

STREAK CAMERA SWEEP UNIT

TSU11-10

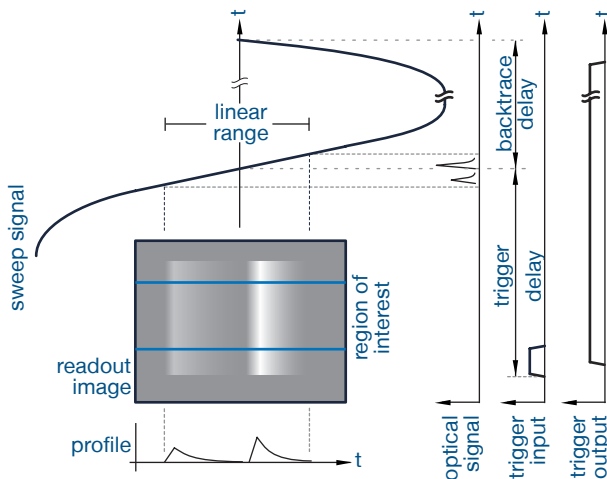
Triggered Sweep Unit



- Fast sweep speeds
- <2 ps temporal resolution (single-shot)
- <5 ps temporal resolution (repetitive)
- 0 - 2.5 kHz trigger frequency
- 200 ps up to 20 ns time base
- High sweep speed linearity

Sweep Unit TSU11-10

The TSU11-10 sweep unit is used with the OptoScope main unit SC-10. Fast sweep speeds can be selected to provide high temporal system resolution. The sweep unit is operated at low and medium sweep frequency either in single-shot or repetitive mode. A very low temporal jitter allows perfect synchronization and therefore good temporal resolution in repetitive mode.



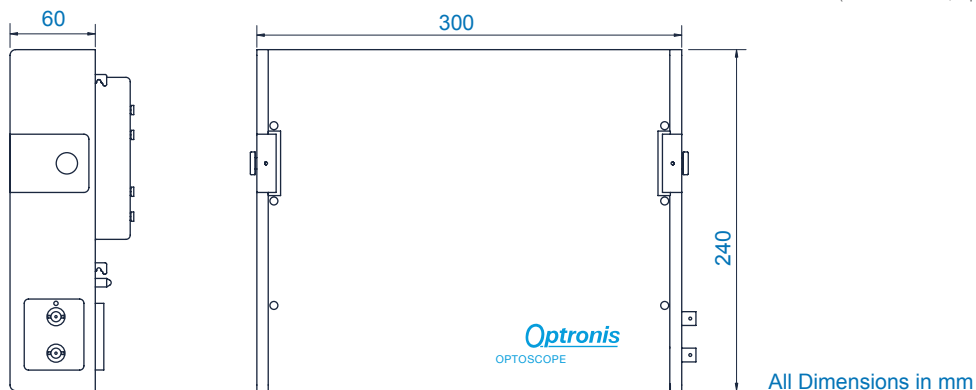
DESCRIPTION

The rising edge of the trigger signal starts a very linear sweep with low temporal jitter. The image of the slit is swept over the screen. It appears in the middle after the trigger delay time. Once the linear sweep is completed, the backtrace starts and the slit image returns to its initial position.

In single-shot mode trigger frequency is low and each sweep can be captured individually by the readout system. Ultimate temporal resolution is obtained in this mode. Jitter correction software technique allows to superimposing single traces and to enhance signal to noise ratio without sacrificing temporal resolution.

Alternatively, the unit can be triggered at high frequency to superimpose a large number of sweeps during the integration time of the readout system. In this repetitive mode the system sensitivity and dynamics is increased while the low trigger jitter still allows measurements with high temporal resolution.

The TSU11-10 is available with options for low speed (/S1) and adjustable trigger level (/AL).



CONTACT INFORMATION

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SPECIFICATIONS

Temporal resolution (single-shot)	<2 ps (FWHM)
Temporal resolution (repetitive)	<5 ps (FWHM)
Temporal jitter	<2 ps (rms)
Sweep speeds (no. 7)	10 ps/mm to 1 ns/mm
Time base (no. 7)	200 ps to 20 ns
Sweep frequency	0 to 2.5 kHz
Trigger delay	13 ns to 120 ns
Backtrace delay	>1 μ s
Sweep speed accuracy	\pm 5% (mean over 16 mm)
Sweep speed non-linearity	\pm 5% (over 20 mm)
Operation modes	Sweep / Focus
Trigger signal input	>+2 V (Trise <100ns, Tpw >10ns)
Trigger signal input connection	BNC / 50 Ω
Trigger signal output	+2 V (typ. Tpw =150 μ s)
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	3.0 kg (typ.)

OPTIONS

TSU11-10/S1

Sweep speeds (no. 7)	25 ps/mm to 2.5 ns/mm
Sweep speed accuracy	\pm 5% (25 ps/mm to 1 ns/mm) \pm 20% (2.5 ns/mm)
Sweep speed non-linearity	\pm 5% (25 ps/mm to 1 ns/mm) \pm 20% (2.5 ns/mm)

TSU11-10/AL

Trigger signal input	+2 V to +10 V adjustable (Trise <100ns, Tpw >10ns)
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