

LASE 1000T Green-Line Series

1D Distance meter



The sensors from the LASE 1000T Grey-Line Series are contactless one-dimensional distance meters especially built for the operation in harsh industrial environments.

The sensors out of the LASE 1000T Black-Line MINI Series are typically used for contactless distance, thickness or width measurements. The devices produce a visible laser point onto an object while the relative position of this laser point is evaluated by a high resolution CCD line camera. From the position of this point along the CCD line, the distance is computed to the object. Due to this procedure an accuracy of up to $\pm 0,01$ mm depending on its measuring range can be achieved and the range on natural surfaces amounts to max. 4000 mm. The sensors incorporate an automatic regulation of the light intensity and thereby provide unsurpassed measuring characteristics.

The LASE 1000T Sensor Series in general are compact units because of the fact that all optical elements are integrated with the electronic components in a highly durable aluminium housing. The sensors do not contain mobile parts and are appropriate for measurement tasks in heavy industrial environments and where precision demands have to be better than 1 mm, e.g. at thickness measurements or quality controls.

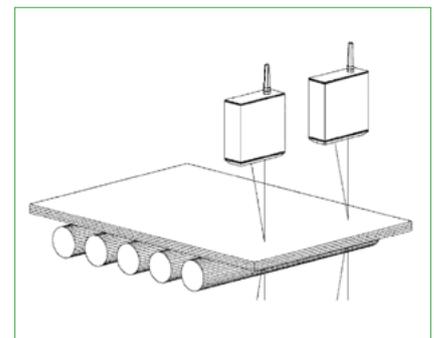
The distance sensors of the LASE 1000T-series are optical measuring instruments which work according to the triangulation principle. This technique ensures highest accuracies within μm of range:

- Measurement length, width, height, level and position of objects
- Positioning of machine parts
- Quality control of paper, steel or aluminum coils
- Slab width and thickness measurement
- Measurement of liquid levels and solid materials
- Measurement and regulation of slack

Features and Benefits:

- Contactless distance measurement
- Measuring area up to 2000 mm
- Measurement range up to 4000 mm
- Highest accuracy in the μm -area
- High resolution
- High measuring rate [up to 10 kHz]
- Synchronised thickness measurement with 2 sensors
- Interfaces: analog, digital [RS 232 or RS 422] and Ethernet
- Suitable for measurements on nearly all surfaces
- Median filter
- Simple installation at each position
- Rugged construction type to IP 65
- Closed-loop control of light intensity
- **Measurement of hot objects to max. 2.200° C**

Typical applications



Technical data

Model	LASE 1000T 500	LASE 1000T 505	LASE 1000T 700	LASE 1000T 925	LASE 1000T 950	LASE 1000T 1100	LASE 1000T 1150	LASE 1000T 1400	LASE 1000T 1950	LASE 1000T 3000
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DISTANCE MEASUREMENT

Measuring range	400 - 600 mm	450 - 550 mm	600 - 800 mm	600 - 1250 mm	850 - 1050 mm	1000 - 1200 mm	700 - 1600 mm	700 - 2100 mm	1500 - 2400 mm	2000 - 4000 mm
Center distance	500 mm		700 mm	925 mm	950 mm	1100 mm	1150 mm	1400 mm	1950 mm	3000 mm
Spot size	Ø 2 mm	Ø 1 mm	Ø 2 mm	Ø 4 mm	Ø 2 mm		Ø 4 mm	Ø 5 mm		
Laser safety class ¹	IEC 2									

SCAN AND PROFILE MEASUREMENT

Resolution	0,05 mm	0,01 mm	0,05 mm	0,1 mm	0,05 mm		0,1 mm	0,3 mm	0,2 mm	0,5 mm
Linearity ²	± 0,1 mm	± 0,05 mm	± 0,1 mm	± 0,03 mm	± 0,1 mm		± 0,4 mm	± 0,7 mm	± 0,5 mm	± 1 mm
Reproducibility	± 0,05 mm	± 0,01 mm	± 0,05 mm	± 0,1 mm	± 0,05 mm		± 0,1 mm	± 0,3 mm	± 0,2 mm	± 0,5 mm
Measuring frequency ²	1 kHz									

INTERFACES

Analog ³	4-20 mA									
	1-9 V									
Digital ⁴	RS 232 or RS 422									

ELECTRICAL & MECHANICAL

Power supply	24 V DC ± 10 %									
Power consumption	max. 4,5 W									
Protection class	IP 65									
Dimensions	255 x 205 x 70 mm									
Weight	approx. 4500 g									

ENVIRONMENT DATA

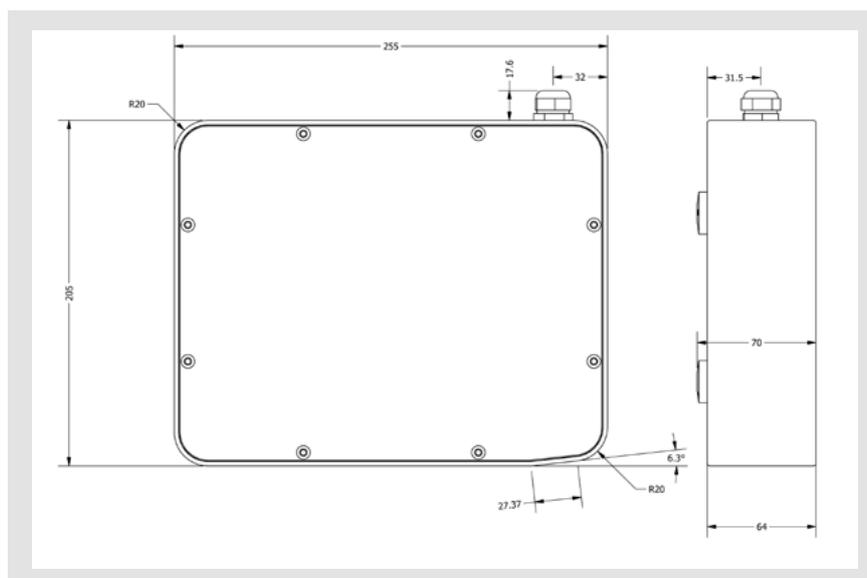
Temperature range	operation: 0° ... 45° C ³⁾ ; storage: -20° C ... +70° C									
Humidity	max. 90% relative humidity									

Declarations:

- ¹⁾ Laser class IEC 3R at HT and VHT sensor series with a frequency of 1 or 2 kHz
- ²⁾ Resolution, Linearity and Frequency valid for static measurements on white paper
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- ³⁾ Analog output: 14 Bit DAC's are used for the conversion of the digital distance result (nominal resolution 0,01 mm)

Scope of delivery:

- Sensor
- Operating instruction
- Configuration Software



Contact

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