



HD-P / ELD-P series

Laser-Distance measuring by
"Time of flight" technology

LASE
Industrielle Lasertechnik GmbH



General characteristics:

- Contactless distance measuring
- Ranges of up to 1200 m
- High accuracy, high resolution and high measuring rate
- Laser Pointer for the adjustment
- Integrated microcontroller - intelligent parameter evaluation
- Digital, analog interfaces and 2 switching contacts
- Profibus DP interface optional
- Self-test
- Rugged construction, IP65
- Simple installation in each installation position

HD-P sensors - Extended characteristics

- Close-up range blanking for dirt/dust suppression on front glass
- Internal device temperature to read out via interface
- Continuous visible alignment light for easy adjustment
- Extended operating ambient range -10°C up to +55°C
- Configuration software included
- CDRH-certification

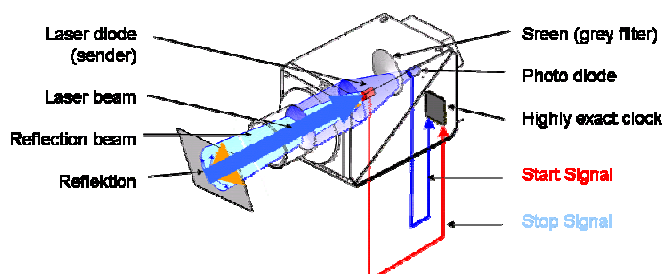
Short description:

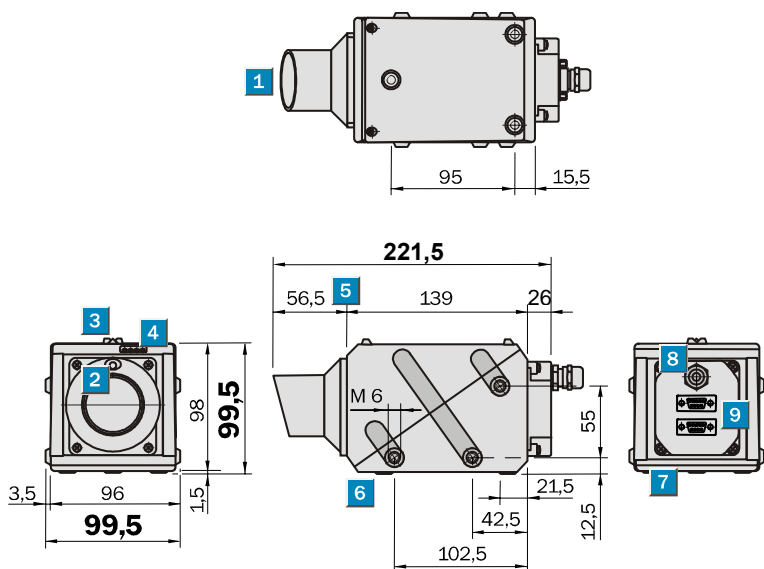
The HD-P/ELD-P sensor can measure with this "time of flight" technique at distances of up to 1200m where reflectors used and up to 155 m off natural surfaces.

The sensor transmits extremely short multiple light pulses, then measures the running time of these pulses to the object and back, then computes from this the distance. The measuring data is sent serially over a RS232/RS422 interface as well as a programmable analog 4 - 20 mA being provided. Two further switching outputs are available that can be configured in logic and band width. PROFIBUS DP is likewise available as an interface.

