

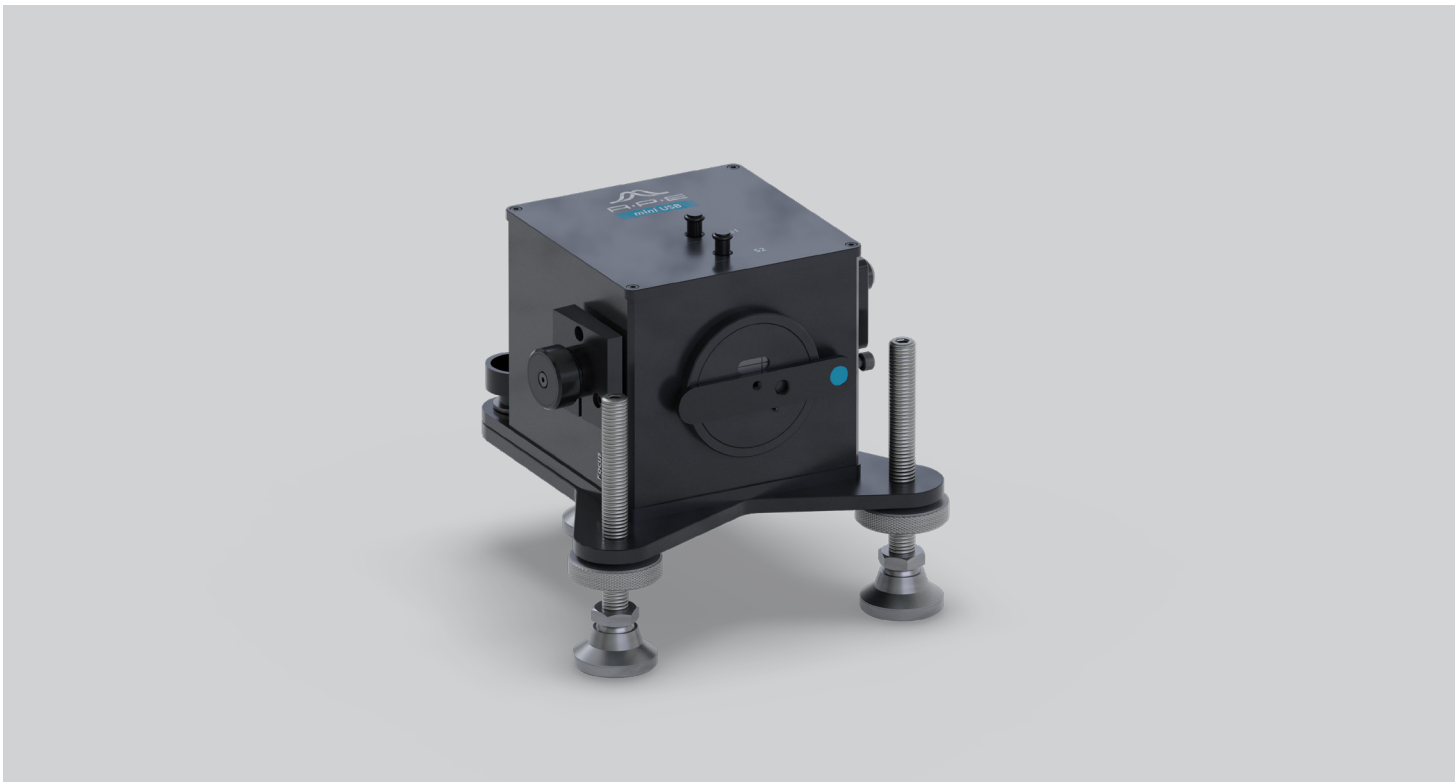
# Mini

## Compact Autocorrelator

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Compact Autocorrelator

Mini is the perfect pulse duration measurement tool in a compact size and with high sensitivity.



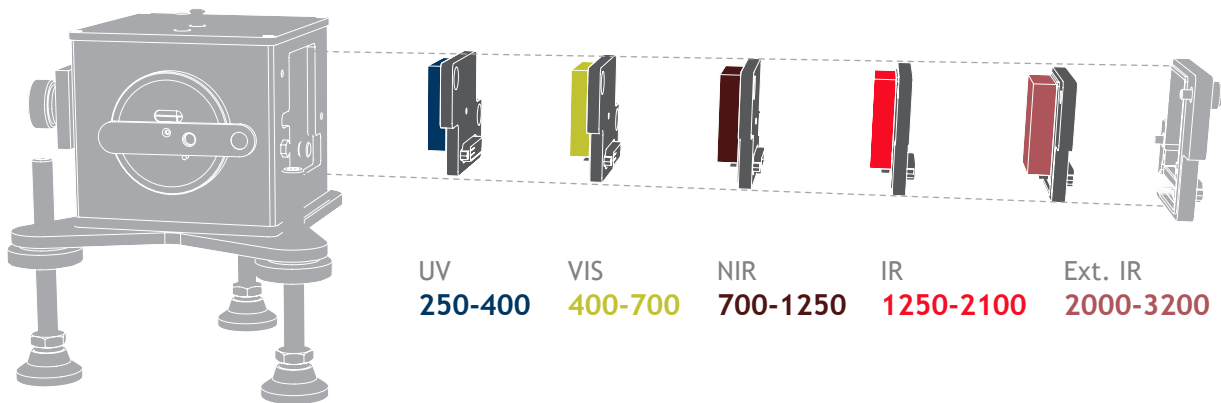
- Wavelength coverage from 250 nm to 3200 nm depending on Optics set
- Compact design for minimum space requirements and easy portability
- UV measurements without cross-correlation
- Ultra-precise delay resolution
- Interferometric and intensity autocorrelation (Mini PD) or interferometric and hybrid intensity autocorrelation (Mini TPA)
- Gaussian,  $\text{Sech}^2$ , and Lorentzian fitting routines
- Including software and USB interface
- TCP/IP remote control with standardized command set for easy programming
- NIST traceable calibration
- Stable protective carrying case

