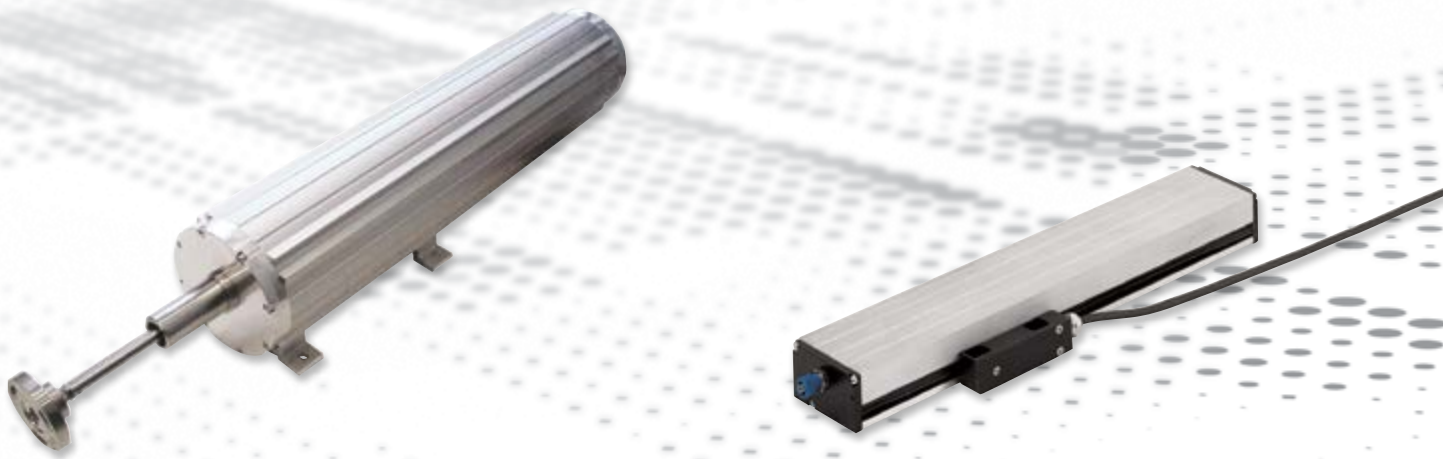


Linear Encoders

Glass Scale / Transformation



Glass Scale/Transformation



High-resolution absolute position sensors with glass scale

The TR measurement systems of the LT product family work on the principle of photoelectric scanning of an absolute coded glass scale. A sensor array scans several tracks that contain high resolution measurement information on the 3D coordinates and angular position between the glass scale and the scanning unit.

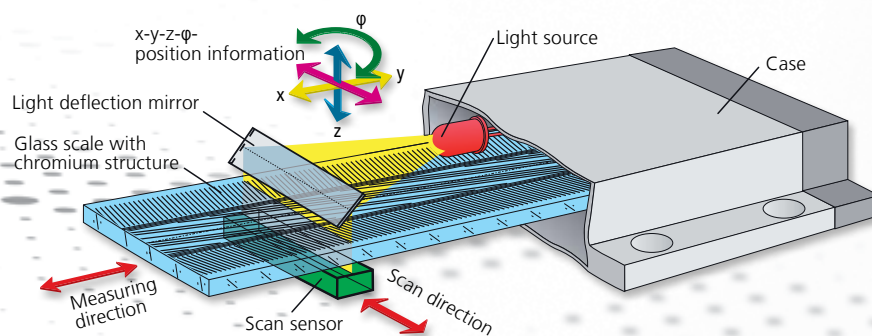
Evaluating the measurement signals, the coded measurement position is determined by the sensor signal and thanks to the additional measurement information, guidance and adjustment errors are completely corrected.

With a smallest measurement step of 0.1 μm our transformation measurement systems are especially suitable for applica-

tions with high demands on resolution and accuracy.

Due to their robust construction, they find their application even in machines with strong vibrations. With absolute detection, no more referencing is necessary – even when using only the incremental interface, controls can benefit from the virtual referencing.

On request, the measurement system sends a number of incremental signals that represent the absolute position value read by the sensor. The counter in the control is loaded with the absolute position information without any mechanical movement of the axis. As detection is absolute, the only limitation in travel speed is given by mechanics with approx.



10 m/s. The measurement system always provides valid measurement values.

Our measurement systems of the LT series are available in following versions:

- _ Features measuring slide, also features several sensing heads within the same system, e.g. for the positioning of several cutting blades in paper cutters.
- _ Features mechanically non-interacting measuring axis, suitable for application in running production.
- _ With special protective housing for heavy-duty applications, e.g. directly on rolling production lines.

