805/850 nm Femtosecond Fiber Laser With Free Space Output

Applications

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

Features

- Pulse energy up to 0.4 nJ
- Peak power up to 4 kW
- Wavelength selectable from 805 and 850 nm
- Pulse width less than 100 fs
- Near transform-limited output
- Linearly polarized output
- Minimal pulse pedestal
- RF synchronization output
- Turnkey operation
- High stability

The 805/850 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 805 nm and 850 nm. The pulse width is less than 0.1 ps with near transform-limited pulse shape and a negligible pedestal. The repetition rate can be specified from 10 to 80 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. Fiber coupled output is available option.

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.

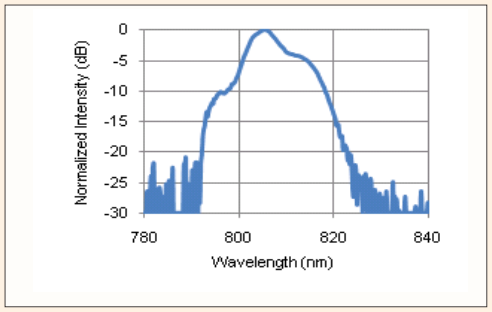
This robust stable fs laser makes an excellent seed for Ti:sapphire lasers at a wavelength for peak gain

Mendocino 805/850 nm Technical Specifications

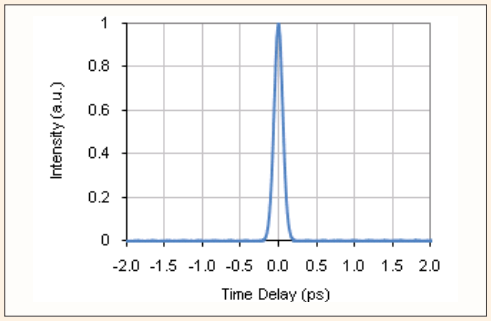
Specifications	Free Space Output
Central Wavelength (nm)	805 nm and 850 nm
Average Power (mW)	> 20
Pulse Width (fs) *	< 100
Repetition Rate (MHz)	Typical 50 (10 - 50 available)
Spectral Width (nm)	8 typical
Polarization Extinction Ratio (dB)	> 20
Beam Quality	M^2 < 1.2
Beam Diameter (mm)	~ 2
Operating Temp (°C)	17 - 35
Operating Voltage	85 - 264 VAC
Dimensions (cm)	Head: 9(w) x 18(d) x 3.5(h) Controller: 30(w) x 34d) x 9(h)

** A sech² pulse shape (convolution factor of 0.65) is used to determine the pulse width for the second harmonic autocorrelation trace.*

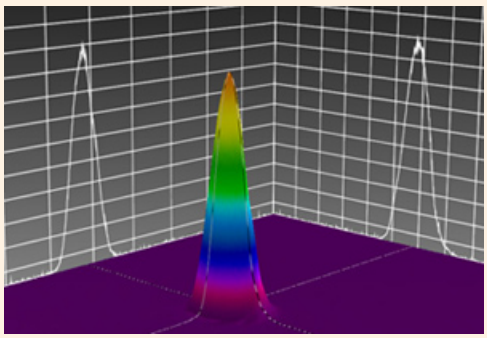
Due to our continuous improvement program, specifications are subject to change without notice.



Typical Optical Spectrum



Typical Autocorrelation Trace.



Typical Beam Profile