

LASER SENSOR



Content:

Technical Data2
Technical Drawing2
Teach-In - Diagrams3
Order Code4

Series LAS-TB

Key-Features:

- especially for surfaces with low reflectivity
- measurement ranges from 10 to 100 mm
- linearity up to ± 0.045 mm
- resolution up to $15 \mu\text{m}$
- protection class: IP67
- working temperature: 0 to 50 °C
- individual parametrization by teach-in procedure
- compact housing
- protected against reverse polarity and short circuit
- analog output 4..20 mA or 0...10 V

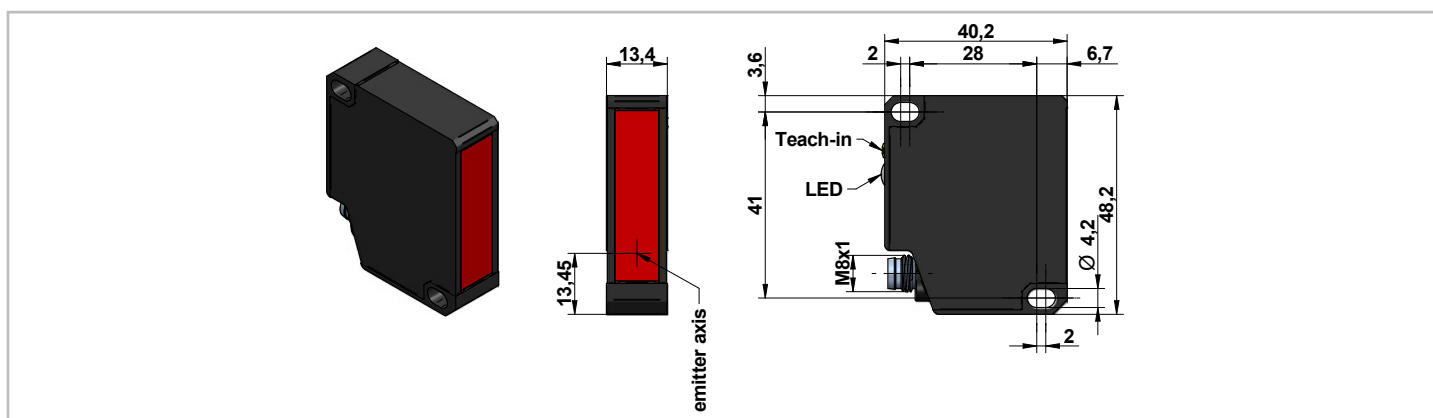
TECHNICAL DATA

		LAS-TB-10	LAS-TB-40	LAS-TB-100
Measurement range	[mm]	50...60	60...100	100...200
Linearity ¹	[mm]	±0.045	±0.047...±0.118	±0.123...±0.457
Resolution ¹	[mm]	0.015	0.015...0.038	0.039...0.15
Minimal teach-in range	[mm]	>1	>4	>5
Light source		laser diode red, pulsed		
Laser class		1		
Beam type		line		
Beam height line laser	[mm]	0.1...0.18	0.11...0.45	0.2...0.74
Beam width line laser	[mm]	1.1	1.7	2.8...3.7
Wavelength	[nm]	650		
Object reflectivity	[%]	>0.5	>0.8	>2
Sensor element		photo diode array		
Measurement frequency	[kHz]	0.5		
Response time	[ms]	<2		
Output signal		4...20 mA or 0...10 V		
Power-On indicator		LED green		
Alarm indicator		LED red		
Staining indicator		LED red flashing		
Supply	[VDC]	12...28		
Max. current consumption	[mA]	80		
Load resistance	[kΩ]	with output signal 4...20 mA: <0.3 with output signal 0...10 V: >100		
Inverse-polarity protection		yes		
Short-circuit		yes		
Protection class		IP67		
Working temperature	[°C]	0...50		
Connection		M8 connector, 4 pins		
Housing		aluminium		

¹ Values for linearity and resolution are given for a mat white reference surface.

² The detector calculates an optical (not a mathematical) averaging of the sampled surface, i.e. a kind of a surface integral.

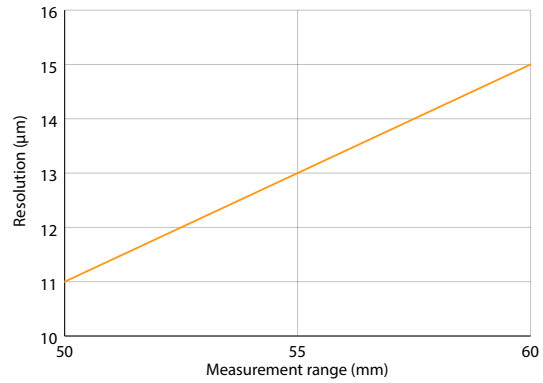
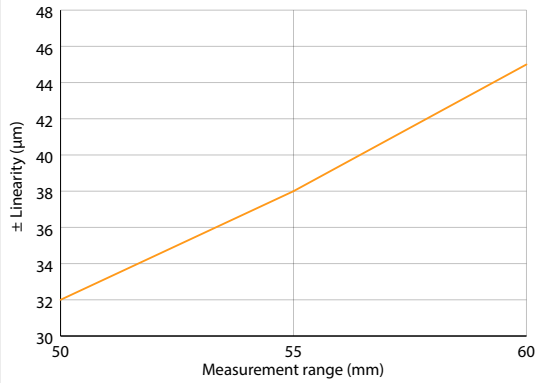
TECHNICAL DRAWING



