

## 850 nm Femtosecond Fiber Laser



### Applications

- High speed receiver conformance testing
- Photodetector characterization
- Optical metrology
- Materials characterization
- Silicon integrated circuit testing
- Seed source for higher energy laser systems

### Features

- Average power > 0.5 mW
- Central Wavelength 850 nm
- Pulse width < 2 ps
- GHz synchronization for low-jitter triggering
- Turnkey benchtop platform
- Convenient fiber pigtail output
- Exceptional long term stability

The benchtop (FPL-0) series is the perfect short pulse optical source for test and measurement applications. Along with a portable design, the series offers user-friendly front panel control knobs for adjustment of the output power and pulse width. Different synchronization outputs are available with GHz (high harmonic) options that can provide a time domain persistent timing jitter of less than 0.25 ps.

The 850 nm low power femtosecond fiber laser is a passively mode-locked fiber laser that employs nonlinear wavelength conversion to provide a stable short pulse output at either 850 nm. The desired wavelength needs to be specified at the time of purchase. The laser utilizes the proprietary Mendocino saturable absorber technology, which has been developed and perfected over a twenty-year period, to deliver reproducible mode-locking at turn-on with excellent stability and reliability. It features a convenient fiber pigtail output with power levels greater than 0.5 mW and an optical pulse of less than 2 ps.

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

## Technical Specifications<sup>1</sup>

Model Number		FPL-01RFF	
<b>OPTICAL</b>			
Central Wavelength <sup>2</sup> (nm)	850 ± 3		
Pulse Width <sup>3</sup> (ps)	< 2		
Average Power (mW)	> 0.5		
Repetition Rate <sup>4</sup> (MHz)	20		
Power Stability over 8 hours <sup>5</sup> (% , RMS)	< 0.5		
Beam Quality, M <sup>2</sup>	< 1.1		
Polarization Extinction Ratio (dB)	> 20		
Output	Single mode fiber (HI 780) pigtail		
Termination	FC/APC connector		
<b>ELECTRICAL</b>			
Electrical Synchronization (V)	~ 0.5, SMA connector		
Electrical Synchronization Frequency <sup>6</sup>	Standard, 20 MHz	High Harmonic, 1 GHz	High Harmonic, 10 GHz
Persistent Timing Jitter <sup>7</sup> (RMS, ps)	< 2.0	< 0.5	< 0.25
Supply Voltage (VAC)	85 - 264 autoranging		
Supply Frequency (Hz)	47 - 63 autoranging		
<b>MECHANICAL</b>			
Operating Temperature (°C)	15 - 30		
Dimensions (cm)	34.9(W) x 43.7(D) x 10(H)		
Weight (kg)	~ 0.6		

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. The desired Port 1 output wavelength needs to be specified at the time of purchase. For more details, please contact sales@calmarlaser.com.

3. A sech<sup>2</sup> pulse shape (deconvolution factor of 0.65) is used to determine the pulse width from the second harmonic autocorrelation trace.

4. For other repetition rates, please contact sales@calmarlaser.com.

5. Requires an ambient temperature control of ± 1.0°C.

6. The desired synchronization output needs to be specified at the time of purchase. For more details, please contact sales@calmarlaser.com.

7. Measured when used as a trigger signal with a high speed sampling oscilloscope.