The HP-P/ELD-P 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. Specific distances can be defined as threshold values, where over or falling value is supervised. With their large measuring range these devices can be used in the many different industries and for a large variety of tasks:

- Measurement of length, width, height, level and situation of objects and environments
- Measurement and regulation of slack
- Positioning of vehicles; Intelligent light barrier
- Positioning of cranes; collision avoidance; bulk profile measurement
- Measurement of slabs and coils in the steel industry
- Measuring of liquid level and solid materials
- Level-measurement in the silo
- Position determination of hot objects in furnaces





1	Dust shield
2	Laser pointer pilot light
3	Alignment sight
4	Status indicators
5	Device zero point
6	Mounting holes, M6 x 6 deep
7	Plug cover
8	PG 9
9	Sub D 9-pole plug connector (male)

Technical data HD P / ELD P:

Model	ELD P 7.5	ELD P 10	HD P 100	HD P 20 HT	HD P 600
Interfaces					
RS 232 / RS 422 / 4 – 20 mA, 0,3 %	X	X	X	X	X
Profibus DP	X	X	X	X	X
Switch outputs	E1, E2	E1, E2	E1, E2	E1, E2	E1, E2
Ranges					
white 90 %	0.1...15 m	0.1...20 m	0.5...155 m ¹⁾		
grey 18 %	0.1...7.5 m	0.1...7.5 m	0.5...70 m ¹⁾		
black 6%	0.1...3.7 m	0.1...3.7 m	0.5...40 m ¹⁾		
red-hot surfaces □1300°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...1200 m ¹⁾
Accuracy*	+/- 1.5 mm	+/- 1.5 mm	+/- 3 mm	+/- 5 mm	+/- 2 mm
Temperature drift*	0.3 mm/K	0.3 mm/K	0.3 mm/K	0.3 mm/K	0.3 mm/K
Measuring frequency	1 KHz	1 KHz	1 KHz	1 KHz	5 KHz
Laser class	1	1	1 ²⁾	1 ²⁾	1 ²⁾
Laser protection class DIN EN 60825-1:2001					
Light spot in 10; 100 m	7 cm; -	7 cm; -	7; 52 cm	7 cm; -	7; 52 cm
Divergence	5 mrad	5 mrad	5 mrad	5 mrad	5 mrad
Output distance	ASCII text or binary code	ASCII text or binary code	ASCII text or binary code	ASCII text or binary code	ASCII text or binary code
Display 4 LEDs	Function indicator	Function indicator	Function indicator	Function indicator	Function indicator
Electrical supply					
Voltage	18...30 VDC	18...30 VDC	18...30 VDC	18...30 VDC	18...30 VDC
Current	0.25 A (24 V)	0.25 A (24 V)	0.25 A (24 V)	0.25 A (24 V)	0.25 A (24 V)
Environmental					
Protection class	IP 65	IP 65	IP 65	IP 65	IP 65
Shock and vibration	IEC 68	IEC 68	IEC 68	IEC 68	IEC 68
Temperature range²⁾					
Operation	-10°C...+50°C ³⁾	-10°C...+50°C ³⁾	-10°C...+55°C	-10°C...+55°C	-10°C...+55°C
Storage	-25 C...+70°C	-25 C...+70°C	-25°C...+70°C	-25°C...+70°C	-25°C...+70°C
Weight	1.3 kg	1.3 kg	1.3 kg	1.3 kg	1.3 kg

* Reproducibility for typ. devices under constant environmental conditions (approx. 20°C, 1013 mbar, same target) after at least 30 min. power-on time

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

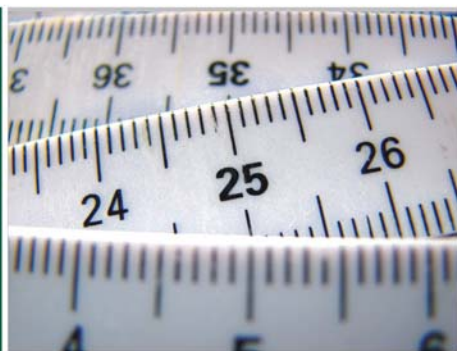
²⁾ When simultaneously using measuring laser and laser pointer (marking laser) the laser class changes to 2!

³⁾ In conjunction with LASE adjusting support

Scope of delivery HD P /ELD P series Sensor, operating instructions, fastening screws

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