

STREAK CAMERA SWEEP UNIT

# TSU12-10

## Triggered Sweep Unit



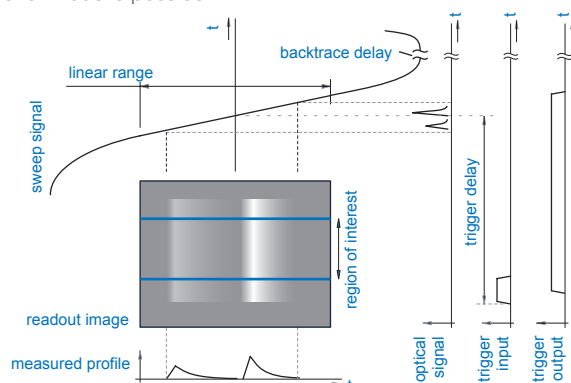
- Slow sweep speeds
- 20 ps temporal resolution (single-shot)
- 30 ps temporal resolution (repetitive)
- 0 - 4 MHz trigger frequency
- 5 ns up to 100 ms time base
- High sweep speed linearity

# Sweep Unit TSU12-10

**Optronis**

Make time visible

The TSU12-10 is used with the OptoScope main unit SC-10 to provide moderate and slow sweep speeds. High trigger frequency allows to operate the system with high sensitivity and dynamics. Triggered sweep operation in single-shot mode is possible.



## DESCRIPTION

The trigger signal starts a very linear sweep. The image of the slit appears in the middle of the screen after the trigger delay time. Once the linear sweep is completed, the backtrace starts and the slit image returns to its initial position. The TSU12-10 is available with options for delayed backtrace (/PG) and in combination with short trigger delay (/PG/SD). Option /PG is recommended when used with SC-10/PB.

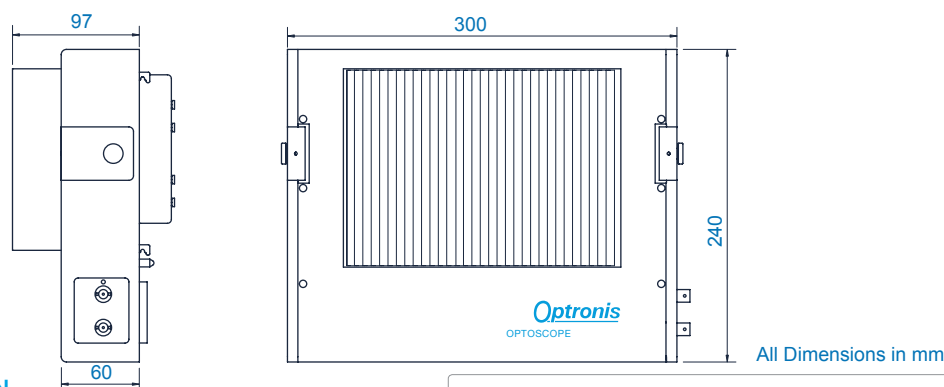
Sweep speed	Time base	Trig. delay typ.	Trig. delay /PG/SD typ.	Trig. freq. max.	Trig. freq. /PG max.
250 ps/mm	5 ns	65 ns	n.a.	4 MHz	100 kHz
500 ps/mm	10 ns	85 ns	n.a.	3 MHz	100 kHz
1 ns/mm	20 ns	110 ns	55 ns	2 MHz	100 kHz
2.5 ns/mm	50 ns	180 ns	90 ns	1.5 MHz	100 kHz
5 ns/mm	100 ns	300 ns	120 ns	1 MHz	100 kHz
10 ns/mm	200 ns	700 ns	300 ns	250 kHz	75 kHz
25 ns/mm	500 ns	1.5 µs	500 ns	150 kHz	75 kHz
50 ns/mm	1 µs	3 µs	1 µs	75 kHz	75 kHz
100 ns/mm	2 µs	5 µs	1.5 µs	75 kHz	50 kHz
250 ns/mm	5 µs	15 µs	3.5 µs	30 kHz	30 kHz
500 ns/mm	10 µs	25 µs	7 µs	15 kHz	15 kHz
1 µs/mm	20 µs	50 µs	15 µs	7 kHz	7 kHz
2.5 µs/mm	50 µs	120 µs	30 µs	3 kHz	3 kHz
5 µs/mm	100 µs	250 µs	60 µs	1.5 kHz	1.5 kHz
10 µs/mm	200 µs	500 µs	120 µs	750 Hz	750 Hz
25 µs/mm	500 µs	1.2 ms	300 µs	300 Hz	300 Hz
50 µs/mm	1 ms	2.5 ms	600 µs	150 Hz	150 Hz
100 µs/mm	2 ms	5 ms	1.2 ms	75 Hz	75 Hz
250 µs/mm	5 ms	12 ms	3 ms	30 Hz	30 Hz
500 µs/mm	10 ms	25 ms	5 ms	15 Hz	15 Hz
1 ms/mm	20 ms	50 ms	12 ms	7.5 Hz	7.5 Hz
2.5 ms/mm	50 ms	120 ms	30 ms	3 Hz	3 Hz
5 ms/mm	100 ms	250 ms	60 ms	1.5 Hz	1.5 Hz

## SPECIFICATIONS

Temporal resolution (single-shot)	< 25 ps / 20 ps typ. (FWHM)
Temporal resolution (repetitive)	<30 ps / 25 ps typ. (FWHM)
Temporal jitter	<8 ps / 6 ps typ. (rms)
Sweep speed accuracy	±5% (mean value over 16 mm)
Sweep speed non-linearity	±2.5% typ. / ±5% max. (20 mm)
Operation modes	Sweep / Focus
Trigger signal input	>+2 V (Trise <100ns, Tpw >50ns)
Trigger signal connection	BNC / 50 Ω
Trigger signal output	+2 V (typ. Tpw =150 µs)
Temperature	0 - 35°C (op.) / -5 - +45°C (stor.)
Humidity	20 - 80% rel. non-condensing
Altitude	sea level up to 3000 m
Weight	5.2 kg

## /SD OPTION

Sweep speed	1 ns/mm - 5 ms/mm
Temporal resolution (single-shot)	< 100 ps / 80 ps typ. (FWHM)
Sweep speed non-linearity	-50% / +10% (1 - 25 ns/mm) <10% (50 ns/mm - 5 ms/mm)



## CONTACT INFORMATION

Optronis GmbH  
Ludwigstraße 2  
77694 Kehl  
Germany

Phone: +49 7851 91 26 - 0  
Fax: +49 7851 91 26 - 10  
info@optronis.com  
www.optronis.com