

ROC Single-Shot Autocorrelator

ROC stands for Row Optical Correlator. Based on an ultra compact and robust inline setup, the ROC allows the measurement of single-shot autocorrelation traces. Specifically designed to offer the easiest user experience, they cannot be misaligned and no calibration or tweaking is needed. Also, they are easily transportable. And yes, they are rock-solid! Besides those advantages, the ROC autocorrelators provide excellent technical performances and highly accurate measurements. The ROC autocorrelators are available for different wavelength ranges and several pulse durations.



Key features

- ◆ Ultra compact
- ◆ Installation and measurement in less than 2 minutes! No calibration necessary
- ◆ Suitable for any repetition rate
- ◆ Single-pulse extraction possible up to 150 kHz laser repetition rate (with Enhanced detection option)
- ◆ User-friendly and powerful software
- ◆ Input pulse energy from few pJ to few mJ. Acceptable average power up to 3.5 W
- ◆ Pulse measurement from 5 fs to 10 ps

Options

- Small beam
- Low energy
- Phase matching
- Trigger
- High dynamic range
- Enhanced detection

Specifications

ROC Models		FC	FS	PS1	PS3	PS5	PS10
Pulse duration range	min	5 fs	20 fs	50 fs	70 fs	100 fs	300 fs
	max	150 fs	500 fs	1 ps	3 ps	5 ps	10 ps
Accessible spectral range (nm)		480 - 2100 ¹					800 - 2100 ¹
Input pulse repetition rate		single-shot to GHz ²					
Single-pulse measurement		up to 150 kHz laser repetition rate (with Enhanced detection option, or 40 kHz without)					
Min input pulse energy ³	Single-shot	1 μ J (10 nJ with <i>low-energy</i> option)					
	1 MHz	10 nJ (500 pJ with <i>low-energy</i> option)					
	1 GHz	50 pJ (<i>low-energy</i> option required)					
Input polarization		linear horizontal or vertical					
Detection		CMOS 12 Bits – 3 Mpx – 72 dB					
PC Interface		USB 3.1 (or GigE as an option)					
Beam height (mm)		Adjustable from 30 mm					
Dimensions (mm)		55 x 56 x 265			55 x 56 x 195		

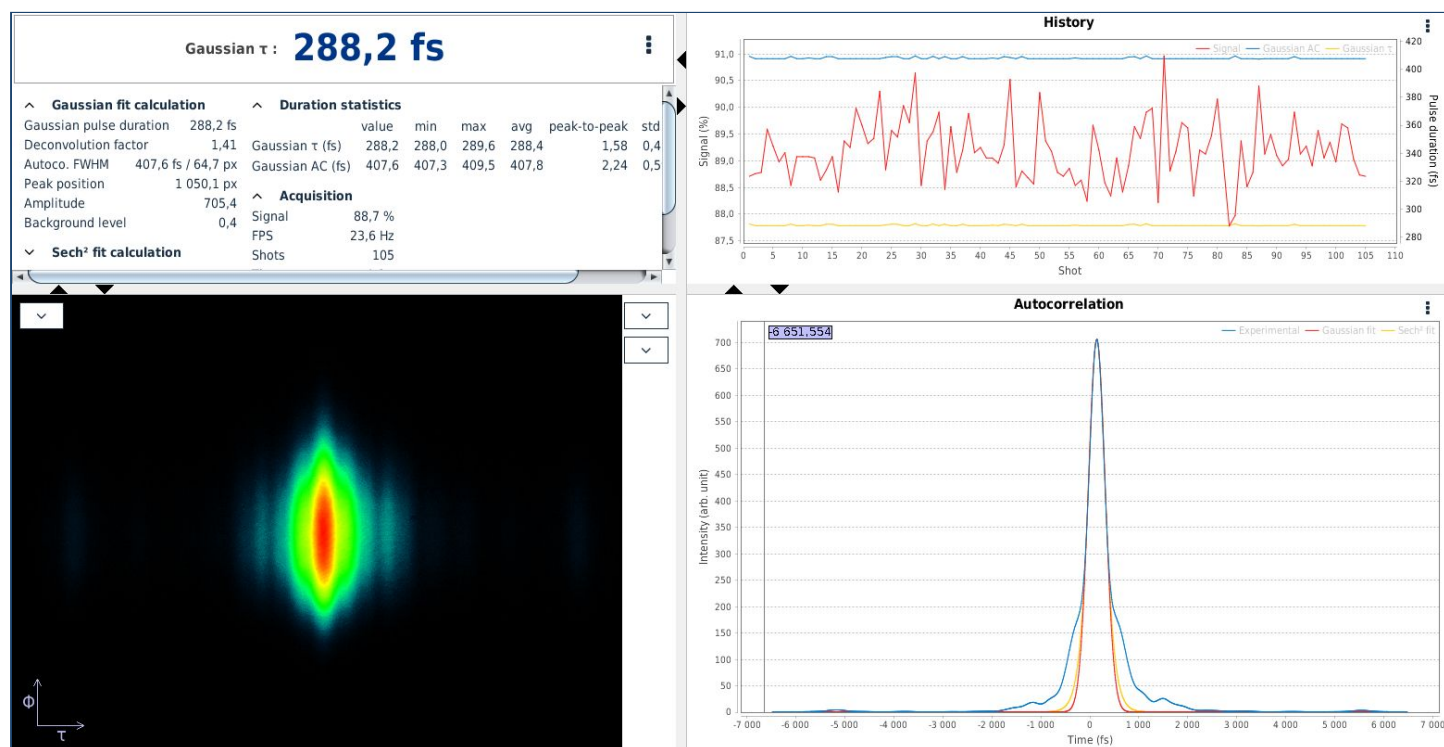
¹ Effective spectral bandwidth to be defined within the accessible spectral range according to customer's requirements.

² The measurements are averaged over several pulses for laser with repetition rate higher than 80 kHz.

³ Those values give an order of magnitude. The exact sensitivity depends on many parameters (pulse duration, beam profile, wavelength...)

Custom versions available on request. For lower power and wider pulse duration ranges, Multi-Shot scanning versions are available (MS-ROC).

 STAR Software



- ◆ Live extraction of shot to shot pulse duration
- ◆ Different calculation methods available for proper pulse estimation (Raw data FWHM, Gaussian fit, sech2...)
- ◆ 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