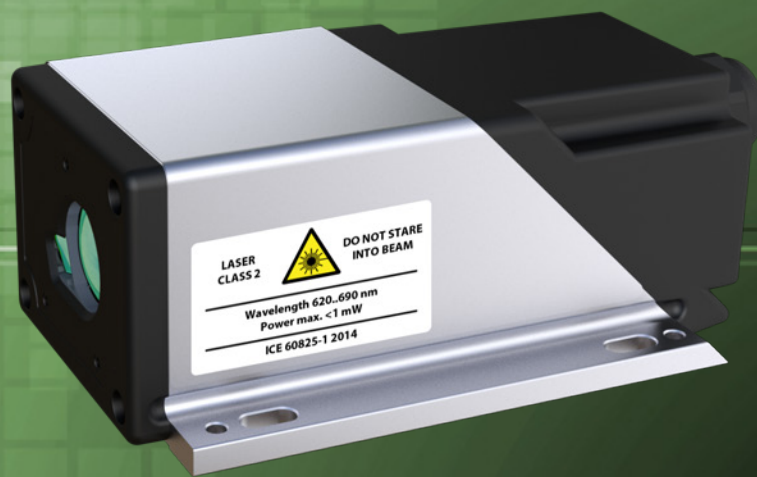


LASER DISPLACEMENT SENSOR



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Series LDI

Key-Features:

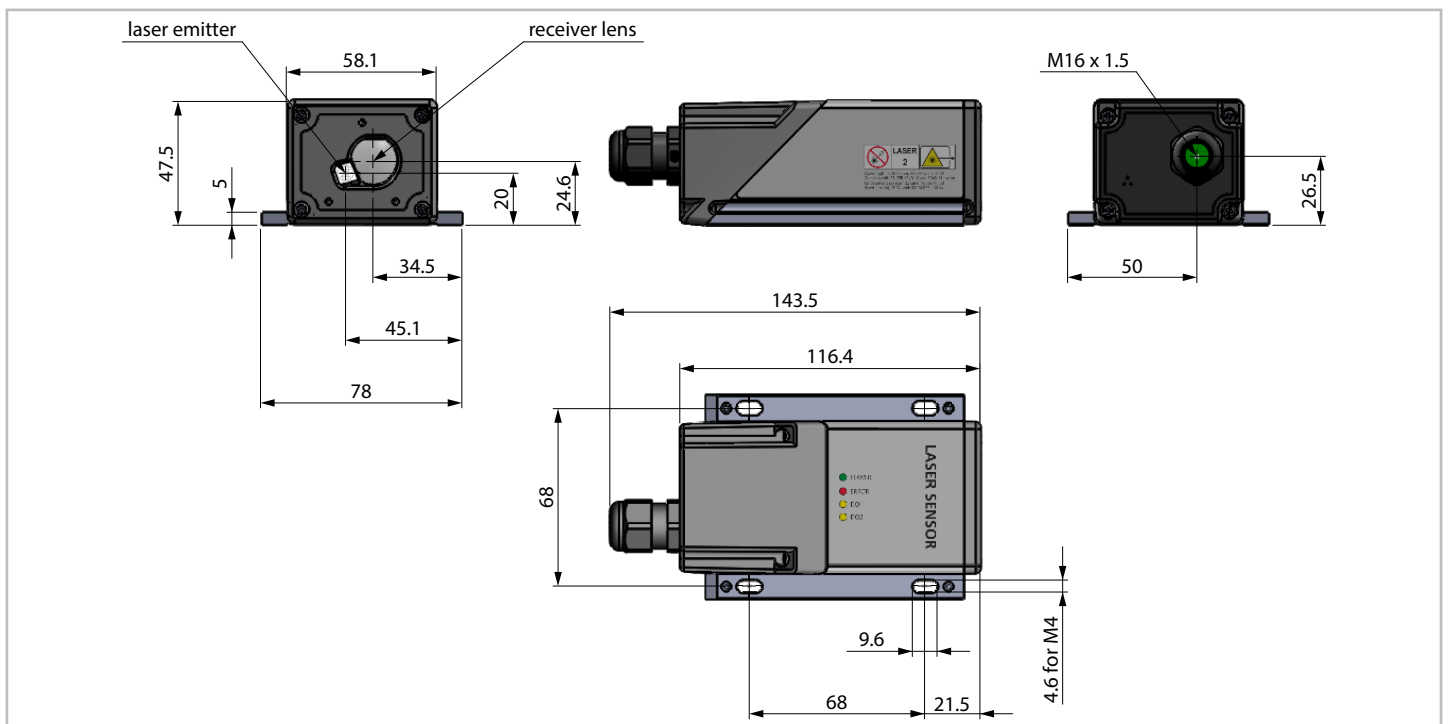
- Laser distance sensor for long ranges
- Measurement range up to 500 m
- Linearity up to ± 1 mm
- Repeatability up to ± 0.3 mm
- Analog output: 0...20 mA, 4...20 mA
- Digital outputs: RS232, RS422, RS485, SSI,
Optional: Profibus, ProfiNet, EtherNet/IP, EtherCAT
- Protection class IP65
- Temperature range -10...+60 °C