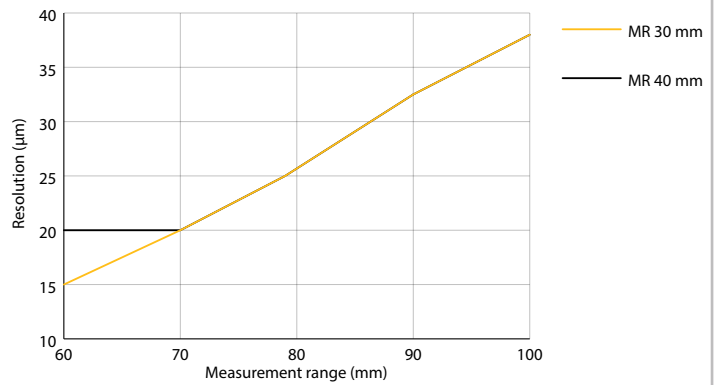
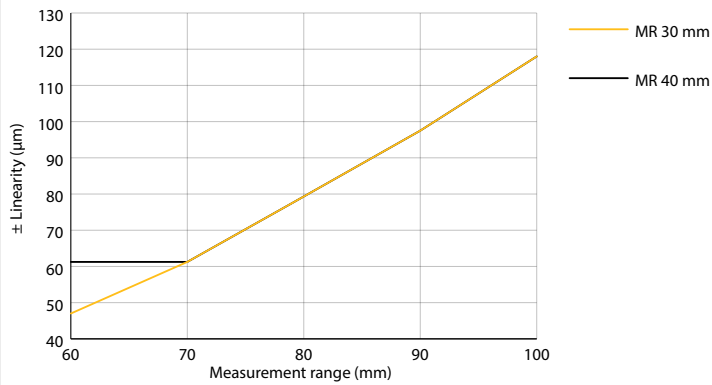
TEACH-IN - DIAGRAMS LINEARITY AND RESOLUTION

The following diagrams show the change of the linearity and resolution depending on the teached measurement range. The shorter the teached measurement range, the better the linearity and resolution. MR stands for the teached measurement range.

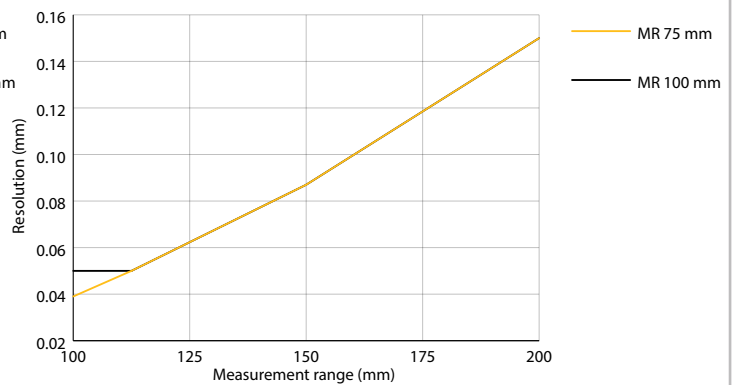
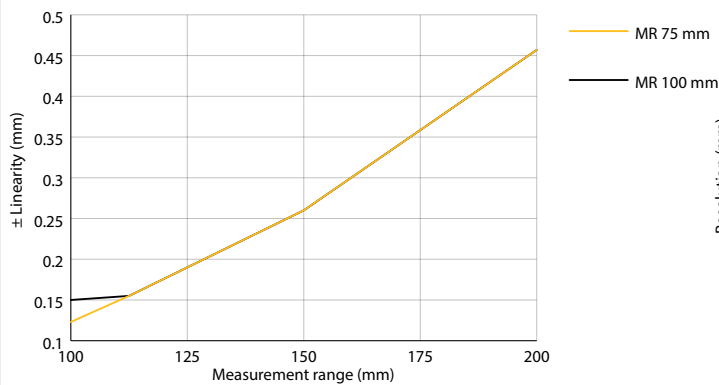
LAS-TB-10



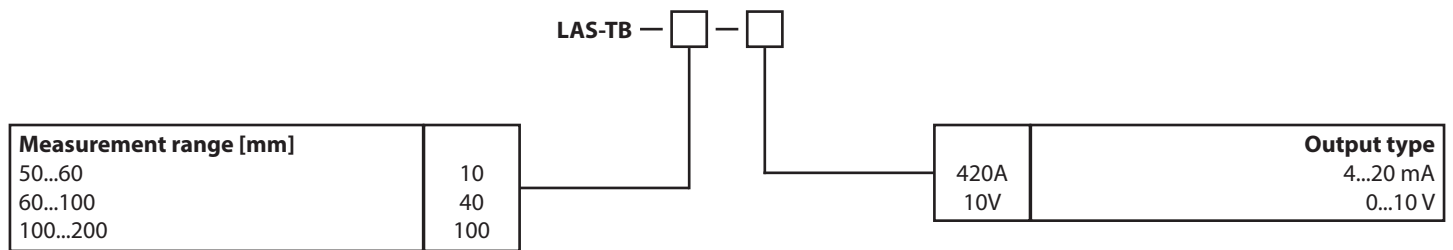
LAS-TB-40



LAS-TB-100



ORDER CODE



ACCESSORIES

Cable with mating connector M8, 4 poles, shielded

K4P2M-S-M8 2 m, connector straight

K4P5M-S-M8 5 m, connector straight

K4P10M-S-M8 10 m, connector straight

Cable with mating connector M8, 4 poles, shielded

K4P2M-SW-M8 2 m, connector angular

K4P5M-SW-M8 5 m, connector angular

K4P10M-SW-M8 10 m, connector angular

GENERAL SAFETY INSTRUCTIONS

- Attention radiation laser.
- Do not stare into beam.
- Do not point the laser beam towards someone's eye.
- It is recommended to stop the beam by a matte object or matte metal shield.
- Laser regulations require the power to the sensor be switched off when turning off the whole system this sensor is part of.

Subject to change without prior notice.

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