

1550 nm Femtosecond Fiber Laser



Applications

- High speed receiver conformance testing
- Photodetector characterization
- Optical metrology
- Materials characterization
- Silicon integrated circuit testing
- Seed source for higher energy laser systems

Features

- Average power > 0.5 mW
- Central Wavelength 1550 nm
- Pulse width < 0.5 ps
- GHz synchronization for low-jitter triggering
- Turnkey benchtop platform
- Convenient fiber pigtail output
- Exceptional long term stability

The benchtop (FPL-0) series is the perfect short pulse optical source for test and measurement applications. Along with a portable design, the series offers user-friendly front panel control knobs for adjustment of the output power and pulse width. Different synchronization outputs are available with GHz (high harmonic) options that can provide a time domain persistent timing jitter of less than 0.25 ps.

The 1550 C-band low power femtosecond fiber laser is a passively mode-locked fiber laser that provides a stable short pulse output at 1550 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 fiber pigtail output with power levels greater than 0.5 mW and an optical pulse of less than 0.5 ps.

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-01CFF | |
|-----------------------------------------------------|------------------------------------|----------------------|-----------------------|
| OPTICAL | | | |
| Central Wavelength (nm) | 1550 ± 2 | | |
| Pulse Width ² (ps) | < 0.5 | | |
| Average Power (mW) | > 0.5 | | |
| Repetition Rate ³ (MHz) | 20 | | |
| Power Stability over 8 hours ⁴ (% , RMS) | < 0.5 | | |
| Beam Quality, M ² | < 1.1 | | |
| Polarization Extinction Ratio (dB) | > 20 | | |
| Output | Single mode fiber (SMF-28) pigtail | | |
| Termination | FC/APC connector | | |
| ELECTRICAL | | | |
| Electrical Synchronization (V) | ~ 0.5, SMA connector | | |
| Electrical Synchronization Frequency ⁵ | Standard, 20 MHz | High Harmonic, 1 GHz | High Harmonic, 10 GHz |
| Persistent Timing Jitter ⁶ (RMS, ps) | < 2.0 | < 0.5 | < 0.25 |
| Supply Voltage (VAC) | 85 - 264 autoranging | | |
| Supply Frequency (Hz) | 47 - 63 autoranging | | |
| MECHANICAL | | | |
| Operating Temperature (°C) | 15 - 30 | | |
| Dimensions (cm) | 34.9(W) x 43.7(D) x 10(H) | | |
| 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. 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. The desired synchronization output needs to be specified at the time of purchase. For more details, please contact sales@calmarlaser.com.
6. Measured when used as a trigger signal with a high speed sampling oscilloscope.

