

805 nm Femtosecond Fiber Laser With Free Space Output



Applications

- Seeding Ti:sapphire amplifiers
- Biophotonics
- Terahertz radiation
- Materials characterization
- Optical metrology
- Multiphoton imaging microscopy

Features

- Pulse energy up to 0.4 nJ
- Peak power up to 4 kW
- Wavelength selectable from 795 to 815 nm
- Pulse widths as short as 0.1 ps
- Near transform-limited output
- Linearly polarized output
- Minimal pulse pedestal
- RF synchronization output
- Turnkey operation
- High stability

The 805 nm femtosecond fiber laser is a second harmonic generation (SHG) product of Calmar's passively mode-locked fiber laser in C-band. It has excellent stability, reliability and turnkey operation, based on the proven C-band laser. Along with a portable design, this FPL series offers user-friendly front panel control knobs for flexible adjustment of output power. The wavelength can be selected from 795 to 815 nm range. The pulse width is as low as 0.1 ps with near transform-limited pulse shape and a negligible pedestal. The repetition rate can be specified from 10 to 50 MHz with a polarization-maintaining (PM) free space output. With up to 20 mW output power at 50 MHz and 0.1 ps pulse width, the laser provides as high as 0.4 nJ pulse energy and 4 kW peak power. An RF synchronization output is provided as a trigger signal.

Calmar's FPL operation is highly stable, which significantly differentiates us from our competitors. Whenever our laser is turned on, it always starts in the same operation state. Calmar's laser enables end users to focus on their work, not on the laser itself, while our competitors' laser startup status is unpredictable, requiring constant adjustment during operation.

This robust stable fs laser makes an excellent seed for Ti:sapphire lasers at a wavelength for peak gain

Mendocino 805 nm Technical Specifications

Specifications	Free Space Output
Central Wavelength (nm)	795 - 815 (selectable)
Average Power (mW)	> 20
Pulse Width (fs) *	~ 100
Repetition Rate (MHz)	Typical 50 (10 - 50 available)
Spectral Width (nm)	8 typical
Polarization Extinction Ratio (dB)	> 20
Beam Quality	$M^2 < 1.2$
Beam Diameter (mm)	~ 2
Operating Temp (°C)	17 - 35
Operating Voltage	85 - 264 VAC
Dimensions (cm)	Head: 12.7(w) x 15(d) x 6(h) Controller: 30(w) x 34(d) x 9(h)

* A sech^2 pulse shape (convolution factor of 0.65) is used to determine the pulse width for the second harmonic autocorrelation trace.

Due to our continuous improvement program, specifications are subject to change without notice.

