

# Mini PD Autocorrelator for Routine Tasks

## Autocorrelator for Routine Tasks

- The Mini PD by APE is the perfect combination of compact size and a single wavelength range.



- Available in various models, each covering a different wavelength range
- Compact design for minimum space requirements and maximum portability
- Switching between interferometric and intensity autocorrelation
- Ultra-precise delay resolution
- Software-aided phase matching
- Gaussian, Sech<sup>2</sup>, and Lorentzian fitting routines
- Including software and USB interface
- TCP/IP with standardized command set for easy programming
- NIST traceable calibration
- Aluminium carrying case

## ... Autocorrelator for Routine Tasks

### Different Models for Different Wavelengths

- The Mini PD is available in a selection of models, each of which covers a different wavelength range, and is ideal for routine tasks where a change in Optics Sets is not necessary.

### Compact Design

- With its compact footprint of only 160 x 220 x 155 mm, the Mini PD is perfect for working environments where space is limited. When it is needed elsewhere, simply place this portable unit in the lightweight aluminum case provided, for easy and safe transportation to the next site.

### Switching Between Collinear and Non-Collinear Mode

- The Mini PD supports quick and easy switching between collinear and non-collinear measurement modes. While collinear mode provides pulse width measurement with additional qualitative information about the chirp, non-collinear mode gives background-free autocorrelation with a high dynamic range.



*View of alignment window in collinear and non-collinear mode.*

# Mini PD Specifications

## Specifications

Measurable Pulse Width	50 fs ... 3.5 ps; Optional: down to 10 fs
Wavelength Versions	VIS 1 420 ... 550 nm; VIS 2 540 ... 750 nm; NIR 700 ... 1200 nm; IR 1100 ... 1800 nm
Optics Sets	Not exchangeable
Detector	PD
Delay Resolution	< 0.001 % of scan range
Delay Linearity	< 1 %
Sensitivity	Typically 1 W <sup>2</sup> *
Recommended Repetition Rate	> 300 Hz
Type of Measurement Mode	Non-collinear intensity, collinear interferometric
Mode Switching	Yes
SHG Tuning for Phase Matching	Software aided
Trigger Mode	300 Hz ... 50 kHz
Input Polarization	Linear horizontal, vertical available as option
Max. Input Power	1 W (e.g. oscillator with a rep. rate of approx. 70 MHz) or 10 μJ (e.g. amplified system with rep. rates in the kHz range), whichever results in lower value
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 central wavelength, 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

- Short pulse option
- Input polarization rotator
- Fiber coupling
- Reduced beam input height

## Dimensions and Power

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

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

\*\* Optional for 50 mm input beam height