

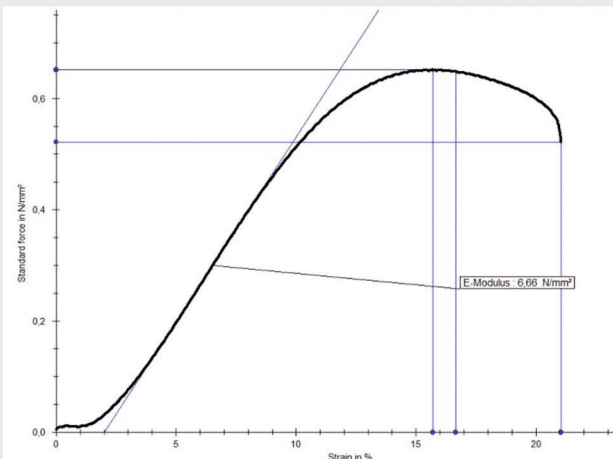
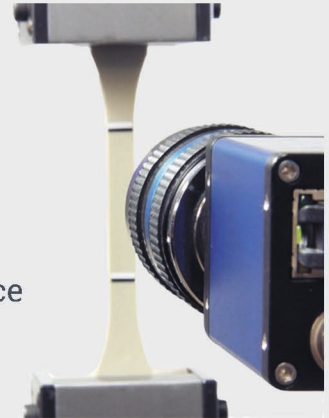
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RTSS | Videoextensometer

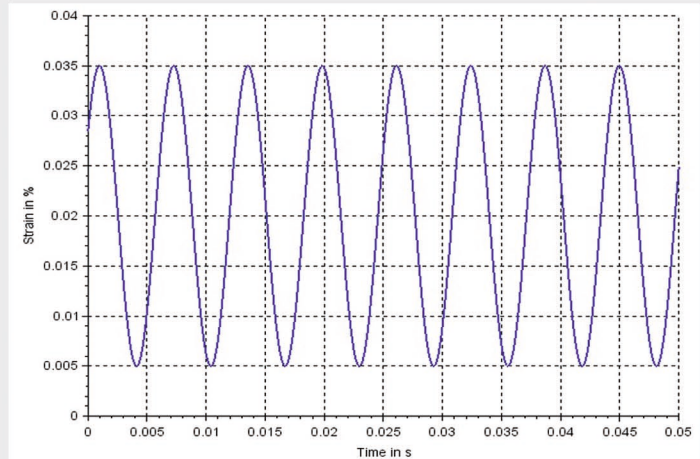
contactless strain sensor for material testing

RTSS (Real Time Strain Sensor)

is a optical measurement system based on a digital camera and real time image processing. It measures the longitudinal and transversal strain between two applied lines with a rate of up to 1000 Hz. The strain data is transferred e.g. via an analogue signal or digital interface to the tensile test machines for further processing or controlling.



Tensile Test: Determination of Young's modulus



**Fatigue testing up to 1KHz
Load frequency**

Area of application

- Tensile and compression tests, measurement of material properties, true strain controlled tensile tests, investigation of strain behavior on dynamic tensile tests, cyclical/periodic tests, and dynamic high speed tests, vibration analysis, Young's modulus, resonance pulsators, fatigue tests
- Gauge length / flexible field of view from a few millimeters to some meters

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Advantages

- Contact less and camera based
- Can be used on all materials
- Small and large field of view with one system
- Strains from 0,0001% (1µm/m) up to more than 1000%
- Suitable for all test machines
- No influence of the specimen
- Capture of the breaking strain
- Optional image recording
- Expandable to full field measurement with digital image correlation DIC

Product Variants

RTSS_HR (high resolution)

- For quasistatic tensile test with high measurement accuracy

RTSS_HS (high speed)

- For dynamic applications with up to 1KHz measurement rate; e.g hydropulser, shaker, fatigue tests

Multi-Camera-System

- Simultaneous measurement of different specimen sides
- Small and large FOV for accurate Young's modulus and full stress-strain-curve
- System to resolve small strains Resolution: 1µstrain

Technical Specifications	Standard Versions	HS Version
Strain Resolution	0,002% strain	0,004% strain
Distance Resolution	1µm @ 100mm FOW	1µm @100mm FOW
Precision Class (ISO9513)	class 1/0,5/0,2	class 1
Measurement Rate	70Hz	1000Hz
Analogue Output	+/- 10V; 16 bit	+/- 10V; 16 bit
Strain Range	0,002% -1000%	0,002% - 500%
Camera Resolution	2.0 to 12 MPixel	2.0 MPixel



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