Linear Encoders - Transformation (Glass Scale)



The rugged, absolute glass scale for precise measurement directly on your manufacturing line

High-resolution glass scales made by TR-Electronic work even in the harsh conditions of a manufacturing facility. Due to the internal absolute detection, a current absolute reading value is available shortly after power up and without any mechanical referencing. With the feature “virtual referencing”, even systems that use only the incremental track can take full advantage of absolute measurement. Different executions fit different applications.

LT-S - Measurement system with sliders, that can hold multiple sliders on one glass track. This system is mechanically compatible with incremental scales of other manufacturers.

With optional inlets for sealing air, this measurement system can be used in dusty surroundings.





LT-PI - The rugged version for normal production applications. Either as a probe sensing system or with a spring-loaded probe. This is the system for accurate measurement in your machine.

LT-RV - In extreme conditions, the protective housing of LT-RV keeps the electronics safe even with strong vibration and shock.

Slider

Touch probe

Heavy-duty touch probe

Product	LT-S	LT-PI	LT-RV
			
Mechanic execution	Slider	Encapsulated touch rod probe measurement system	Heavy-duty touch rod probe measurement system
Range	140 ... 3040 mm (steps of 100 mm)	100, 200 mm	400, 520 mm (up to 800 mm on request)
Reproducibility	< 0,2µm	< 0,2µm	< 0,2µm
Supply	24 VDC (8...30)	24 VDC (8...30)	24 VDC (8...30)
Resolution	0,1µm, 0,2µm, 0,5µm, 1µm, 2µm, 5µm, 10µm	0,1µm, 0,2µm, 0,5µm, 1µm, 2µm, 5µm, 10µm	0,1µm, 0,2µm, 0,5µm, 1µm, 2µm, 5µm, 10µm
Division incremental signal	0,4µm, 1µm, 2µm, 4µm, 10µm, 20µm, 40 µm	0,4µm, 1µm, 2µm, 4µm, 10µm, 20µm, 40 µm	0,4µm, 1µm, 2µm, 4µm, 10µm, 20µm, 40 µm
Signal level incremental	TTL, HTL	TTL, HTL	TTL, HTL
Division sin/cos	10µm, 20µm, 40µm	10µm, 20µm, 40µm	10µm, 20µm, 40µm
Ambient temperature	0°C...65°C (option -20°C...65°C)	-10 ... +60°C	0 °C...40 °C (option -10...+60°C)
Protection class	IP53	IP66	IP65
Options	Multiple sliders, sealing air	Spring loaded sensing probe	
Maximim speed	10 m/s	10 m/s	10 m/s
Orientation	Any desired	Any desired	Any desired
Interface	SSI	SSI	SSI
Option, additional interfaces (on request)	INC	INC	INC
Weblink	www.tr-electronic.de/f/TR-VLT-TI-GB-0200	www.tr-electronic.de/f/TR-VLT-TI-GB-0300	www.tr-electronic.de/f/TR-VLT-TI-GB-0400
QR-Code			

Can't find the right variant? Please contact us (info@tr-electronic.de)

Suggested Products

Ordering code	Name	Remark	Measurement length	Tube length	Resolution
LT-S Slider measurement system					
3200-00025	LT140-S SSI		140 mm	3 m cable, connector M23 12 pin	0,1 µm
3200-00180	LT140-S SSI		140 mm	3 m cable, connector M23 12 pin	0,1 µm
3200-00108	LT240-S SSI		240 mm	3 m cable, connector M23 12 pin	0,1 µm
3200-00002	LT340-S SSI		340 mm	3 m cable, connector M23 12 pin	0,1 µm
3200-00004	LT440-S SSI		440 mm	3 m cable, connector M23 12 pin	0,1 µm
3200-00021	LT540-S SSI		540 mm	3 m cable, connector M23 12 pin	0,1 µm
3200-00135	LT640-S SSI		640 mm	3 m cable, connector M23 12 pin	0,1 µm
3200-00005	LT740-S SSI		740 mm	3 m cable, connector M23 12 pin	0,1 µm
3200-00007	LT840-S SSI		840 mm	3 m cable, connector M23 12 pin	0,1 µm
3200-00142	LT940-S SSI		940 mm	3 m cable, connector M23 12 pin	0,1 µm
3200-00001	LT1040-S SSI		1.040 mm	3 m cable, connector M23 12 pin	0,1 µm
3200-00014	LT1140-S SSI		1.140 mm	3 m cable, connector M23 12 pin	0,1 µm
3200-00149	LT1240-S SSI		1.240 mm	3 m cable, connector M23 12 pin	0,1 µm
3200-00152	LT1340-S SSI		1.340 mm	3 m cable, connector M23 12 pin	0,1 µm
3200-00153	LT1440-S SSI		1.440 mm	3 m cable, connector M23 12 pin	0,1 µm
3200-00154	LT1540-S SSI		1.540 mm	3 m cable, connector M23 12 pin	0,1 µm

