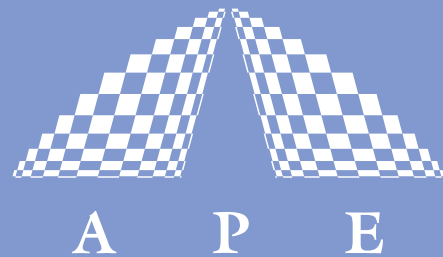


**NEW!**

# SCANDELAY USB



## OPTICAL DELAY LINE SERIES



New USB Driver



Optical Unit

**ScanDelay** is a device for a defined linear translation and positioning of optical elements, e.g. in interferometers, pump and probe configurations, correlators or fast scan modules.

The heart of the APE optical delay line series **ScanDelay** is a special linear translation stage that is supplied together with an appropriate control and drive electronics. The linear drive has been designed especially for optical applications. It combines low moving mass with compactness reaching high precision and resolution. Because of spring bearings the movement is frictionless. The linear drive can be described almost perfectly by a damped harmonic oscillator allowing precise predictions of the scanner movement and leading to an excellent scan-to-scan reproducibility.

Thus, **ScanDelay** is capable of generating fast wide scans as well as smallest delays without any stick-slip effects. The actual position is measured in realtime by an analog photoelectrical system with high resolution and wide dynamic range.

The control electronics contains the motor driver and a quartz stabilized signal syntheser. It can be synchronized with an external clock for a precise, phase-locked scanner movement. A software user interface allows easy control and setup of the scanner, a set of LabView drivers allows an easy integration into existing measurement software. The **ScanDelay** can be operated in fast and slow scan movements with various scan modi, the motor driving force can be sinusoidal, triangular, sawtooth-like or even of a user defined shape.

The scanner movement will respond to this within the physical limitations imposed by a harmonic system.

Control software / LabView driver

User defined delay patterns

Scan phase-locked to external source

Linear and calibrated scaling due to position measurement

Ultrafast Pulse Diagnostics

Wavelength Conversion

Pulse Management

Acoustooptics

**Your Partner in Ultrafast**

# SCANDELAY

## USB

### SPECIFICATIONS

Version	15	50	150
Max. scan range	15 ps ( $\pm 1.125$ mm)	50 ps ( $\pm 3.75$ mm)	150 ps ( $\pm 11.25$ mm)
Scan modes			
Internal generator	0.1 ... 20 Hz	0.1 ... 20 Hz	0.1 ... 10 Hz
Externally triggered	0.01 ... 20 Hz	0.01 ... 20 Hz	0.01 ... 10 Hz
External trigger input	TTL, 20 Hz ... < 50 kHz (fast frequency divider for ~ 80 MHz input optional)		
Trigger output (programmable position)	TTL		
Position output signal	$\pm 10$ V / 15 ps <sup>1)</sup>	$\pm 10$ V / 50 ps <sup>1)</sup>	$\pm 10$ V / 150 ps <sup>1)</sup>
Linearity of position signal	better < 0.5 %		
Interface	USB		

1) \*10, \*100 switchable

### OPTICS (high precision retroreflector)

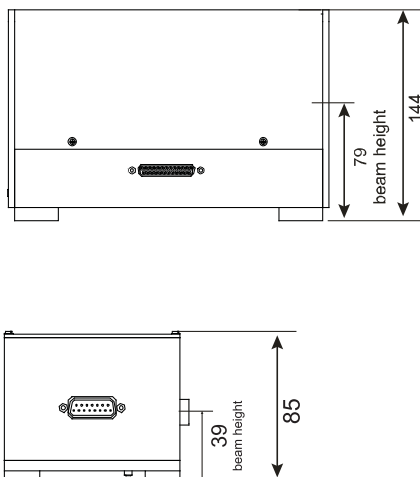
Clear aperture	1"	1/2"	1/2"
Coating	protected Ag (other coatings on request)		

### DIMENSIONS (in mm)

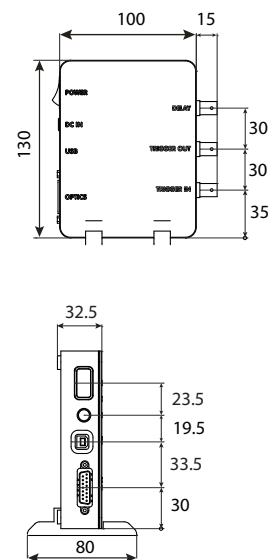
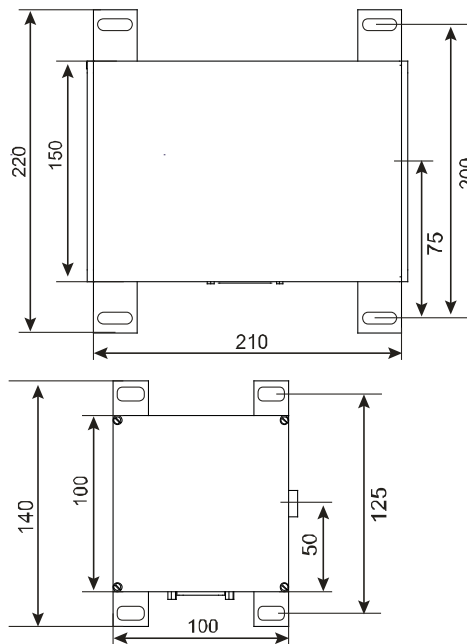
#### Optical unit

#### Control electronics

ScanDelay 15/50



ScanDelay 150



#### Distributors

see APE website [www.ape-berlin.com](http://www.ape-berlin.com)

APE GmbH Plauener Straße 163-165 Haus N / 13053 Berlin Germany  
Phone +49.30.986.01130 Fax +49.30.986.011333 / Web [www.ape-berlin.com](http://www.ape-berlin.com) Email [ape@ape-berlin.de](mailto:ape@ape-berlin.de)

APE follows a policy of continued product improvement. Therefore, specifications are subject to change without notice.