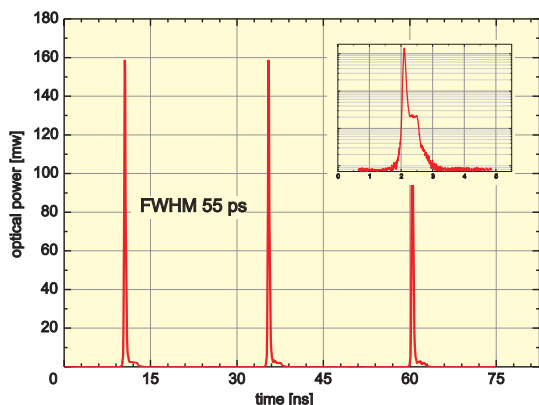


# PDL 200-B



## Pulsed Diode Laser Driver



- Easy selectable repetition rates of 8, 4, 2, 1 and 0.5 MHz
- Laser pulse energy adjustable via driver unit
- Laser heads from 375 to 1990 nm, LED heads from 255 to 600 nm
- External trigger/sync output



## Applications

- Time-resolved fluorescence spectroscopy
- Single molecule spectroscopy
- Test and measurement of detectors and optical fibers
- Diffuse Optical Tomography (DOT) of biological tissue
- Confocal microscopy
- Stimulated Emission Depletion (STED) microscopy
- Materials research
- Quantum optics, single photon generation

# Picosecond Pulsed Diode Laser Driver

The PDL 200-B is a stand-alone driver for the picosecond pulsed laser diode heads from 375 to 1550 nm (LDH-P Series) as well as for the sub-nanosecond pulsed LEDs from 255 to 600 nm (PLS Series). The laser heads can emit light pulses as short as 70 ps FWHM (50 ps on selection) with peak powers up to 1 Watt (depending on wavelength). The PDL 200-B features easy to use controls for repetition frequency and laser pulse energy. Wavelengths can be changed quickly by simply plugging in a different laser or LED head.

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. Laser pulses can also be triggered by an external trigger input so that the PDL 200-B can be synchronized with other instruments over the full frequency range. A synchronization output allows to trigger other components such as TCSPC electronics.

Besides the PDL 200-B, 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, multichannel driver for up to 8 laser or LED heads
- PDL 828 "Sepia II": modular, high-end computer controlled multichannel driver for up to 8 laser or LED

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-P Series**  
Picosecond pulsed  
laser diode heads

Available wavelengths: 375 - 510 nm, 635 - 1990 nm, options: peltier cooled, high power version, narrow spectral bandwidth, selected short pulses, fiber coupling to singlemode and multimode optical fibers



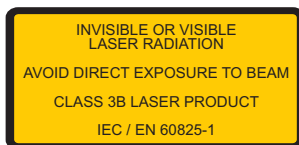
**PLS Series**  
Sub-nanosecond  
pulsed LEDs

Available wavelengths: 255 - 600 nm, options: spectral bandpass filter



For all available types and wavelengths please go to:

<http://www.picoquant.com/products/ldh/ldhseries.htm>  
<http://www.picoquant.com/products/pls/plsseries.htm>



## 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 or 0.5 MHz

### External Trigger Input

Amplitude . . . . . -5 to +5 V (maximum limits)  
Trigger level (adjustable) . . . -1 to +1 V (negative slope)  
Pulse width . . . . . > 5 ns  
Frequency range . . . . . 10 Hz to 8 MHz  
Delay . . . . . 35 ± 5 ns (from trigger input  
to optical output), jitter < 40 ps  
Impedance . . . . . 50 Ohms (dynamic)  
> 500 Ohms (static)  
Connector type . . . . . BNC (female)

### 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.

### 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 website for updated information.**

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