

STREAK CAMERA SWEEP UNIT

TSU21-10

Triggered Sweep Unit



- Fast orthogonal sweep for SC-10 main unit
- 660 ps/mm to 100 ns/mm sweep speed
- 0 to 10 kHz trigger frequency
- High sweep speed linearity

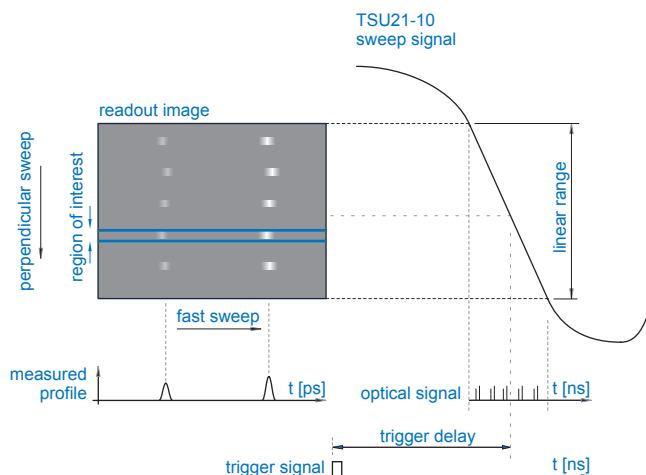
Sweep Unit TSU21-10

Optronis

Make time visible

The TSU21-10 sweep unit is used with the OptoScope SC-10 main unit to provide orthogonal deflection. The sweep unit drives the second deflection plates.

Typically, first deflection plates are driven by fast synchroscan sweep unit. This results in double sweep measurements with fast sweep on the X-axis (synchroscan) of the readout image and a slow sweep (TSU21-10) on the Y-axis. Instead of using the full length input slit either part of the length or only a point source is used.



The TSU21-10 can be used in single-shot mode to capture optical signals individually. The image capture of the readout camera is synchronized to each signal. Individually captured frames can be processed by using jitter correction techniques to improve the temporal resolution. This technique provides good results even with light sources showing large jitter.

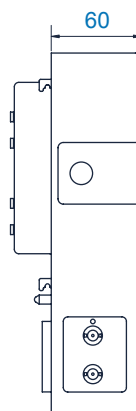
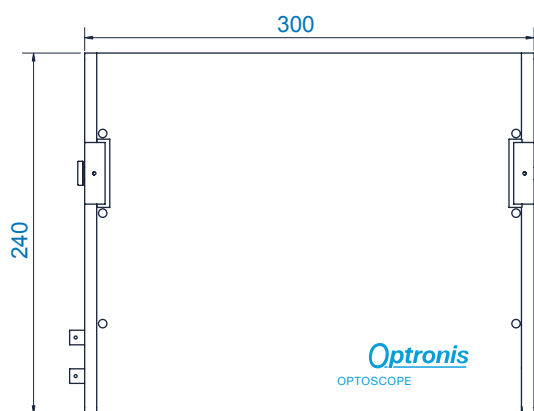
At high trigger frequencies, many optical events are accumulated on the screen of the streak camera before the screen image is captured by the readout camera. This mode provides high system sensitivity and improved signal to noise ratio.

SPECIFICATIONS

Temporal resolution (single-shot)	70 ps (typ. FWHM)
Temporal jitter	<100 ps (rms)
Sweep frequency	0 to 10 kHz
Sweep speed accuracy	±5% (mean over 10 mm)
Sweep speed non-linearity	±2.5% typ. / ±5% max. (15 mm)
Operation modes	Sweep / Focus
Trigger signal input	>+2 V (Trise <20 ns, Tpw >50 ns)
Trigger signal input connection	BNC / 50 Ω
Trigger signal output	+2 V (typ. Tpw = time base)
Trigger signal output connection	BNC / 50 Ω
Temperature	0 - 35°C (op.) / -5 - +45°C (stor.)
Humidity	20 - 80% rel. non-condensing
Altitude	sea level up to 3000 m
Weight	2.5 kg (typ.)

TSU21-10

Sweep speed	Time base	Trigger delay (typ.)
660 ps/mm	9.9 ns	40 ns
1 ns/mm	15 ns	75 ns
2.5 ns/mm	37.5 ns	120 ns
5 ns/mm	75 ns	200 ns
10 ns/mm	150 ns	400 ns
25 ns/mm	375 ns	1 μs
50 ns/mm	750 ns	2 μs
100 ns/mm	1.5 μs	4 μs



All Dimensions in mm

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