

780 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 780 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 780 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 780 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 to discuss a customized solution.

Technical Specifications¹

Model Number		FPL-01RFF	
OPTICAL			
Central Wavelength ² (nm)	780 ± 3		
Pulse Width ³ (ps)	< 2		
Average Power (mW)	> 0.5		
Repetition Rate ⁴ (MHz)	20		
Power Stability over 8 hours ⁵ (% , RMS)	< 0.5		
Beam Quality, M ²	< 1.1		
Polarization Extinction Ratio (dB)	> 20		
Output	Single mode fiber (HI 780) pigtail		
Termination	FC/APC connector		
ELECTRICAL			
Electrical Synchronization (V)	~ 0.5, SMA connector		
Electrical Synchronization Frequency ⁶	Standard, 20 MHz	High Harmonic, 1 GHz	High Harmonic, 10 GHz
Persistent Timing Jitter ⁷ (RMS, ps)	< 2.0	< 0.5	< 0.25
Supply Voltage (VAC)	85 - 264 autoranging		
Supply Frequency (Hz)	47 - 63 autoranging		
MECHANICAL			
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 sech² 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.

