

# EPL-Series



## Picosecond Pulsed Diode Lasers

The EPL picosecond pulsed diode lasers are a new excitation source 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.

The EPL lasers are pre-adjusted in respect to pulse width and peak power, with particular attention paid to reducing both secondary shoulder and a long tail in the temporal profile. The output has a guaranteed pulse width of less than 100ps.

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

- ✓ **Optimized for TCSPC**
- ✓ **10 Repetition Frequencies**
- ✓ **Spectrally Purified Output**
- ✓ **Fully Integrated, Compact Design**
- ✓ **Extremely low RF Radiation**
- ✓ **Optimized Collimated Beam**



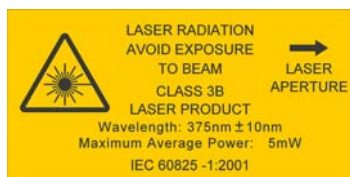
**EPL-375**  
**EPL-405**  
**EPL-445**  
**EPL-470**  
**EPL-485**  
**EPL-635**  
**EPL-640**  
**EPL-655**  
**EPL-670**  
**EPL-805**

# Technical Specification

	EPL-375	EPL-405	EPL-445	EPL-470	EPL-485	EPL-635*	EPL-640	EPL-655	EPL-670	EPL-805	
Nominal Wavelength [nm]	375	405	445	469	485	635	641	654	670	805	
Wavelength Range [nm]	369-381	398-412	437-453	462-476	477-492	630-640	636-646	647-661	663-677	795-815	
Linewidth [nm]	<2.0	<2.0	<3.0	<3.0	<10.0	<2.0	<2.5	<2.5	<2.5	<10.0	
Max. Pulse Width @ 10 MHz [ps]	90	90	100	100	95	95	100	90	90	150	
Typical Pulse Width @ 10 Mhz [ps]	55	80	95	85	85	80	85	70	75	120	
Typical Average Power @20Mhz [mW]	0.10	0.40	0.15	0.15	0.15	0.125	0.25	0.15	0.10	0.18	
Min. Average Power @ 20MHz [mW]	0.085	0.25	0.10	0.10	0.10	0.075	0.15	0.10	0.065	0.10	
Typical Peak Power @ 10MHz [mW]	90	300	65	100	100	80	140	120	75	90	
Min. Peak Power @ 10MHz [mW]	70	150	55	80	80	60	100	80	55	55	
Pulse Repetition Frequencies [MHz]	20	10	5	2	1	[kHz]	500	200	100	50	20
Pulse Period [ns]	50	100	200	500	1000	[μs]	2	5	10	20	50
Bias Supply	15-18Vdc, 15W (2.1mm DC jack)										
Trigger Output	SMA, NIM Standard										
Interlock Input	Binder 712 (RS464-454), (short circuit – interlock healthy)										
Key Switch	YES										
Cooling	YES, actively controlled										
Beam Quality	Standard lasers					*EPL-635 –Improved Beam Circularity					
Near Field Dimensions	≤4.75mm (fast axis), ≤1.75mm (slow axis)					≤3.5mm (fast axis), ≤2.6mm (slow axis)					
Divergence	≤1.5mrad (fast axis), ≤0.75mrad (slow axis)					≤1.25mrad (fast axis), ≤0.75mrad (slow axis)					
Spectral Conditioning	by interference filter										
Physical Dimensions	overall: 168mm length x 64mm x 64mm collimator tube: Ø30mm x 38mm										
Tapped Holes for Stud Mount	2 off M6										
Weight	800g										
Laser Safety	The EPL 375 is a Class 3B laser. All other EPL Lasers are Class 3R										

Edinburgh Instruments has a policy of continuing product development and reserve the right to amend specifications without prior notice.

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**Warning:**  
All lasers are Class 3R lasers apart from the EPL 375 which is a Class 3B laser  
Class 3R/3B laser product. Avoid exposure to beam. Light emitted by the laser 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.



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