TECHNICAL DATA

		LDI-50-5	LDI-150-1	LDI-500-1	LDI-150-3	LDI-500-3
Measurement range on natural surface	[m]	0,05...50	0,05...100	0,05...100	0,05...100	0,05...100
Measurement range on reflective foil	[m]	40...50	40...150	0,5...500	40...150	0,5...500
Linearity typical	[mm]	±5 (max. ±2.5)	±1 (max. ±0.5)		±3 (max. ±1.5)	
Repeatability typical	[mm]	±1.8 (max. ±0.9)	±0.3 (max. ±0.15)		±0.7 (max. ±0.35)	
Light source		Laser diode, red				
Wave length	[nm]	620...690 (typical 650)				
Laser power max.	[mW]	1				
Beam divergence	[mrad]	0.16 x 0.6				
Laser class		class 2 (IEC/EN 60825-2014)				
Beam diameter (elliptical) typical		at 10 m: 7 x 3 mm / at 50 m: 28 x 13 mm / at 100 m: 55 x 30 mm				
Measurement frequency max.	[Hz]	10				50
Response frequency max.	[Hz]	10				50
Analog output (configurable)		0...20 mA / 4...20 mA				-
Tolerance analog output	[%]	±0.2				±0.1
Digital input (configurable)						1
Digital output (configurable) / error output (NPN, PNP, Push-Pull)						2 / 1
Interfaces		RS232, SSI, USB ¹⁾	RS232, RS422, RS485, SSI, USB ¹⁾			
Optional interfaces		-	Profibus, ProfiNet, EtherNet/IP, EtherCAT			
Supply	[VDC]	12...30				
Current consumption max. (at 24 VDC)	[A]	0.15				
Protection class		IP65				
Operating temperature	[°C]	-10...+50				-10...+60
Storage temperature	[°C]	-40...+70				
Shock resistance		IEC 60068-2-27				
Vibration resistance		IEC 60068-2-6				
EMC		IEC/EN 61000-6-4 / 61000-6-3; IEC/EN 61000-6-2 / 61000-6-1				
Connection		internal screw terminals				
Housing		Aluminium alloy (EN-AW 6060, anodized 20 µm) / Mineral reinforced nylon resin				
Weight	[g]	350				

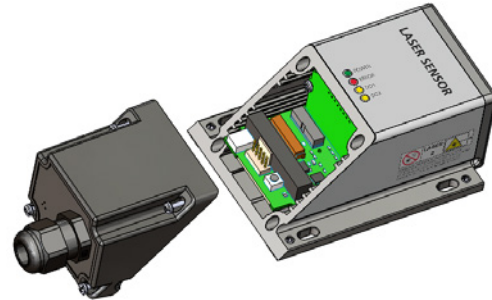
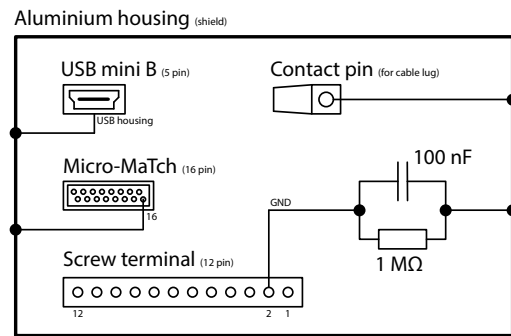
¹⁾ USB for configuration only