## ... Compact Autocorrelator for Routine Tasks

Two models available

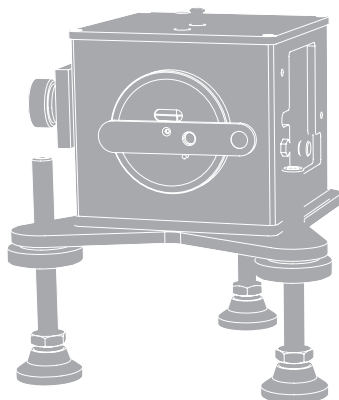
### Mini TPA - Exchangable Detectors

The APE Mini TPA benefits from the two-photon absorption principle. This eliminates the need of SHG crystal angle tuning and makes the wavelength tuning process unnecessary. Various exchangeable Optics Sets to cover a wide wavelength range are available for the Mini TPA.



### Mini PD - Detector not exchangeable

The Mini PD is available with for different wavelength ranges (pre-installed, not exchangeable). It is ideal for lasers with a fix wavelength or where the wavelength range is within one of the ranges below. Thus, the Mini PD is the most cost-effective autocorrelator.



VIS 1	VIS 2	NIR	IR
420-550	540-750	700-1200	1100-1800

### UV Range without Cross-Correlation

Together with an UV Optics Set, the Mini TPA provides pulse width measurements in the UV range, from 250 nm to 400 nm – without the need for cross-correlation. Elimination of the cross-correlation approach makes the data evaluation easier, by reducing the conventional two-step measurement process to a single-step approach.

# Mini Specifications

Specifications	Mini TPA	Mini PD
Measurable Pulse Width Range	50 fs ... 3.5 ps; Optional: down to 35 fs	50 fs ... 3.5 ps; Optional: down to 10 fs
Available Optics Sets	Exchangeable Optics sets of TPA-type	Fixed Optics set of PD-type - not exchangeable
Wavelength Range	UV 250 ... 400 nm; VIS 400 ... 700 nm; NIR 700 ... 1250 nm; IR 1250 ... 2100 nm; Ext. IR 2000 ... 3200 nm	VIS 1 420 ... 550 nm; VIS 2 540 ... 750 nm; NIR 700 ... 1200 nm; IR 1100 ... 1800 nm (Fixed range to be specified on order)
Type of Measurement Mode	Collinear intensity	Non-collinear intensity, collinear interferometric
Measurement Mode Switching	No	Yes
Sensitivity*	Depending on Optics set, typically 0.1 W <sup>2</sup> ; UV range < 500 W <sup>2</sup>	Depending on Optics set, typically 1 W <sup>2</sup>
SHG Tuning for Phase Matching	Not required	Software aided
Max Input Power	300 mW or 5 μJ (whichever results in lower value)	1 W (e.g. oscillator with a rep. rate of approx. 70 MHz) or 10 μJ (e.g. amplified systems)
Recommended Repetition Rate	> 300 Hz; For UV only: upper limit 2 MHz	> 300 Hz

## Further Specifications

Input Polarization	Linear horizontal, vertical available as option
Input Aperture	6 mm (free-space)
Input Beam Coupling	Free-space; Optional: fiber coupling FC/PC, FC/APC, SMA
Beam Input Height	86 ... 150 mm; Optional 50 mm
Software	Included; Real-time display of pulse width and different fitting routines
Fitting Routine	Gaussian, Sech <sup>2</sup> , Lorentz
Connection	USB
Remote Control	Possible via TCP/IP (SCPI command set)
Calibration	NIST traceable calibration certificate included

## Options

- Various Optics Sets
- Short pulse option
- Fiber coupling
- Input polarization rotator

## Dimensions and Power

Dimensions	160 x 220 (or 140**) x 155 mm (W/H/L) See appendix for technical drawings
Power	95 ... 240 V, 50 ... 60 Hz, 60 W

\* Measured sensitivity including Optics Set is defined as average power times peak power of the incident pulses  $P_{AV} * P_{peak}$

\*\* Optional for 50 mm input beam height

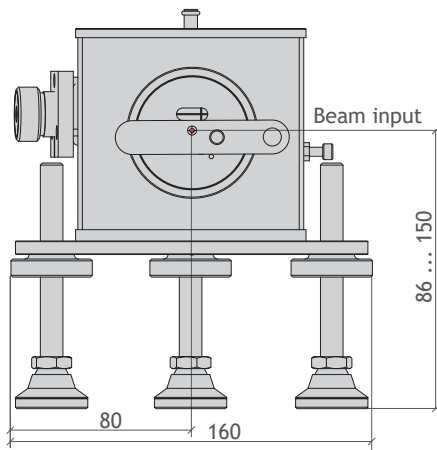
# Appendix Technical Drawings

All Dimensions in mm

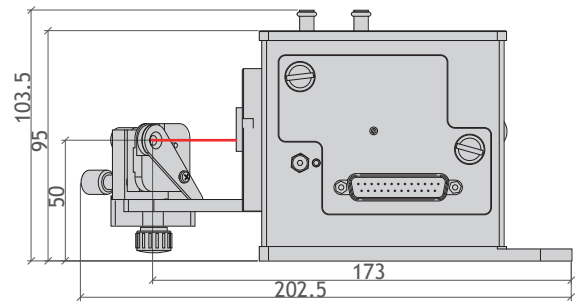
## Mini

- Compact autocorrelator

Standard Version



Optional Reduced Beam Input Height Version



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