

# record speed.

for in-line measurements

## TeraFlash smart

Time-domain terahertz

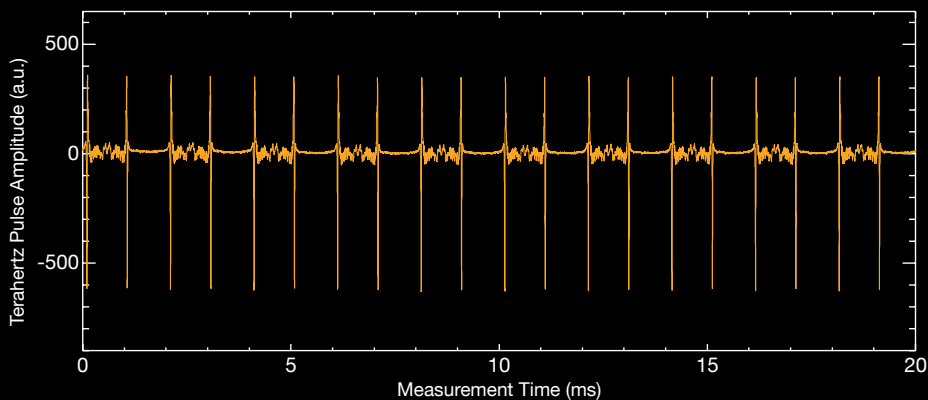
platform for industrial use



- Up to 1600 pulse traces/s
- Robust system ready for industrial use

## Thickness gauging

## In-line measurements



Convince yourself  
and apply for your  
own free live demo!



[www.toptica.com/record-speed](http://www.toptica.com/record-speed)

# TeraFlash smart



Class 1 Laser Product EN 60825-1:2014.  
Invisible laser radiation.  
Avoid direct exposure to beam.

Specifications*	
Components	2 synchronized femtosecond lasers SM/PM fiber delivery Electronic delay 2 InGaAs photoconductive switches Electronics for data acquisition
Laser wavelength	1560 nm
Laser pulse width	typ. 80 fs
Laser repetition rate	80 MHz
External fiber length	10.8 m
Terahertz emitter	PCA-TD-030-TX-1: InGaAs/InP photoconductive switch with 25 $\mu$ m strip-line antenna, 0.3 m fiber pigtail
Terahertz receiver	PCA-TD-030-RX-1: InGaAs/InP photoconductive switch with 25 $\mu$ m dipole antenna, 10 $\mu$ m gap, 0.3 m fiber pigtail, integrated preamplifier
Antenna package	Cylindrical, 25 mm, integrated Si lens and SM/PM fiber pigtail
Scan range	150 ps / 300 ps / 700 ps
Scan speed	1600 traces/s (150 ps) 800 traces/s (300 ps) 200 traces/s (700 ps)
Spectral range	0.1 – 4.5 THz, in < 1 s
Average terahertz power	typ. 30 $\mu$ W
Time-domain dynamic range	typ. > 50 dB in < 1 ms 80 dB in 1 s
Spectral peak dynamic range	typ. 35 dB in < 1 ms > 60 dB in 1 sec
Useable terahertz path length	10 – 180 cm, adjustable via software (electronic phase shift)
Frequency resolution @ max. scan range	< 1.5 GHz
Computer interface	Ethernet and USB, Data streaming via USB
Computer software	LabView-based GUI, included
Size (H x W x D)	200 x 450 x 440 mm <sup>3</sup>
System weight	20 kg
Operating voltage	24 V DC, power supply included
Accessories	Transmission optomechanics, Reflection head

\*) Subject to change without notice