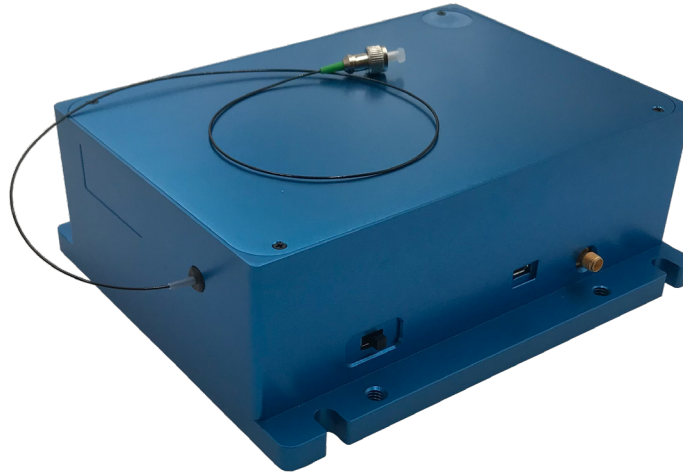


## 1030 nm High Power Femtosecond Fiber Laser Module



### Applications

- Biophotonics
- Photodetector characterization
- Optical metrology
- Materials characterization
- Multiphoton imaging
- Seed source for higher energy laser systems

### Features

- Average power > 100 mW
- Central Wavelength 1030 nm
- Pulse widths compressible to < 100 fs
- Robust all-fiber architecture
- Fiber pigtail delivery, customizable temporal chirp
- Exceptional long term stability
- RF synchronization output

The 1030 high power femtosecond fiber laser (FPL) is a passively mode-locked fiber laser that provides a stable short pulse output at 1030 nm. 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 polarization-maintaining (PM) fiber output with power levels greater than 100 mW and a chirped optical pulse that is compressible to sub 100 fs. The temporal chirp can be customized with precise group velocity and higher order dispersion values to accommodate the input requirements of specific amplifier platforms or optical systems. The laser provides an RF 50 MHz synchronization output as a trigger signal.

The module (FPL-M) series features a robust architecture that is insensitive to shock and vibration. It can be used as a stand-alone laser system with a user-supplied 5 VDC power supply and is the perfect seed source for integration into demanding OEM amplifier applications. An advanced engineering design and consistent manufacturing process ensure the highest quality standards for volume production.

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-M4UFF
<b>OPTICAL</b>	
Central Wavelength (nm)	1030 ± 2
Pulse Width <sup>2,3</sup> (ps)	~ 1 - 3 (compressible to < 0.1)
Average Power (mW)	> 100
Repetition Rate <sup>4</sup> (MHz)	50
Spectral Width (FWHM, nm)	> 15
Power Stability over 8 hours <sup>5</sup> (% , RMS)	< 1.0
Beam Quality, M <sup>2</sup>	< 1.1
Polarization Extinction Ratio (dB)	> 15
Output/Termination <sup>6,7</sup>	PM 980 fiber pigtail with FC/APC connector
<b>ELECTRICAL</b>	
Electrical Synchronization (V)	> 0.1, SMA connector
Operating Voltage (VDC)	~ 5
Power Consumption (W)	< 20 W
Electrical Interface	USB Micro B
Computer Control	Yes
<b>MECHANICAL</b>	
Operating Temperature (°C)	20 - 35
Dimensions (cm)	18.4(W) x 15.7(D) x 6.5(H)
Weight (kg)	1.5
Mounting	Heat sink for steady state heat load of up to 15 W (up to 20 W at turn-on)
Warm-up Time (min)	< 10

1. Due to our continuous improvement philosophy, all product specifications are subject to change without prior notice. Please contact [sales@calmarlaser.com](mailto:sales@calmarlaser.com) for customized specifications.

2. 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.

3. For customizable temporal chirp, with specific GVD and higher order dispersion, please contact [sales@calmarlaser.com](mailto:sales@calmarlaser.com).

4. For other repetition rates, please contact [sales@calmarlaser.com](mailto:sales@calmarlaser.com).

5. Requires an ambient temperature control of ± 1.0°C and appropriate mounting with heat sink

6. For free space option, please contact [sales@calmarlaser.com](mailto:sales@calmarlaser.com)

7. For optional second (monitor) output, please contact [sales@calmarlaser.com](mailto:sales@calmarlaser.com)