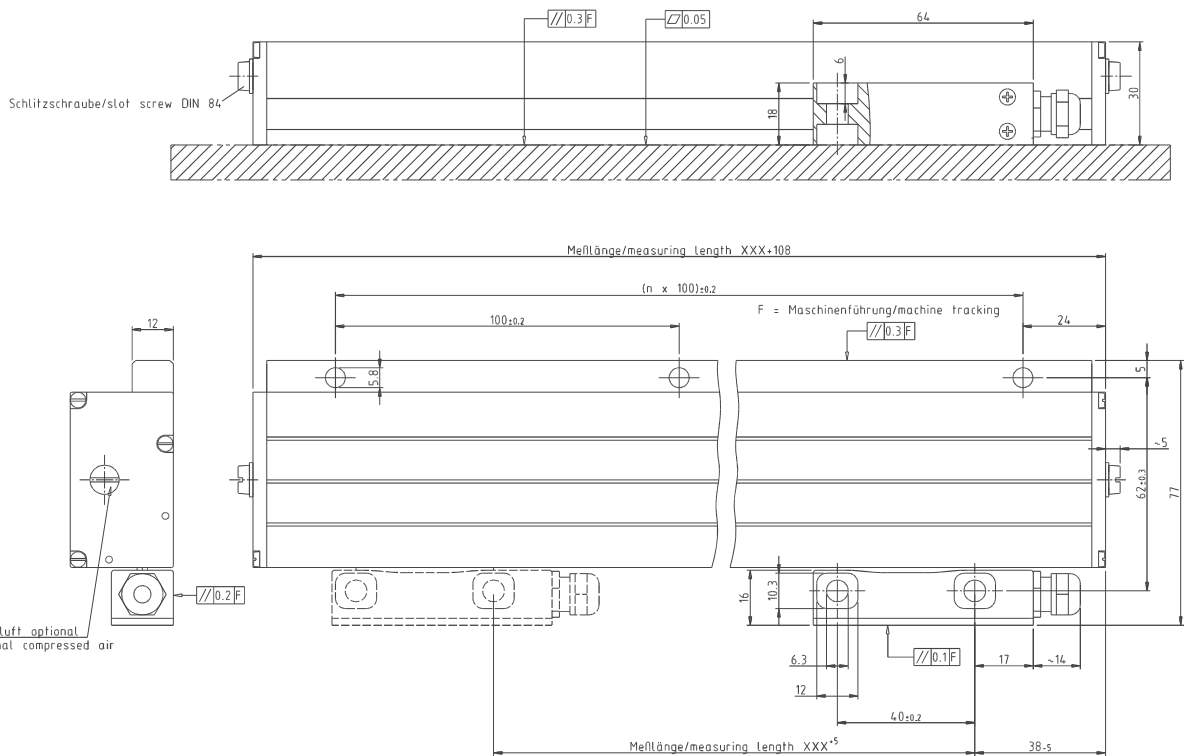
For further product information simply enter the order number in the search field at www.tr-electronic.com. We will help you to select the most suitable products from the complete TR range. Please contact us (info@tr-electronic.de).

Ordering code	Name	Remark	Measurement length	Tube length	Resolution
LT-S Slider measurement system					
3200-00155	LT1640-S SSI		1.640 mm	3 m cable, connector M23 12 pin	0,1 µm
3200-00156	LT1840-S SSI		1.840 mm	3 m cable, connector M23 12 pin	0,1 µm
3200-00157	LT2040-S SSI		2.040 mm	4 m cable, connector M23 12 pin	0,1 µm
3200-00160	LT2240-S SSI		2.240 mm	4 m cable, connector M23 12 pin	0,1 µm
3200-00161	LT2440-S SSI		2.440 mm	4 m cable, connector M23 12 pin	0,1 µm
3200-00163	LT2840-S SSI		2.840 mm	4 m cable, connector M23 12 pin	0,1 µm
3200-00171	LT3040-S SSI		3.040 mm	4 m cable, connector M23 12 pin	10,0 µm

