



LASE HD-P/ELD-P Series

1D Distance meter



The sensors from the LASE HD-P/ELD-P Series are contactless one-dimensional distance meters especially built for the operation in harsh industrial environments.

The sensors out of the LASE HD-P/ELD-P Series operate with the principle named "time of flight" and can measure distances of up to 1200 m where reflectors are used as well up to 155 m on natural surfaces.

The sensor transmits extremely short multiple light pulses and computes the distance by measuring the run time of these pulses to the object and back. The measuring data is sent serially over an RS 232/RS 422 interface as well as a programmable analog connection [4 - 20 mA]. Two further switching outputs are also available which can be configured in its logic and band width. PROFIBUS DP is available as an interface, too.

The LASE HD-P/ELD-P Series is equipped with a microprocessor, to evaluate an application ranging. High accuracies can be measured by a controllable averaging which can accommodate high-dynamic movements. Specific distances can be defined as threshold values, where exceeding or falling below default thresholds are supervised.

With its large measuring range and rugged design the LASE HD-P/ELD-P 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
- Measurement of liquid levels and solid materials
- Position determination of hot objects at furnaces

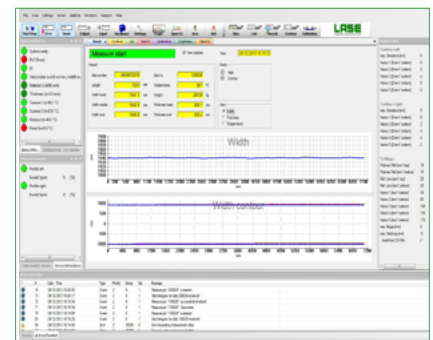
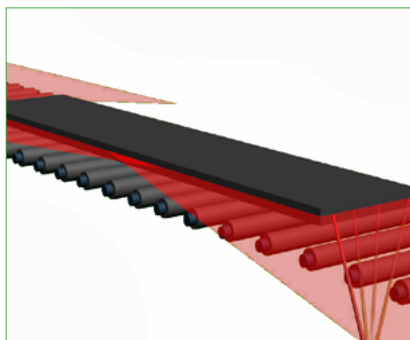
Features and Benefits:

- Contactless distance measurement
- Range of up to 1200 m with triple prism
- High accuracy, high resolution and fast measuring rate
- Laser marker for sensor alignment
- Integrated microcontroller for intelligent parameter evaluation
- Interfaces: digital, analog, 2 x switch, Profibus DP optional
- Self-test incorporated
- User friendly software
- Simple installation at each position
- Rugged construction type to IP 65
- Optional cooling housing for hot environments

HD-P Series - Extended features:

- Close-up range blanking for dirt/dust suppression on front glass
- Internal device temperature retrievable via interface
- Extended operation in ambient temperatures of -10°C to +55°C
- Configuration software included
- CDRH-Certification

Typical applications



Technical data

Model	LASE ELD-P 7.5	LASE ELD-P 10	LASE HD-P 100	LASE HD-P 20 HT	LASE HD-P 600
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DISTANCE MEASUREMENT

Measurement range					
◦ White surfaces [90 %]	0,5 ... 15 m	0,5 ... 20 m	0,5 ... 155 m ¹⁾		
◦ Grey surfaces [18%]	0,5 ... 7,5 m		0,5 ... 70 m ¹⁾		
◦ Black surfaces [6%]	0,5 ... 3,7 m		0,5 ... 40 m ¹⁾		
◦ Glowing surfaces $\geq 1.300^\circ\text{C}$				0,5 ... 20 m ¹⁾	
◦ Reflection foil [LASE]	0,5 ... 80 m		2 ... 800 m	-	0,5 ... 600 m ¹⁾
◦ HR plastic reflectors					0,5 ... 800 m ¹⁾
◦ Triple prism					0,5 ... 1.200 m ¹⁾
Light spot in 10 m / 100 m	7 cm / -		7 cm / 52 cm	7 cm / -	7 cm / 52 cm
Distance output	ASC II text or binary code				
Funtion indicator	4 LED display				
Beam divergency	5 mrad				
Laser safety class [EN 60825-1: 2001]	1		1 ²⁾		

SCAN AND PROFILE MEASUREMENT

Accuracy*	$\pm 1,5\text{ mm}$	$\pm 3\text{ mm}$	$\pm 5\text{ mm}$	$\pm 2\text{ mm}$
Resolution	1 mm			
Temperature drift [0° ... 40° C]	0,3 mm/K			
Measuring frequency	1 kHz			5 kHz

INTERFACES

RS 232 / RS 422	4-20 mA $\pm 0,3\%$
Profibus DP	yes
Switch outputs	E1, E2

ELECTRICAL & MECHANICAL

Power supply	18 ... 30 V DC
Current	0,25 A [24 V]
Protection class	IP 65
Shock & Vibration	IEC 68
Weight	approx. 1,2 kg

ENVIRONMENT DATA

Temperature range	operation: $-10^\circ \dots +50^\circ\text{C}$ ³⁾ storage: $-25^\circ\text{C} \dots +70^\circ\text{C}$
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* Reproducibility for typ. devices under constant environment conditions [approx. 20° C, 1013 mbar, same target after at least 30 min.]

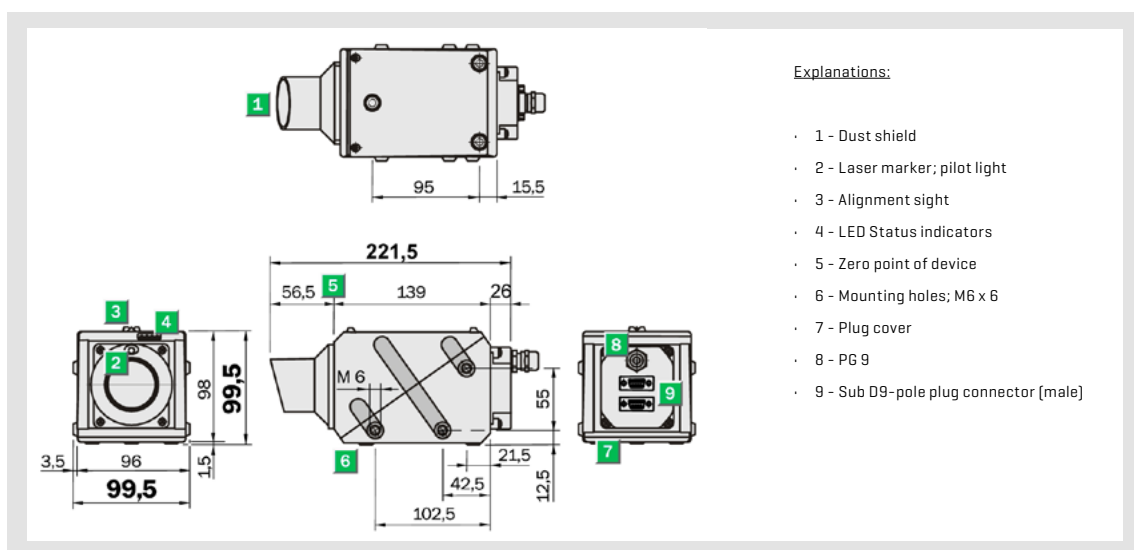
¹⁾ When close-up range blanking is activated, the minimum distance increases to 2 m

²⁾ At simultaneous use of measuring laser and marking laser the laser class changes to class 2

³⁾ In conjunction with LASE-Adjustment-Support

Scope of delivery:

- Sensor
- Operating instruction
- CD-Rom



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