

Picosecond Pulse Diode Lasers with Driver

PICOPOWER™-LD Series

Available with the standard wavelengths: 375, 405, 450, 488, 635, 670, 785, 976, 1030, 1064, 1300, 1550 nm as well as many other custom-specific wavelengths!



Laser pulses shorter than 40 ps. Up to 3 W peak power for specific wavelengths. Exchangeable laser heads.

Features

- Laser pulses shorter than 40 ps
- Up to 3 W peak power for specific wavelengths
- Proprietary high-frequency design for the shortest & highest peak power laser diode pulses available on the market
- Collimated output with spatial filtering
- Exchangeable laser heads with different wavelengths for greatest flexibility
- Proprietary laser diode driver generating picosecond high-current pulses
- Built-in Direct Digital Synthesis (DDS) frequency generator for repetition rate adjustment up to 20 MHz in steps of 0.1 Hz (optional 40 MHz & 80 MHz)
- External TTL trigger capability and synchronized TTL output
- Optional fiber coupling

Applications

- Fluorescence lifetime measurements
- Pump-probe experiments
- Photodetectors & opto-electronics time response measurements
- Optical communication tests
- Optical Time Domain Reflectometry (OTDR)
- Seeding of fiber lasers
- Optical tomography

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MADE IN GERMANY.
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Picosecond Pulse Laser Diode Performance

Standard Wave-lengths (nm)	Pulse Width (ps)	Average Power (mW) @ 20 MHz / @ 40 MHz ¹⁾	Peak Power (mW)	Beam Divergence (mrad)	Comments
375	< 60	0.2 / 0.4	250	1.3	Up to 3 W peak-power available
405	< 40	0.5 / 1.0	750	1.2	
450	< 60	0.4 / 0.8	450	1.2	
488	< 60	0.25 / 0.5	250	1.4	
635	< 60	0.2 / 0.4	200	n/a	Fiber coupled
670	< 60	0.5 / 1.0	450	1.3	
785	< 60	0.2 / 0.4	200	0.5	
976	< 80	0.5 / 1.0	500	n/a	Fiber coupled
1030	< 60	0.5 / 1.0	250	1.5	
1064	< 50	0.5 / 1.0	300	1.5	²⁾
1300	< 40	0.5 / 1.0	250	n/a	Fiber coupled
1550	< 40	0.5 / 1.0	250	n/a	Fiber coupled

Notes:

¹⁾ Higher average powers are available for longer pulse durations.

²⁾ Single frequency and fiber-coupled for amplifier seeding available.

Wavelength tolerance is typically 1%. Beam profile is TEM_{00'} but slightly elliptical.

Laser class is typically 1M, maximum 3B, depending on the wavelength.

Laser Head Mechanical Specifications

Dimensions (Ø × D)	Ø 25 × 125 mm	Custom-specific housing is also available
Operating Temperature	15°C to 35°C (59°F to 95°F)	
Weight	120 g	

Picosecond Laser Diode Driver: PLDD-100-40

Parameters	Specifications	Comments
MECHANICAL		
Dimensions (W × H × D)	235 × 110 × 280 mm	OEM and custom-specific options available
Operating Temperature	15°C to 35°C (59°F to 95°F)	
Weight	2.6 kg	
ELECTRICAL		
Frequency Generator	Direct Digital Synthesis (DDS)	8-Digit Display
Frequency Range / Step	0.2 Hz - 20 MHz / 0.1 Hz	Optional: max. 40 MHz or 80 MHz or customized max. frequency
External Trigger Input	max. 20 MHz	apply TTL signal, rising edge
General		
Voltage / Current Requirements	100 V AC / 0.2 A 230 V AC / 0.1 A	12 V DC supply input is optionally available
Power Consumption	max. 30 W	

Notes: Customer specific parameters are available upon request. Please contact us for further information. Specifications are subject to change without notice.



Regulatory Requirements Compliance

The PICOPOWER™-LD series comply with IEC/EN 60825-1.

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