



Laser-Distance-Sensor

Series LDS 150/___

- **Measuring range** 4-200 mm
- **Resolution** $\geq 2 \mu\text{m}$
- **Linearity** $\leq \pm 12$ to $\pm 600 \mu\text{m}$
- **Bandwith** ≤ 2 kHz (PS) / 5 kHz (option)
- **Switching frequency** ≤ 25 kHz

Principal features:

- Center distance **50-400 mm**
- Analogue output **± 10 VDC**
or **± 5 VDC**
optional: 0-10 VDC, 0-20 mA
4-20 mA
- High linearity
- Active laser power adaption
- Colour insensitive measurement
- PSD-receiver
optional: CCD
- Laser CLASS 3b
- Protection **IP 54**
- Degree of reflection **4-95%**
- CE

Typical applications:

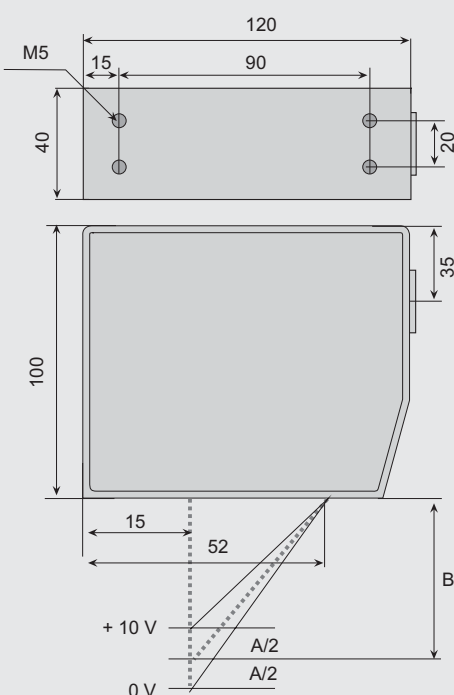
- Distance measurement
- Thickness measurement
- Displacement measuring
- Profile checking
- Checking control tasks in the production process
- Detection of fractures and cracks
- Out-of-balance measurement
- Control of overlapping
- Position control
- Cone belt measurement

Advantages:

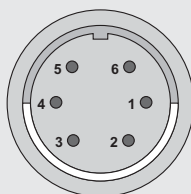
- High resolution
- High linearity
- Wide dynamic range
- High insensitive to colour
- High shock and vibration resistance
- Adaptable to application
- Active laser power adaption $\hat{=}$ constant noise on measurement surface

Dimensions

All dimensions in mm



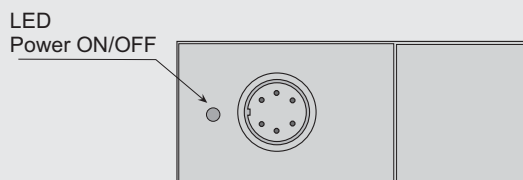
Wiring connections



front sight

1	red	+15 VDC
2	blue	-15 VDC
3	yellow	GND
4	green	INVALID
5	transparent	signal OUTPUT
6	black	LASER ON (open)
		LASER OFF (GND)
	blank	shield

Operating and display elements



Technical data

Electrical data	Supply voltage	+/- 15 VDC +/-10%	
	Power consumption	~ 4.5 W typ.	
	Bandwith (PSD)	2 kHz (option: up to 5 kHz **)	
	Measuring freq.	25 kHz	
	Analogue output*		+/- 5 VDC, +/- 10 VDC
			optional:0-10 VDC, 4-20 mA, 0-20 mA
Lightsource	Cable	6x1x0.25 mm ² , shielded, length 2.5 m	
	Laser, Wave length	780 nm	
	Laser CLASS	3b (EN 60825-1:1994)	
	Spot size	0.01-2 mm	
	Life time period of laser	typ. 50,000 h	
Data on ambiente conditions	max. operating temp.	0 to +40 °C	
	max. storage temp.	-20 to + 50 °C	
	max. rel. humidity	90% (not condensing)	
	Shock / Vibration	25 g (IEC 68-2-27) / 5 g (IEC 68-2-6)	
	Protection	IP 54	
Mechanical Data	Dimensions	120 x 100 x 40 mm	
	Weight	approx. 700 g	

* different optional power supplies, depending on output signal ** up to 20kHz on request (with modified evaluation)

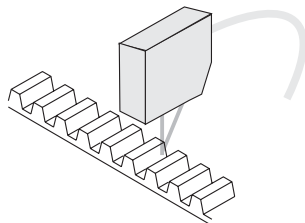
Specific data		Sensor LDS 150/___ (typical values)				Attention For difficult measuring tasks a CCD-version is available on request (e.g. semitransparent surfaces)
LDS 150/___		50/8	100/20	200/100	400/200	
Resolution *	µm	2	5	25	50	
Meas. range (A)	mm	8	20	100	200	
Standoff (B)	mm	50	150	200	400	
Reproduceability	µm	2	5	25	50	
Linearity *	+/- µm	24	60	300	600	

* at 200 Hz, white surface

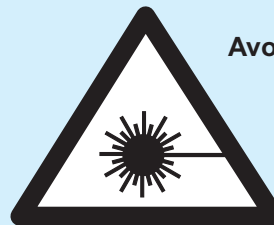
Ordering information

Sensor Part No.	10652135	10652137	10652140	10652141
Cable 6 pin plug, length 2 m	Part No. 11241414			

Application



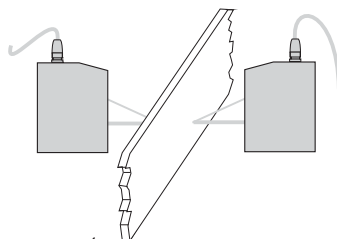
Contour control



Laser radiation
Avoid exposure to beam

LASER CLASS 3b
EN 60825-1:1994

Application



Profile- / thickness measurement

Presented by: