

Femtometer™

Few Cycle Pulse Characterization



Femtometer is a Michelson interferometer-based autocorrelator, combined with high quality computerized data acquisition, processing and evaluation software, developed for ultrashort pulse characterization. It consists of a compact interferometer head, a spectrometer and a controller interface. Femtometer is the only computerized pulse characterization tool that provides access to the time scale of the light oscillation period allowing the measurements of few-cycle pulses.

Efficient

Combining data in the time and frequency domain allows efficient characterization, evaluation and documentation of the laser pulses. With the new compact design, Femtometer requires minimal space since it can be positioned either horizontally or vertically.

Ultrafast and Versatile

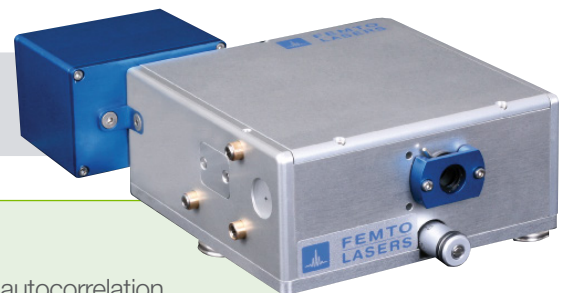
The Femtometer dispersion compensated design offers high fidelity pulse measurement down to 5 fs. It offers unique flexibility due to the removable detection modules, allowing the characterization of ultrafast oscillators using the MHz detector and of amplified pulses using the kHz detector. Operation as a plain Michelson interferometer is also possible. A special MHz detector is available for measurements in the focus of microscopes. Combined with a laptop computer (not included) for data acquisition, Femtometer yields a portable characterization tool offering several data export options.

The Femtometer Advantage

- Ultrashort pulse characterization
- MHz and kHz characterization
- Power monitoring
- Evaluation of pulse duration

Applications

- Interferometric autocorrelation
- Background free autocorrelation
- Coherence function measurement
- Spectral characterization
- Microscopy



Femtometer

Digital Storing Oscilloscope

The oscilloscope software module, designed to display the autocorrelation trace, offers a large display and all necessary settings for efficient, easy handling.

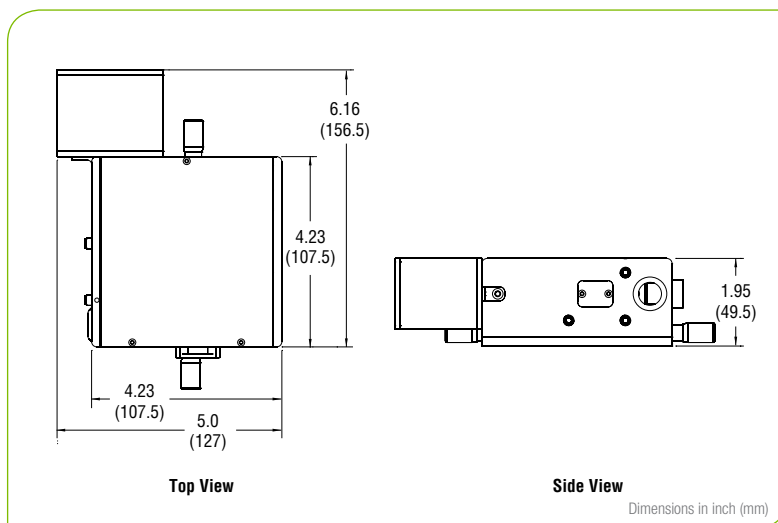
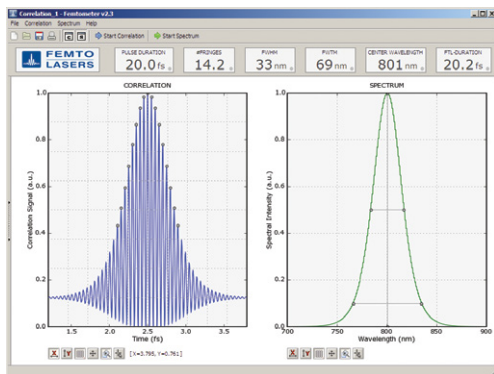
Spectrometer Module

The spectrometer software module shows the laser spectrum, including center wavelength and FWHM bandwidth.

Online Evaluation

Standard features are calculations of center wavelength, spectral width and pulse duration. The system is self-calibrating, based on the speed of light.

Screenshot Femtometer software



Femtometer Dimensions

Femtometer Specifications¹

	kHz Detector	MHz Detector	MHz Detector Microscopy ³
Delay Range	70 μ m (150 μ m optional)		
Spectral Range ²	650–950 nm		
Accepted Repetition Rate	≥ 1 kHz (<1 kHz optional)	≥ 1 MHz	≥ 1 MHz
Input Level @ 800 nm	>5 mW		
Spectrometer Head			
Spectral Range ²	550–1050 nm		
Resolution	1.5 nm		
Input Options	Free space or via fiber		
PC Interface			
Pulse Duration Evaluation	5–150 fs (5–350 fs optional)		
Hardware Requirements (computer not included)	Computer with DVD ROM drive; 2x USB port (minimum 2.0); 1 GB RAM 1.5 GB hard disk space; minimum resolution 1024 x 768 px		
Software Requirements	Microsoft® Windows® 7, Vista® or XP		

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

2. Standard version, various other wavelength options are available on request

3. For measurement in focus. Minimum working distance 150 μ m



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