

FEMTOMETER™

Few cycle pulse characterization

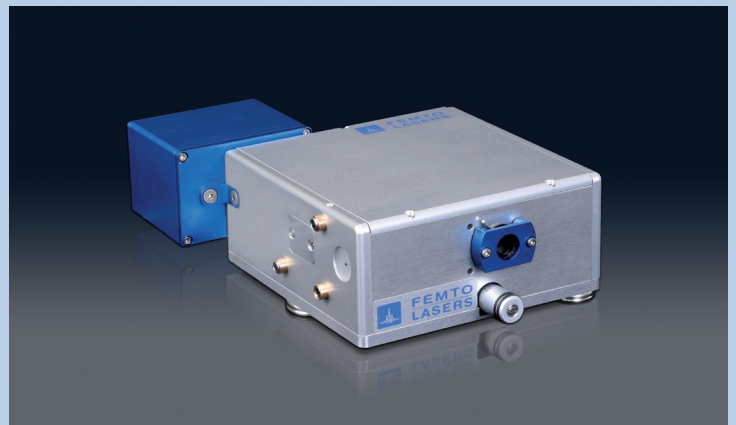
| interferometric |

| 5 - 350 fs pulse characterization |

| high sensitivity |

Applications

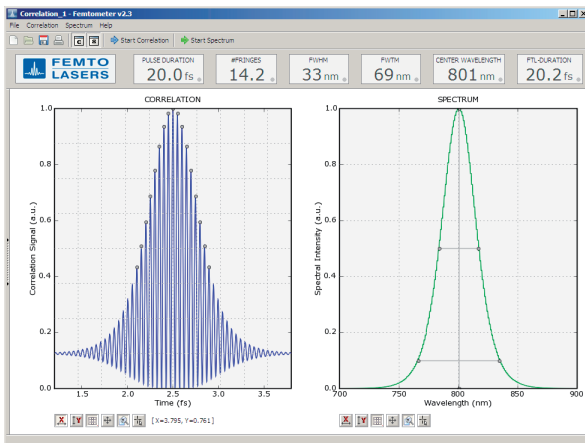
- Interferometric autocorrelation
- Background free autocorrelation
- Coherence function measurement
- Spectral characterization
- Microscopy



The **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. This device constitutes the only computerized pulse characterization tool providing access to the time scale of the light oscillation period allowing the measurements of few cycle pulses.

Efficient

Combining data in time and frequency domain allows efficient characterization, evaluation and documentation of the laser pulses. With the new compact design only minimal space is required for the FEMTOMETER™ setup, since it can be positioned either horizontally or vertically.



Screenshot FEMTOMETER™ software

FEMTOMETER™

Few cycle pulse characterization

Extraordinary Features

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

Ultrafast & Versatile

The FEMTOMETER™ dispersion compensated design offers high fidelity pulse measurement down to 5 fs. It offers unique flexibility due to the removeable detection modules, allowing the characterization of ultrafast oscillators using the MHz detector and of amplified pulses using the kHz detector. Operation as plain Michelson interferometer is also possible. A special MHz detector is available for measurements in the focus of microscopes. Combined with a laptop computer for data acquisition, the FEMTOMETER™ yields a portable characterization tool offering several data export options.

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.

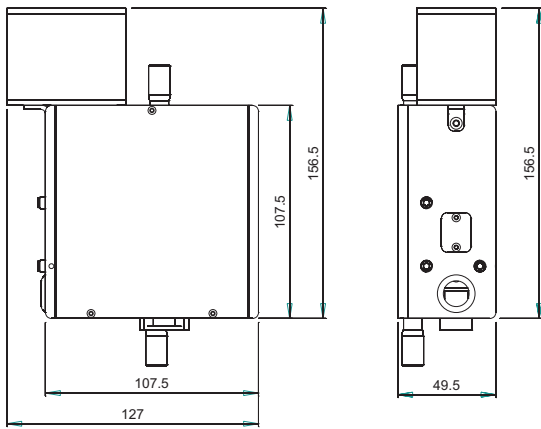
Spectrometer module

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 selfcalibrating, based on the speed of light.

FEMTOMETER™ - TOP VIEW A | B, Dimensions in [mm] ([in])



FEMTOMETER™

Interferometer Head	kHz Detector	MHz Detector	MHz Detector Microscopy ²⁾
Delay range		70 μm (150 μm optional)	
Spectral range ¹⁾		650 - 950 nm	
Accepted repetition rate	≥ 1 kHz (< 1 kHz opt.)	≥ 1 MHz	≥ 1 MHz
Input level @ 800 nm		> 5 mW	
Spectrometer Head			
Spectral range ¹⁾		550 - 1050 nm	
Resolution		1.5 nm	
Input options		Free space or via fiber 8 - 600 μm	
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 (min. 2.0) 1 GB RAM 1.5 GB hard disk space min. resolution 1024 x 768 px	
Software requirements		Microsoft® Windows® 7 Vista® XP	
¹⁾ Standard version, various other wavelength options are available on request ²⁾ For measurement in focus. Minimum working distance 150 μm			
<i>All specifications are subject to change without notice</i>			



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FEMTOLASERS' laser products are certified to comply with the Federal Regulations (21 CFR Subchapter J) as administered by Center of Devices and Radiological Health on all systems ordered for shipment after October 1, 2003.