LASE
Industrielle Lasertechnik GmbH

LASE 1000D-R/-T Series

1D Distance meter

With its large measuring range and rugged design the LASE 1000D-R/-T Series is suitable for many different branches of industry and applications such as:

- Measurement of dimensions, levels and positions of objects
- Anti-collision
- Crane positioning
- Intelligent light barrier

The sensors from the LASE 1000D-R/-T Series are contactless onedimensional distance meters especially built for the operation in harsh industrial environments..

The LASE 1000D sensor measures by TOF technology (Time of flight principle) at distances of up to 800m where reflectors are used and up to 110m on natural targets.

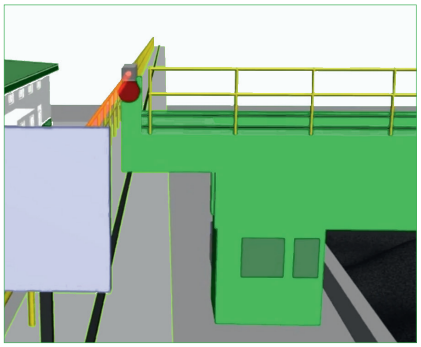
The sensor transmits extremely short multiple light pulses, measures the running time of these pulses to the object and back and computes the distance. The measuring data will send serially over a RS-232 / RS-422 and SSI interfaces, as well as a programmable analog 4 - 20 mA output. Furthermore, a PROFIBUS DP interface is available, too. Two switching outputs are on board which can be configured in logic and band width.

The LASE 1000D-R/-T Series is equipped with a microprocessor, with which the application ranging is evaluated. High accuracies can be measured by controllable averaging that accommodates high-dynamic movements. Thus specific distances can be defined as threshold values.

Features and Benefits:

- Contactless distance measurement
- Ranges of up to 800 m
- Range of up to 110 m on natural targets
- Reliable TOF technology
- High accuracy, high resolution and fast measuring rate
- Laser pointer for sensor alignment
- Several interfaces: RS 232/422, SSI, analog 4 ... 20 mA, Profibus DP, 2 x digital
- Measuring frequency 20 kHz
- Active dynamic control
- Simple configuration by 4 keys and display (alternatively by additional configuration software
- S7 function block included
- Close-up range blanking for dirt/dust supression on front glasses
- Internal device temperature displayed via interface
- Measuring beam: Laser class 1

Typical applications



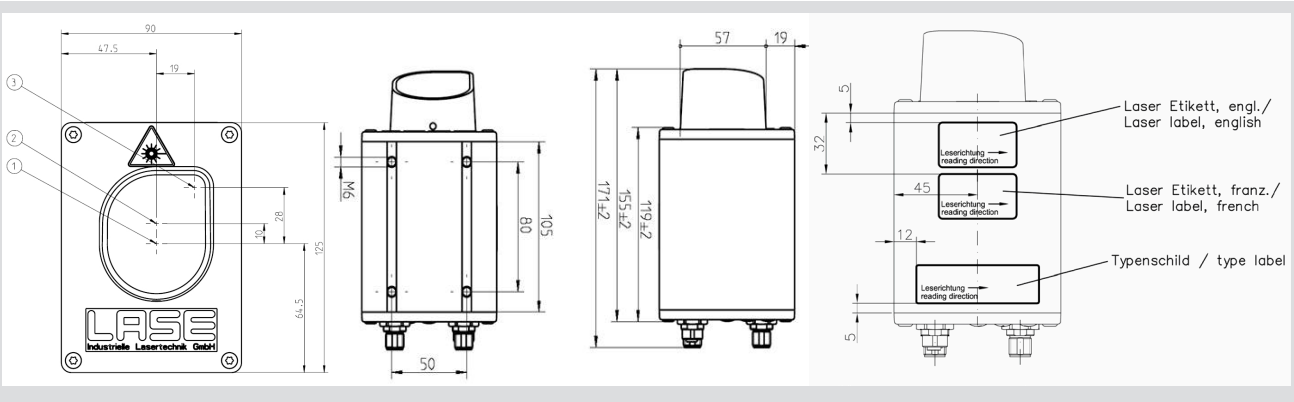
Technical data

Model	LASE 1000D-R	LASE 1000D-T	
DISTANCE MEASUREMENT			
Measurement range (*1)	1 ... 500 m		on reflection foil (LASE)
	1 ... 800 m		on HR plastic reflectors
		1 ... 110 m	on white targets (90% reflectivity)
		1 ... 55 m	on grey targets (18 % reflectivity)
		1 ... 30 m	on black targets (6 % reflectivity)
Reproducibility (*2)	< 0,5 mm	< 50 m ± 1 mm > 50 m ± 2 mm	on white targets (90% reflectivity)
		< 35 m ± 2 mm > 35 m ± 3 mm	on grey targets (18 % reflectivity)
		< 20 m ± 2 mm > 20 m ± 3 mm	on black targets (6 % reflectivity)
Beam divergency	2 mrad	6 mrad	
Visual displays / controls	4 LED's		function indicator
	4-key control pad		for parameterisation
	backlit display		displays values and parameter settings
Laser classes	class 1		measuring laser (905 nm)
	class 2		marking laser (660 nm)
SCAN AND PROFILE MEASUREMENT			
Measuring frequency	20 kHz		
Resolution	0,1 mm		adjustable
Light spot	ca. ø 100 cm at 500 m	ca. ø 15 cm at 20 m	
Distance output	ASC II text		
INTERFACES			
RS 232 / RS 422	yes		
SSI	yes		
Analog	4 ... 20 mA		
Profibus DP			
Digital outputs 2 x PNP	E 1, E 2		
ELECTRICAL & MECHANICAL			
Voltage	18 ... 30 V DC		
Current	0,25 A (24 V)		
Protection class	IP 65		
Weight	1,5 kg		
ENVIRONMENT DATA			
Temperature range	operation: -10° C ... +55° C		
	storage: -30° C ... +70° C		

(*1) When close-up range blanking is activated, the minimum distance increases to 1,5 m

(*2) Typical reproducibility for devices under constant environment conditions (approx. 20° C, 1013 mbar, same target) after at least 30 min. operation time

Scope of delivery: Sensor, operating instruction, configuration software, gsd-file, S-7 function block



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