
Master frequency	8 MHz
Repetition frequencies	1, 1/2, 1/4, 1/8, 1/16 of base frequency 8, 4, 2, 1, 0.5 MHz

Synchronization Output

Amplitude	< -800 mV into 50 Ohms (NIM)
Pulse width	6 ns
Delay	12 ns (from falling edge to laser output), jitter <20 ps
Impedance	50 Ohms
Connector type	SMA (female)

Remote Interlock

Voltage	<7 VDC
Loop resistance	10 Ohms max.

Power Supply

Line voltage	220/240 or 110/120 VAC, 50/60 Hz
Power consumption	45 Watts max.
DC supply output	12 V/100 mA or 5 V/250 mA (for external modules)
Connector	6-pin

Dimensions

Driver unit	237 × 310 × 97 mm (w × d × h)

Temperature Range 10 - 40 °C

Further available are Fluorescence Lifetime Spectrometer; Time-resolved Fluorescence Microscopes; Upgrade kit for Laser Scanning Microscopes; Picosecond / Nanosecond Pulsed, Modulated Diode Lasers; PC Modules for TCSPC. Please call for detailed information and data sheets. OEM Modules of all products are available upon request. **Please check our webpage for latest changes of specs.**

For all available wavelengths and types of laser diode heads please go to:
http://www.picoquant.com/products/ldh/ldhseries.htm

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