

780 and 1560 nm Femtosecond Fiber Laser



Applications

- High speed receiver conformance testing
- Terahertz Generation
- Photodetector characterization
- Optical metrology
- Materials characterization
- Silicon integrated circuit testing

Features

- Average power up to 140, and 350 mW
- Central wavelength 780, and 1560 nm
- Pulse Width < 100 fs
- Turnkey benchtop platform
- Free space output
- Exceptional long term stability

The benchtop (FPL-04RC) series is the perfect short pulse optical source for R&D and test and measurement applications. This medium power femtosecond laser system offers dual wavelength output at 780 nm (up to 140 mW) and 1550 nm (up to 350 mW) with convenient armored fiber cable delivery. It is the perfect source for the generation of terahertz radiation with either GaAs or InGaAs photoconductive antennae.

Along with a portable design, this system offers user-friendly front panel control knobs for adjustment of the output power and pulse width with a simple optical switch to select the required output wavelength. A passively mode-locked fiber laser produces < 100 fs pulses at 1550 nm with the 780 nm output achieved through second harmonic generation in an ultra compact laser head. 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. The high quality spatial mode ensures excellent focusability for terahertz generation and multiphoton microscopy applications.

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-04RCFF	
Output	Port A	Port B
OPTICAL		
Central Wavelength ² (nm)	780 ± 10	1560 (typical)
Pulse Width ³ (fs)	< 100	
Repetition Rate ⁴ (MHz)	20	
Average Power (mW)	up to 140	up to 350
Beam Diameter (mm), TEM00	1.2 (typical)	3.5 (typical)
Beam Quality, M ²	< 1.2	
Termination	Free space from Laser head	
Beam Divergence (mrad)	< 1	< 2
Output Linear Polarization Horizontal	> 95%	
Output A and B Selection	Via Mechanical Switch at Laser Head	

ELECTRICAL	
Electrical Synchronization (V)	0.5 (typical)
Supply Voltage (VAC)	90 ~ 260 VAC, 50/60 Hz
Interface	USB/RS-232
ENVIRONMENTAL	
Operating Temperature (°C)	17 - 35
MECHANICAL	
Controller Dimensions (cm)	34 (W) x 40 (D) x 9 (H); desktop
Laser Head Dimensions (cm)	~ 5 x 7 x 3
Delivery Cable	~ 1 m long armored cable between Controller and Laser Head

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 A 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.

