

# EPL SERIES

Picosecond Pulsed Diode Lasers



The EPL picosecond pulsed diode lasers are a family of high performance, cost effective excitation sources for fluorescence lifetime measurements.

In Time-Correlated Single Photon Counting (TCSPC) they bridge the gap between the nanosecond flashlamp and expensive mode-locked Titanium sapphire femtosecond lasers. In addition, their external trigger capability enables their use as excitation sources in Multi-Channel Scaling (MCS) mode.

The EPL lasers are pre-adjusted for an optimum pulse width, with particular attention paid to reducing a secondary shoulder characteristic of picosecond diode lasers. The output has a typical pulse width of less than 100 ps.

The EPL lasers are robust, maintenance free, easy to operate and have proprietary beam conditioning optics.

## KEY FEATURES

- + Optimised for TCSPC
- + 15 pre-set repetition frequencies from 2.5 KHz to 20 MHz
- + External trigger capability
- + Spectrally purified output
- + Fully integrated & compact design
- + Extremely low RF radiation
- + Optimised collimated beam
- + Drive electronics included



# SPECIFICATIONS

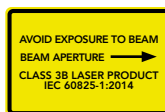
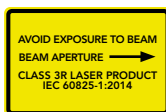
Model (EPL-)	375	405	445	450	475	485	510	635	655	670	785	800	980
Nominal Wavelength (nm)	375	405	445	450	475	485	510	635	655	670	785	800	975
Wavelength Range (nm)	370-380	400-410	438-448	440-455	465-480	475-490	500-515	630-640	650-660	665-675	780-790	795-805	965-985
Linewidth (nm)	< 1.5	< 2.0	< 3.0	< 3.0	< 4.5	< 6.5	< 5.0	< 2.5	< 2.5	< 2.5	< 4.0	< 6.0	< 5.0
Max. Pulse Width @10 MHz (ps)	85	75	95	120	90	120	150	85	85	80	85	110	80
Typical Pulse Width @10 MHz (ps)	60	55	85	90	80	100	85	65	65	55	70	95	60
Typical Average Power @20 MHz (mW)	0.15	0.11	0.15	0.18	0.15	0.10	0.13	0.07	0.15	0.15	0.12	0.15	0.14
Min. Average Power @20 MHz (mW)	0.10	0.09	0.10	0.10	0.10	0.06	0.10	0.04	0.12	0.10	0.09	0.10	0.06
Typical Peak Power @10 MHz (mW)	140	110	50	50	80	35	80	30	120	130	115	100	85
Min. Peak Power @10 MHz (mW)	80	80	35	25	65	20	60	25	80	75	80	60	30

<b>LASER CLASS</b>	Class 3R (EPL-405 to EPL-670) or Class 3B (EPL-375, 785, 800, 900)
<b>REPETITION RATE</b>	MHz: 20, 10, 5, 2 kHz: 1000, 500, 200, 100, 50, 25, 20, 12.5, 10, 5, 2.5
<b>BIAS SUPPLY</b>	15 Vdc +/- 5%, 15W (2.1mm DC jack)
<b>TRIGGER OUTPUT</b>	SMA, NIM Standard
<b>INTERLOCK INPUT</b>	Hirose HR10A-7P-4P(73), (Link pin 1 and pin 2 to ground – interlock healthy)
<b>TRIGGER INPUT</b>	Hirose HR10A-7P-4P(73), (Signal pin 4 and ground pin 3)
<b>TRIGGER INPUT SIGNAL</b>	TTL > 50 ns pulse. Trigger on rising edge. 0.0 V < Low level < 0.5 V, 2.5 V < High level < 5 V
<b>KEY SWITCH</b>	Yes
<b>BEAM QUALITY</b>	Near field dimensions: $\leq 4.75$ mm (fast axis), $\leq 1.75$ mm (slow axis) Divergence: $\leq 1.5$ mrad (fast axis), $\leq 0.75$ mrad (slow axis)
<b>SPECTRAL CONDITIONING</b>	Built-in filter to minimise out-of-band emission (no external spectral filtering needed)
<b>PHYSICAL DIMENSIONS</b>	Overall: 168 mm length x 64 mm x 64 mm Collimator tube: $\varnothing$ 30 mm x 38 mm
<b>TAPPED HOLES FOR STUD MOUNT</b>	2 x M6
<b>WEIGHT</b>	800 g

Other wavelengths available upon request.

## CLASS 3R/3B LASER PRODUCT

Avoid exposure to beam. Light emitted by the source may be harmful to the human eye and to skin. Please obey laser safety regulations.  
This product complies with the US federal laser product performance standards.



Customer support is available worldwide.

**edinst.com**

Registered in England and Wales No: 962331 VAT No:GB 271 7379 37

All specifications are correct at the time of production. We reserve the right to change our specifications without notice.

©Edinburgh Instruments Ltd. 2024

STG04 / 12.24



超高真空・極低温走査型プローブ顕微鏡  
高速分光測定装置、クライオスタット



Nd:YAGレーザー、Ti:Sレーザー  
OPOLレーザー

- 本カタログに記載されている内容は、改良のため予告無く変更する場合があります。（製品の仕様、性能、価格などはカタログ発行当時のものです）
- 本カタログに記載されている内容の一部または全部を無断で転載することは禁止されております。
- 本カタログに記載されているメーカー名、製品名などは各社の商標または登録商標です。