

1550 nm, 0.1 - 4 GHz, Picosecond Benchtop Fiber Laser



Applications

- Single photon detector characterization
- Transmission network characterization
- High speed O/E conversion
- Optical metrology
- High speed analog to digital conversion
- Optical sampling

Features

- Repetition rate tunable from 0.1 to 4 GHz
- Wavelength tunable from 1530 to 1565 nm
- Pulse width tunable from 2 to 10 ps
- Average output power > 20 mW
- Transform-limited output with low timing jitter
- Convenient fiber pigtail output
- Integral optical monitor port

The benchtop Eureka (PSL-1) series is the perfect, picosecond pulse optical source for test and measurement applications in telecommunications and quantum computing. Along with a portable design, the series offers user-friendly front panel control knobs for adjustment of the output power, wavelength, pulse width, and repetition rates. Different synchronization signals are available through a front panel RF output and an optical monitor port.

The C-band source is an actively mode-locked fiber laser with a tunable repetition rate from 0.1 to 4 GHz that provides a stable and reliable optical clock with turnkey operation. It features a convenient fiber pigtail output with wavelength tunability throughout the C-band and power levels up to 20 mW. The pulse width is tunable by changing bandwidth of the filters inside laser cavity via front panel control.

If the performance parameters do not quite fit your application requirements, please contact us at sales@calmarlaser.com to discuss a customized solution.

Technical Specifications¹

Model Number	PSL-1-TT
OPTICAL	
Center Wavelength (nm)	1530 ~ 1565 (tunable)
Pulse Width ² (ps)	2 ~ 10 (tunable)
Average Power ³ (mW)	> 20 at 2.5 GHz
Repetition Rate ⁴ (GHz)	0.1 - 4
Pulse Amplitude Stability (% RMS)	< 1.0
Polarization Extinction Ratio (dB)	> 18
Output/Termination	PM 1550 fiber pigtail with FC/APC connector, key to slow axis
ELECTRICAL	
RF Driver Source Input (V)	0.1 - 4 GHz, 0 - 5 dBm
Supply Voltage (VAC)	85 - 264 autoranging
Supply Frequency (Hz)	47 - 63 autoranging
MECHANICAL	
Operating Temperature (°C)	15 - 30
Dimensions (cm)	48.2(W) x 46.7(D) x 10(H)
Weight (kg)	~ 7

1. Due to our continuous improvement philosophy, all product specifications are subject to change without prior notice. Please contact sales@calmarlaser.com for customized specifications.
2. A sech^2 pulse shape (deconvolution factor of 0.65) is used to determine the pulse width from the second harmonic autocorrelation trace.
3. Output power roughly scales linearly with repetition rate. A monitor signal (~ 0.1 mW) is available from output port B.
4. 0.1 GHz - 2 GHz discretely tunable with spacing ~ 2MHz; > 2 GHz continuously tunable.