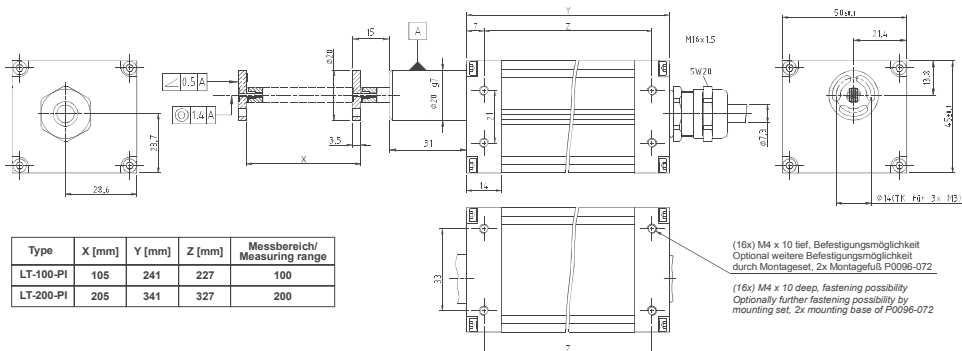
For further product information simply enter the order number in the search field at www.tr-electronic.com.

Dimensional Drawings

LT-S Slider



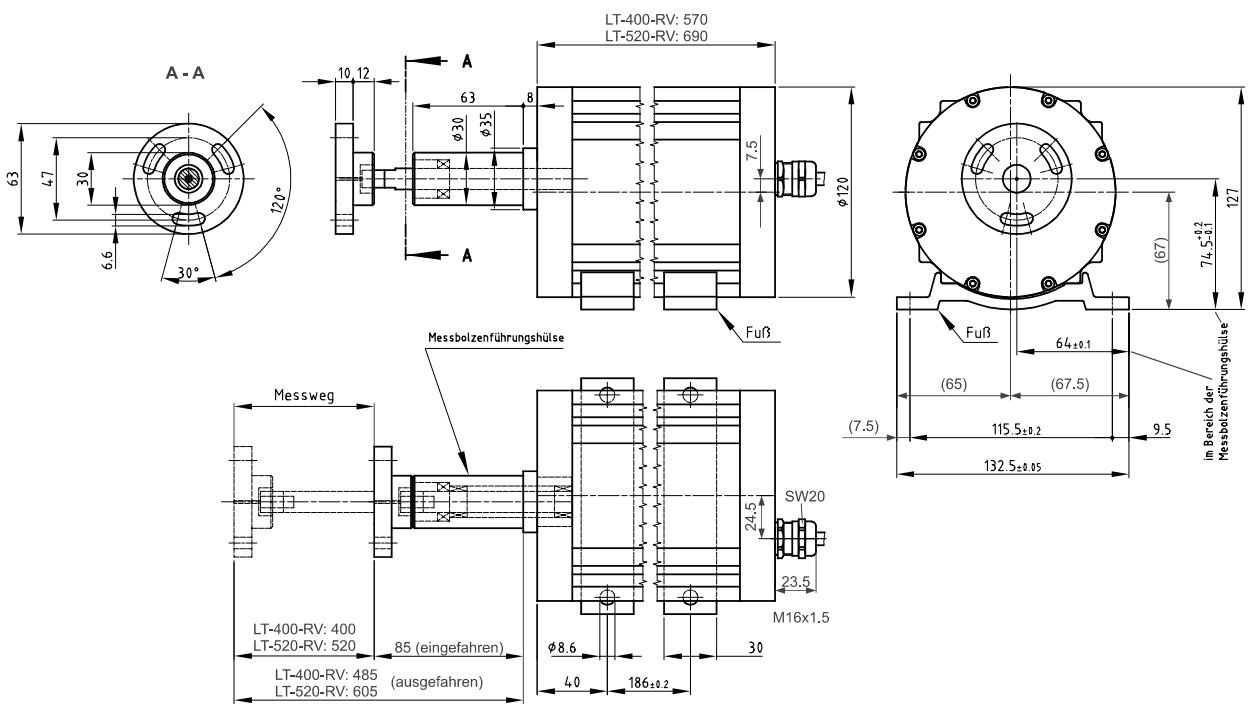
LT-PI Touch probe



Illustrations are schematic diagrams. Binding dimension drawings and CAD data for specific order numbers at www.tr-electronic.com or on request.

Dimensional Drawings

LT-RV
Heavy-duty touch probe



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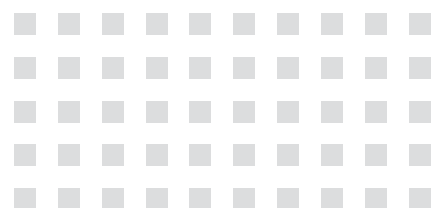
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