

1550 nm Picosecond Fiber Laser for LIDAR and 3D Sensing

Portable. Compact. Battery-Powered.

Introducing the New, Portable,
Eye-safe, Picosecond Source.

- Eye-safe, 1550 nm output
- Average power up to 10 mW at 10 MHz
- Transform-limited pulse widths of 1 - 10 ps
- Robust all-fiber architecture
- Fiber pigtail delivery
- < 3 W power consumption
- Portable, battery-powered operation
- Passively air-cooled module



The Mendocino LDR is the first, battery-powered, ultrafast fiber laser specifically developed for optical communications and high resolution LIDAR (Light Detection and Ranging) and 3D sensing applications.

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 up to 10 mW and optical pulses of 1 to 10 ps. The laser provides an RF 10 MHz synchronization output as a trigger signal.

The module (FPL-M) series features a robust architecture that is insensitive to shock and vibration and is the perfect source for integration into demanding OEM 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 to discuss a customized solution.

Technical Specifications¹

Model Number	FPL-M2CFF LDR I	FPL-M2CFF LDR II
OPTICAL		
Central Wavelength (nm)	1550 ± 2	
Pulse Width ² (ps)	5 - 10	~ 1
Average Power (mW)	> 5	~ 10
Repetition Rate ³ (MHz)	10	
Spectral Width (FWHM, nm)	< 0.5	~ 10
Power Stability over 8 hours ⁴ (% , RMS)	< 1.0	
Beam Quality, M ²	< 1.1	
Polarization Extinction Ratio (dB)	> 20	
Output/Termination ^{5,6}	PM 1550 fiber pigtail with FC/APC connector	
ELECTRICAL		
Electrical Synchronization (V)	> 0.2, SMA connector	
Operating Voltage (VDC)	< 3.3, optional battery operation	
Power Consumption (W)	< 3 W	
Electrical Interface	9 pin D-sub connector	
Computer Control	No	
MECHANICAL		
Operating Temperature (°C)	15 - 35	
Dimensions (cm)	9.5(W) x 12.7(D) x 2.5(H)	
Weight (kg)	0.3	
Mounting	Heat sink to dissipate up to 3 W	
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 for customized specifications.

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 and appropriate mounting with heat sink

5. For free space option, please contact sales@calmarlaser.com.

6. For optional second (monitor) output, please contact sales@calmarlaser.com

