



Picosecond gain switched laser diode module for OEM and R&D applications.

- High pulse quality – no satellite pulse and minimized pulse tail
- Variable pulse repetition rate – single shot to 120 MHz
- Pulse on demand
- Wavelengths from 375 - 2000nm
- High repeatability and 24/7 operation
- Compact, dust-sealed OEM package
- External and internal trigger
- Simple user interface
- Plug & play
- Air cooled
- Remote control
- Maintenance free – no user-serviceable parts inside or outside laser

EIG2000DX		
Repetition rate (internal trigger)	50 Hz – 1 MHz (standard) 50 Hz – 40 MHz (extended I)	50 Hz – 80 MHz (extended II) 50 Hz – 120 MHz (comfort)
Repetition rate (external trigger)	Single shot – 1 MHz (standard) Single shot – 40 MHz (extended I)	Single shot – 80 MHz (extended II) Single shot – 120 MHz (comfort)
External trigger input	TTL & VAR up to 120 MHz	
External trigger amplitude	TTL / -5V...+5V variable up to 120 MHz	
External trigger impedance	50Ω	
External trigger pulse width	typ. ≥ 4 ns	
Synchronization output amplitude	2.5V @ 50Ω	
Synchronization output pulse width	typ. ≥ 4 ns for external triggering 50% duty cycle for internal oscillator	
Synchronization output trigger delay	app. 35 ns	
Typical jitter between synchronization trigger output and optical signal	typ. 4 ≤ ps	
Controller features	USB2.0, RS232 remote control, remote interlock 2.5mm mono Jack, 100...50VAC, 50...60Hz, frequency stability <50ppm internal <20W power consumption	
PER	> 23 dB	
Warm-up time	< 5 minutes	
Laser head dimensions	95 x 31 x 147 mm ³	
Control unit dimensions	235 x 88 x 326 mm ³	
Power consumption	< 15 W	
Laser head weight	0.45 kg	
Controller weight	2.5 kg	

LASER HEADS

PiL---X	wavelength (nm)	tolerance (nm)	spectral width (nm)	pulse width (ps)	peak power (mW)	avg. power (mW) (1)
PiL037X	375	± 10	< 5	< 45	> 300	2
PiL040X	405	± 15	< 5	< 45	> 300	2
PiL044X	440	± 20	< 5	< 60	> 150	1.5
PiL047X	470	± 10	< 5	< 60	> 150	1.5
PiL048X	480	± 10	< 5	< 60	> 100	1
PiL051X	510	± 20	< 10	< 80	> 100	1
PiL063X	635	± 15	< 7	< 45	> 200	1.5
PiL067X	665	± 15	< 7	< 45	> 200	1.5
PiL069X	690	± 15	< 7	< 50	> 200	1.5
PiL077X	770	± 20	< 7	< 50	> 100	1
PiL083X	830	± 15	< 10	< 45	> 100	1
PiL085X	850	± 15	< 10	< 50	> 100	1
PiL090X	905	± 15	< 10	< 50	> 100	1
PiL106X	1060	± 20	< 15	< 60	> 100	1
PiL131X	1310	± 20	< 15	< 35	> 50	0.5
PiL155X	1550	± 20	< 15	< 35	> 50	0.5
PiL1900X	1990	± 50	< 20	< 200	> 100	1
PiL085DFBX	852	± 2	< 0.5	< 90	> 100	0.5
PiL106DFBX	1064	± 2	< 0.5	< 60	> 100	0.5
PiL131DFBX	1310	± 20	< 0.5	< 30	> 50	0.5
PiL155DFBX	1550	± 20	< 0.5	< 30	> 50	0.5

(1) Typical average output power for collimated beam at 100 MHz. Average power depends on repetition rate

*** All lasers are Class 3B

ALS GmbH reserves the right to change specification without prior notice

OPTIONS

- Single mode or multi mode fiber output, fiber collimator with or w/o microfocus
- Thermal wavelength tuning
- Converter TTL to NIM level for trigger-out
- Narrow spectral line-width DFB-laser
- Single box OEM package

Sample data of a PiLas with center wavelength of 405 nm (PiL040)

Sampling oscilloscope data

