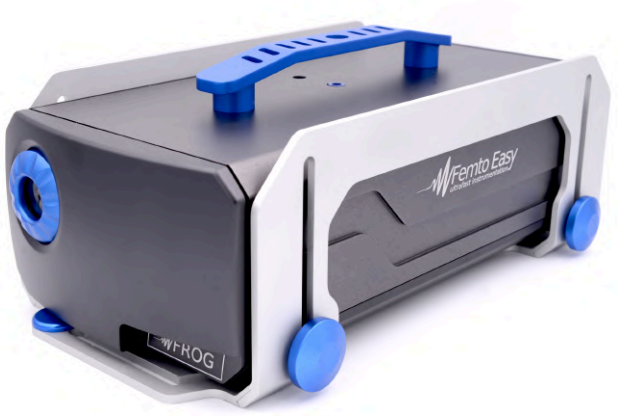
MS-FROG

MS-FROG stands for Multi-Shot Frequency Resolved Optical Gating. It has been specially developed for laser sources with sub-nJ pulse energy. It allows the measurement of pulses from 3 fs to 80 ps. The high scan speed allows real-time operations for measurement and optimization. Our MS-FROG integrates in-house built spectrometers specially developed for FROG measurements. They guarantee high spectral resolution and the best performances for the application of pulse characterization. Also they are fully configurable according to your laser specifications. On top of that, our proprietary algorithm allows to extract information from each recorded spectra instantaneously, leading to real time reconstruction of your pulses! Like every Femto Easy product, the MS-FROG is easy to install and use.

MS-FROG



Key features

- User-friendly: no calibration and no tweaking necessary
- Versatile: instant-swap of spectrometer for different wavelength ranges
- Large pulse duration measurement range (from 3 fs to 80 ps)
- User-friendly and powerful software
- High sensitivity (sub-nJ pulse)

Options

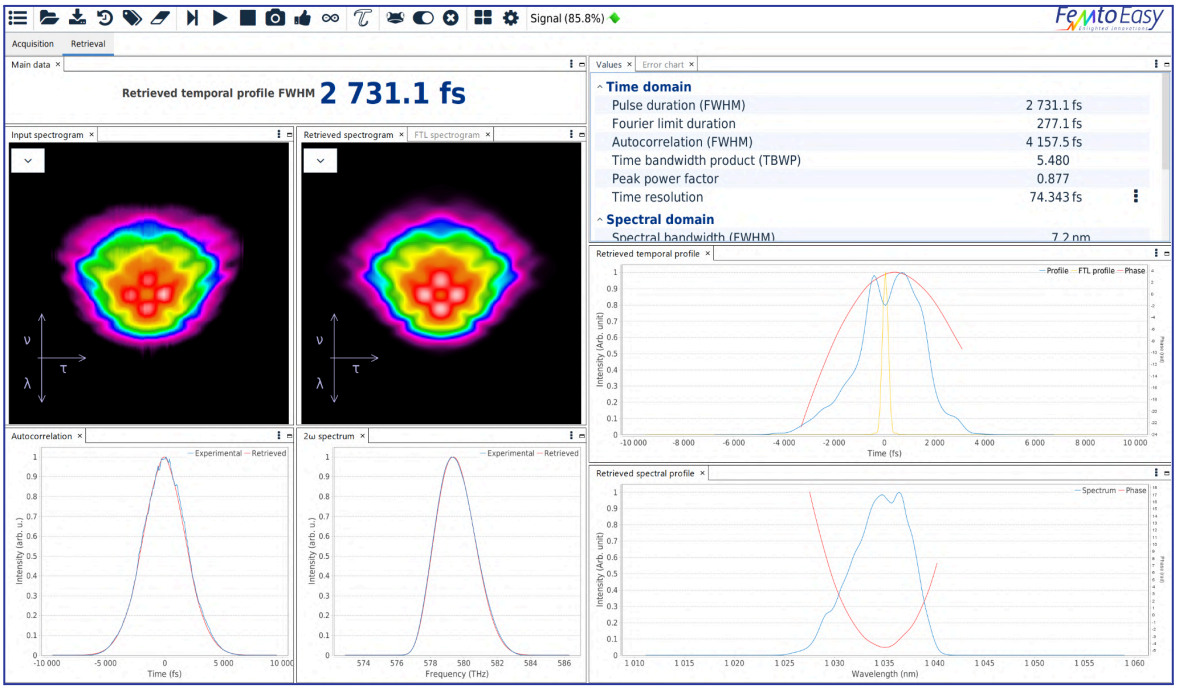
- Additional MISS spectrometer
- Low energy
- Fiber input connector
- High spectral resolution
- Low repetition rate
- Additional crystals

Specifications

Models		MS-FROG	MS-FROG LP	MS-FROG SP	MS-FROG SLP	MS-FROG USP
Pulse duration range	min	50 fs	50 fs	15 fs	15 fs	3 fs
	max	40 ps	80 ps	40 ps	80 ps	40 ps
Accessible spectral range (nm)		500 - 2100 [1]				
Spectral Window Δλ (nm)		From 200 to 700				
Minimum temporal resolution		1 fs	1 fs	0.25 fs	0.5 fs	0.25 fs
Maximum scan speed		39 ps/s	78 ps/s	39 ps/s	78 ps/s	39 ps/s
Input pulse repetition rate		100 Hz to GHz [2]				
Min input pulse energy [3]	1 MHz	50 pJ	50 pJ	10 nJ	10 nJ	10 nJ
	100 MHz	5 pJ	5 pJ	1 nJ	1 nJ	1 nJ
Polarization		linear vertical				
Detection		CMOS 12 Bits – 3 Mpx – 72 dB				
PC Interface		USB 3.1				
Beam height (mm)		69 - 148				
Dimensions (mm)		326 x 194 x 129				

[1] Effective spectral bandwidth to be defined within the accessible spectral range according to customer's requirements. Additional spectrometers can be provided to address different spectral windows.
[2] Low repetition rate available as an option
[3] Those values give an order of magnitude, with "low energy" option. The exact sensitivity depends on many parameters (pulse duration, beam profile, wavelength...)

STAR Software



- Live extraction of shot to shot pulse properties: temporal profile intensity and phase, fundamental spectrum and phase, Chirp, Third-order dispersion...
- Several algorithms (including the Ptychographic Iterative Engine) are combined to enhance the reconstruction speed and quality
- Enhanced background & hot pixels treatment, for optimum dynamic and signal to noise ratio
- Client / Server interface, allowing remote control through network
- All data exportable into most common formats

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