

PULSE LASER

DIODE MODULES LDM



Key Features

- Laser pulses as short as 30 ps and widely tunable in nanosecond range
- Peak power of more than 2 W for specific wavelengths
- Standard range of wavelengths covering most popular spectral range
- Collimated free space output with detachable fiber pigtail or fixed fiber output
- Adjustable pulse duration for ns modules 1–100 ns
- External TTL trigger capability
- Repetition rate up to 30 MHz from on-board generator and up to 60 MHz from an external source of TTL signal
- Wavelength TEC tuning
- Compact size cost effective design: 105 mm × 70 mm × 25 mm
- Computer control via mini USB interface



Electrical and mechanical specification

External TRIG IN	TTL into 50 Ohm, 3.3–5V
Pulse-to-pulse Amplitude Instability	<5%
Jitter: Pulse duration	<1%
Jitter: Pulse period	<0.2%
Delay Laser Output to TRIG IN (TTL)	
Dimensions	105 mm × 70 mm × 25 mm
Weight	600 g
General	
Voltage/Current requirements	DC 5V, 4A, PSU included
Control interface	mini USB
Temperature	
Operating	+10...+50 °C
Storage	-20...+70 °C
Humidity	< 95%

Specifications

Spectroscopy

- Fluorescent Lifetime measurements
- Time-Resolved Spectroscopy

Laser Physics

- Seeding of Fiber Lasers and MOPA Systems
- Single Photon Generation

Laser Imaging and 3D Laser Scanning

Time of Flight Experiments

Optical Time Domain Reflectometry (OTDR)

Microscopy

- Time-Resolved Photoluminescence
- Confocal Laser Scanning Microscopy
- Fluorescence/Phosphorescence Lifetime imaging Microscopy

Picosecond Laser Diode Modules

Part number	Wavelength ¹ , nm	Spectrum width, nm	Pulse duration, ps	Min peak power ² , mW	Pulse repetition rate ³ , MHz	Output type ⁴
Fabry-Perot LD						
LDM-PS-405	405±5	<1	<100	300	30	FS/Fiber
LDM-PS-450	450±10	<2		180		
LDM-PS-520	520±10			100		
LDM-PS-635	635±5			200		
LDM-PS-660	660±5			350		
LDM-PS-780	785±5		<1	<120		400
LDM-PS-940	940±5	<1	<150	600		
LDM-PS-976	976±1	<100	2000			
LDM-PS-1064	1064±10	<5	<150	600		FS/Fiber
LDM-PS-1550	1550±20	<10	<150	600		FS/Fiber
Single frequency LD						
LDM-PS-1030S	1030±2	<0.1	<50	100	30	Fiber
LDM-PS-1064S	1064±2		<50	100		
LDM-PS-1064SH	1064±2		<150	500		
LDM-PS-1550S	1550±2		<30	50		

Note:

¹ Other wavelengths are available on request

² Minimal peak power guaranteed for reliable and safe diode operation. Higher peak power could be reached at a customer risk

³ Pulse repetition rate is for built-in pulse generator. Pulse repetition rate set by an external pulse generator via TTL sync input is up to 60 MHz

⁴ The optical performance is shown for Free Space (FS) output in case of both FS and fiber output options are available. The modules with free space output could be supplied with detachable fiber pigtail with corresponding optical performance reduction to about 25% out of the free space performance level

Nanosecond Laser Diode Modules

Part number	Wavelength ¹ , nm	Spectrum width, nm	Pulse duration, ns	Min. peak power ² , mW	Pulse repetition rate ³ , MHz	Output type ⁴
Fabry-Perot LD						
LDM-NS-405	405±5	<1	1–100	300	10	FS/Fiber
LDM-NS-450	450±10	<2		180		
LDM-NS-520	520±10			100		
LDM-NS-635	635±5			200		
LDM-NS-660	660±5	<1		350		
LDM-NS-780	785±5			400		
LDM-NS-940	940±5	<1		600		
LDM-NS-976	976±2	<5		2000		
LDM-NS-1064	1064±10	<5		600		FS/Fiber
LDM-NS-1550	1550±20	<10		600		FS/Fiber
Single frequency LD						
LDM-NS-1030S	1030±2	<0.1	1–100	100	10	Fiber
LDM-NS-1064S	1064±2			100		
LDM-NS-1064SH	1064±2			1500		
LDM-NS-1550S	1550±2			100		

Note:

¹ Other wavelengths are available on request

² Minimal peak power guaranteed for reliable and safe diode operation. Higher peak power could be reached at a customer risk

³ Pulse repetition rate is set by built-in pulse generator. For each pulse duration maximum repetition rate is limited by duty cycle of 2%

⁴ The optical performance is shown for Free Space (FS) output in case of both FS and fiber output options are available. The modules with free space output could be supplied with detachable fiber pigtail with corresponding optical performance reduction to about 25% out of the free space performance level