

780 and 1550 nm Femtosecond Fiber Laser with Fiber Delivery



Applications

- Terahertz generation
- Telecommunication components characterization
- Optical metrology
- Materials characterization
- Multiphoton imaging
- Integrated circuit testing

Features

- Power > 80 mW (780 nm); > 200 mW (1550 nm)
- Selectable central wavelengths: 780 and 1550 nm
- Pulse width < 100 fs
- Near transform-limited output
- Turnkey benchtop platform
- Convenient armored cable output
- Exceptional long term stability

The benchtop (FPL-03RC) 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 (> 80 mW) and 1550 nm (> 200 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-03RCFF	
Output	Port A	Port B
OPTICAL		
Central Wavelength ² (nm)	780	1550
Pulse Width ³ (fs)	< 100	< 100
Average Power (mW)	> 80	> 200
Repetition Rate ⁴ (MHz)	80	
Power Stability over 8 hours ⁵ (% , RMS)	< 1.0	
Beam Quality, M ²	< 1.1	
Polarization Extinction Ratio (dB)	> 20	> 18
Output	Free space collimated output	Optical fiber output
Termination ⁵	Laser head (with 1 m fiber cable connection to controller)	FC/APC connector (with 1 m fiber cable connection to controller)
ELECTRICAL		
Electrical Synchronization (V)	~ 0.5, SMA connector	
Supply Voltage (VAC)	85 - 264 autoranging	
Supply Frequency (Hz)	47 - 63 autoranging	
MECHANICAL		
Operating Temperature (°C)	15 - 30	
Laser Head Dimensions (cm)	4.4(W) x 6.4 (D) x 3.1(H)	Fiber FC/APC Connector
Laser Controller Dimensions (cm)	34.9(W) x 43.7(D) x 10(H)	
Laser Controller Weight (kg)	~ 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. User selectable through front panel control.

2. A sech² pulse shape (deconvolution factor of 0.65) is used to determine the pulse width from the second harmonic autocorrelation trace.

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

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

5. For other fiber cable length options, please contact sales@calmarlaser.com

