

Product Information

lightXtens: non-contact, simple, fully automatic extensometer for high-extension materials

CTA: 147684 44080



lightXtens

Applications

lightXtens is a non-contact extensometer for standardized testing situations. It is extremely easy to operate, with a fully automatic test sequence.

Typical applications:

- tensile test on highly ductile, highly elastic materials: rubber and elastomers (e.g., to ISO 37, ASTM D412, DIN 53504), natural rubber (latex), film (e.g., ISO 527-3, ASTM D882, ASTM D5323), textiles (especially ropes, belts, industrial textiles).
- Tensile tests on specimens with large initial gage-length, e.g. wire ropes, litz wire.
- Specimens with high fracture energy and prone to whipping at break, which might damage mechanical, contact-type measuring systems.

Advantages and features

Robust, resistant, reliable

lightXtens is a robust and highly reliable system, even in harsh environments. It is resistant to external influences such as light variations, extraneous light and air currents. lightXtens is also wear-free in operation.

Use in an extended temperature range



lightXtens, marked specimen

lightXtens is also suitable for use in an extended temperature range in conjunction with temperature chambers - no special set-up procedure is required for lightXtens.

Non-contact, simple, fully automatic

The lightXtens extensometer measures without making contact. It is extremely easy to operate and requires no special knowledge. There is no need to adjust or configure the lenses. The test sequence is completely automatic:

- Automatic determination of initial gauge-length, with transmission to the testXpert testing software
- reliable, automatic identification of gage marks
- Tracking of gauge marks and transmission of all data to the testXpert testing software
- return to start position.

Specimens are marked beforehand with dots or strips made of a special film. Various marking systems are available for this purpose. The force-displacement acquisition is synchronized.

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Technical data

lightXtens 2-1000 can be mounted on an AllroundLine materials testing machine, (not for zwickiLine)

ProLine lightXtens 2-1000 can be mounted on a ProLine materials testing machine, (not for zwickiLine)

Type Item No.	lightXtens 2-1000 1074413	ProLine lightXtens 2-1000 1074415	
Initial gauge length L_0	10 ... 900	10 ... 900	mm
Measurement travel	1000	1000	mm - L_0
Resolution	1.5	3	μm
Accuracy to EN ISO 9513	Class 1 from 3	Class 1 from 3	mm
Positioning speed	1800	1800	mm/min
Tracking speed, max.	1000	1000	mm/min
Measurement carriage optical range in horizontal and vertical directions	$\leq \pm 3$	$\leq \pm 3$	mm
Distance carriages - specimen	500 ± 5		mm
Power input specifications			
Power supply	100 ... 240	100 ... 240	V, 1Ph/N/PE
Permissible voltage fluctuation	± 10	± 10	%
Power consumption (full load), approx.	70	70	W
Power frequency	50/60	50/60	Hz
Ambient temperature	-40 ... +120	+10 ... +35	$^{\circ}\text{C}$
Weight, approx.	43	43	kg
Minimum version		testXpert II V3.61 or testXpert III	
Distance, carriage - specimen		500 ± 5	

Automatic correction of gauge length L_0 on reaching pre-load

Direct connection via the test Control II electronics EtherCAT interface No additional modules or module bus slots required

Accessories required

Mounting lightXtens on the testing system: overview

Description	ArticleNumber
lightXtens mounted front left, 45°, on an AllroundLine testing system	031213
lightXtens mounted front left, 20°, on an AllroundLine table-top testing system	034909
lightXtens mounted rear left, 45°, on an AllroundLine testing system (required when using a protective screen or temperature chamber)	031214

Mounting ProLine lightXtens on the testing system: overview

Description	ArticleNumber
ProLine lightXtens mounted front left, 20°, on a ProLine testing system	086058
ProLine lightXtens mounted rear left, 45°, on a ProLine testing system, Z005 to Z050 (required when using a protective screen)	087406

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Optional accessories

Recommended

Description	ArticleNumber
Display-equipped remote control for testControl II, particularly recommended in the event of frequent reconfigurations	057984

Specimen marking

Description	ArticleNumber
Automatic marking device Accurate, automatic specimen marking with reflective tape marks for tests with lightXtens. Automatic operation: at the push of a button the marks are punched and applied to the specimen. For gauge lengths Le 10 to 50 mm. Scope of delivery: 1 roll of reflective tape, width 8 mm, Specimen stencil for S1, S2, S3 and S3A-specimen according to DIN 53504, as well as 1B-specimen according to ISO 527	1041360
Specimen stencil, additional stencil for marking gauge lengths 50 to 100 mm (for Item No. 1041360)	311650
Roll of reflective tape, width 8 mm	1039446

Description	ArticleNumber
Manual marking device Simple, accurate marking of standard specimens with reflective tape marks, operation via manual punch lever, no power supply required. - incl. 1 roll reflective tape, width 8 mm - specimen stencil not included (required)	1054507
Specimen stencil type 1 and S1, for marking Type 1 according to ISO 37 and S1 according to DIN 53504. For marking device	1015550
Specimen stencil type 2 and S2, for marking Type 2 according to ISO 37 and S2 according to DIN 53504. For marking device	1015551
Specimen stencil type 4 and S3, for marking Type 4 according to ISO 37 and S3 according to DIN 53504. For marking device	1015552
Specimen stencil type 3 and S3a, for marking Type 3 according to ISO 37 and S3a according to DIN 53504. For marking device	1015554
Specimen stencil 1B, for marking Type 1B specimens to ISO 527. For marking device (Item No. 1054507)	1015556
Roll of reflective tape, width 8 mm	1039446

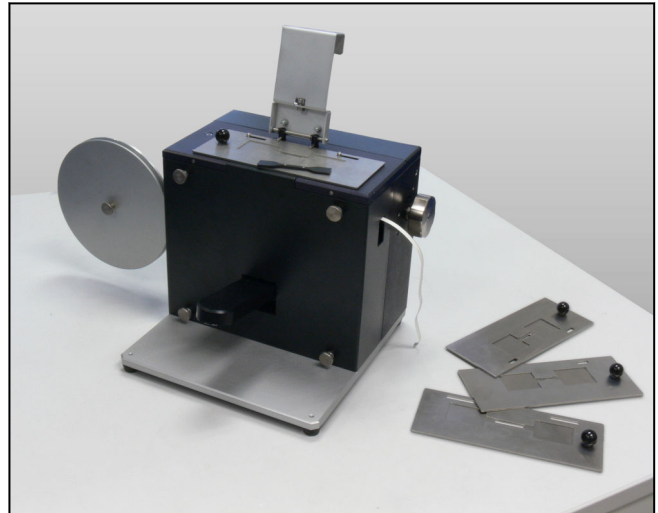
Product Information

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CTA: 44410 73193



Automatic marking device, additional stencil for marking gauge lengths 50 to 100 mm



Manual marking device

Description	ArticleNumber
Strip gauge marks 1 sheet containing 150 self-adhesive marking strips made of special film, for tests with lightXens For use with specimen twisting during the test, for example ropes and wire strands.	1010355