GECO

Scanning Autocorrelator

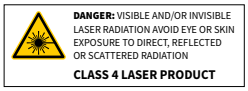
FEATURES

- Measures pulse duration in 10 fs – 20 ps range
- Single set of optics for 500 – 2000 nm range
- High-resolution voice coil driven delay line
- Non-collinear intensity and collinear interferometric autocorrelation traces
- Onboard pulse-analysis software for pulse duration measurements
- Integrated controller and computer
- Non-dispersive polarization control
- FROG ready

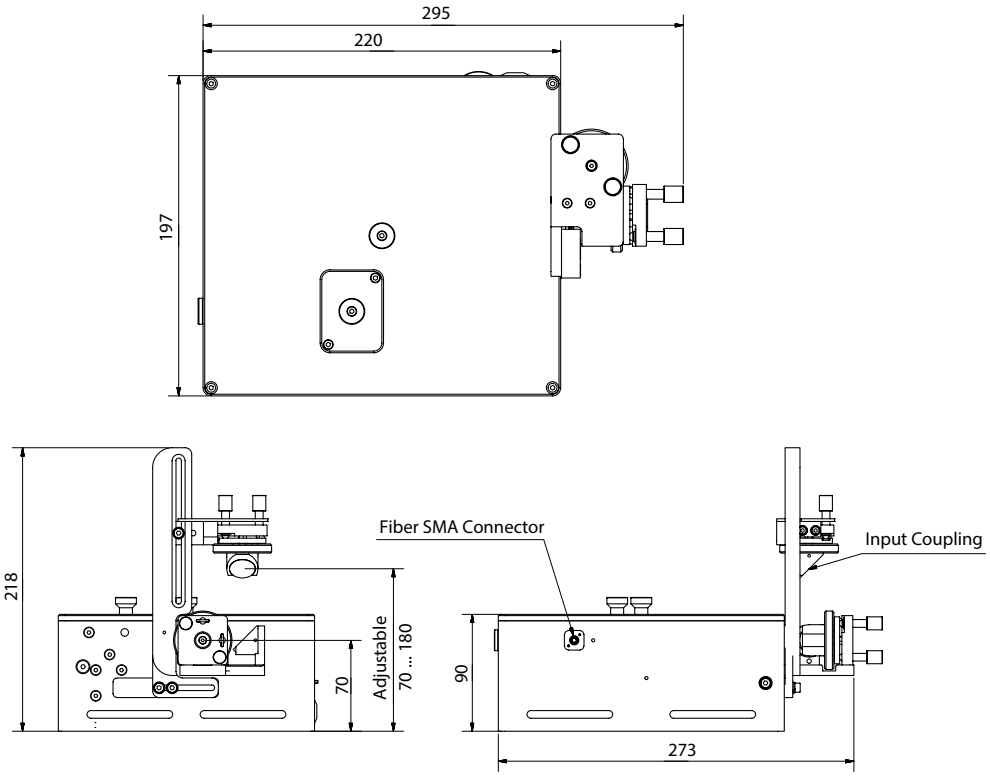
Operation of GECO autocorrelator is based on noncollinear second-harmonic generation in a nonlinear crystal, producing intensity autocorrelation trace directly related to the input beam pulse duration. One arm of the fundamental pulse is delayed by means of a magnetic linear positioning stage, providing fast, reliable motion with < 0.15 fs resolution. GECO can acquire a full intensity autocorrelation trace of 10 fs to 20 ps pulses and covers the full 500 nm to 2000 nm wavelength range. GECO features noncollinearity angle adjustment and can be simply transformed to a collinear setup, allowing the performance of interferometric autocorrelation measurements which are useful for pulses in the 10 fs range. Both arms of the autocorrelator have the same dispersion parameters for the most accurate results. GECO comes with a convenient pulse-analysis software, providing straightforward pulse duration measurements. A computer is integrated inside the autocorrelator thus communications are handled via TCP/IP protocol which ensures a simple trouble-free installation. Software and hardware are also capable of generating FROG traces, provided that an external spectrometer is connected to the fiber coupler. Software APIs are available for custom user adaptations.

SPECIFICATIONS

Input wavelength range		500 – 2000 nm
Temporal resolution		0.13 fs / step
Measurable pulse width		10 – 20000 fs
Minimum average power of radiation	Outputs from amplifiers	2 – 200 mW @ 1 – 1000 kHz
	Outputs from oscillators	>400 mW @ 75 MHz, 800 nm, ~100 fs >250 mW @ 75 MHz, 1030 nm, ~100 fs
Scan rate		5 scans/second @ 1 – 1000 kHz
Detector		Si photodiode



OUTLINE DRAWINGS



GECO drawings