TECHNICAL DRAWING



ELECTRICAL CONNECTION

Screw terminal	Function	Abbreviation
1	Power supply	V+
2	Ground	GND
3	Digital input / Digital output 1	DO1
4	Digital output 2	DO2
5	Error output	DOE
6	Analog output	AO
7	Receiver Data (RS232)	RX
8	Transmitter Data (RS232)	TX
9	Transmitter Data - (RS422/RS485)	T-
10	Transmitter Data + (RS422/RS485)	T+
11	Receiver Data - (RS422/RS485)	R-
12	Receiver Data + (RS422/RS485)	R+



To reach the screw terminals of the LDI, remove the rear housing cover.

ACCESSORIES

Reflective plate RP210x297:

- for large measurement ranges
- dimensions: 210 x 297 mm



Reflective foil RF600x1200:

- for large measurement ranges
- dimensions: 600 x 1200 mm



Spare part set SET-LDI:

Includes 10 pcs. of:

- Cable glands M16x1.5, plastic (black)
- Hexagonal nuts M16x1.5, brass
- Terminal block 1 and 2, coded and printed
- Set screw M4x4 Tuflock
- Rear screw Freedriv M2.5x18.5 mm



Air cooling housing:

LKG-LDI:

- Housing: Aluminium hard anodised
- air access for 10 mm pipe (via TP 1/8 Noppe); air cleaner, air dryer, air filter, pressure reduction and air regulator are not included in the delivery.
- Not for Profinet, EtherNet/IP and EtherCAT models.



LKG-LDI-ENET:

- Housing: Aluminium hard anodised
- air access for 10 mm pipe (via TP 1/8 Noppe); air cleaner, air dryer, air filter, pressure reduction and air regulator are not included in the delivery.
- Only for EtherNet/IP models.

Exchangeable covers for interfaces

- **LDI-NET:** cover for Profinet interface
- **LDI-ENET:** cover for Ethernet/IP interface
- **LDI-CAT:** cover for EtherCAT interface



External Profibus interface:

- Protection class IP20
- mountable on a 35 mm DIN rail



ORDER CODE

LDI – □ – □

Measurement range MR

50 m	50
150 m	150
500 m	500

Linearity

1	±1 mm (MR 150 m and 500 m only)
3	±3 mm (MR 150 m and 500 m only)
5	±5 mm (MR 50 m only)

ACCESSORIES

Additional interfaces

LDI-PROF	external conditioner with Profibus interface
LDI-NET	cover with Profinet interface
LDI-ENET	cover with EtherNet interface
LDI-CAT	cover with EtherCAT interface

Mounting accessories

RP210x297	Reflective plate for ranges >100 m
RF600x1200	Reflective foil for ranges >100 m
SET-LDI	Spare part set
LKG-LDI	Air cooling housing for standard cover
LKG-LDI-ENET	Air cooling housing for EtherNet cover
LDI-Configuration	Pre-configuration for analog output

Signal cable for Profinet, EtherNet and EtherCAT interfaces

K4P2M-S-M12-CAT 2 m, 4 poles, connector M12 (male), open ends

Supply cable for Profinet, EtherNet and EtherCAT interfaces

K4P2M-S-M12 2 m, 4 poles, connector M12 (female), open ends

Digital displays for sensors with analog output, 2 channel

WAY-AX-S	touch screen, supply: 18...30 VDC
WAY-AX-AC	touch screen, supply: 115...230 VAC

For more information and options please refer to the [WAY-AX data sheet](#).**Digital displays for sensors with RS232 or RS422 output, 2 channel**

WAY-DXM-S	touch screen, supply: 18...30 VDC
WAY-DXM-AC	touch screen, supply: 115...230 VAC

For more information and options please refer to the [WAY-DXM data sheet](#).**Digital displays for sensors with SSI output, 2 channel**

WAY-SX-S	touch screen, supply: 18...30 VDC
WAY-SX-AC	touch screen, supply: 115...230 VAC

For more information and options please refer to the [WAY-SX data sheet](#).

Subject to change without prior notice.

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