








# More Precision

**induSENSOR** // Linear inductive displacement sensors



# Sensors for displacement measurements of rotating shafts

## induSENSOR LVP/LDR

-  Compact design
-  High ambient temperatures
-  High temperature stability
-  High measurement repeatability
-  Robust design IP67

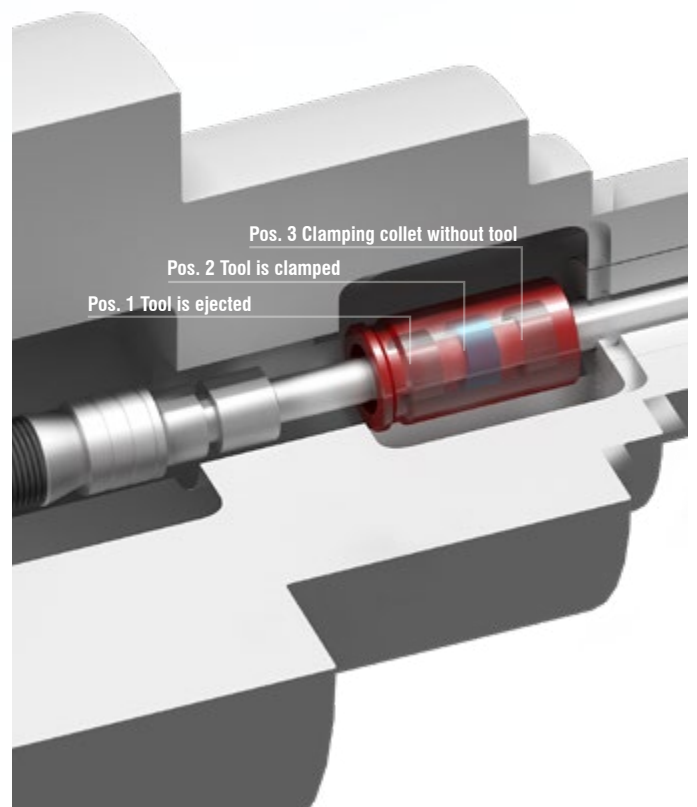


The LVP-25-Z20 and LDR-14-Z20 sensors are designed for monitoring the clamping position in machine tools.

The cylindrical sensors are integrated into the release device and detect the clamping stroke of the drawbar. The measuring object is a ring which is glued onto the drawbar.

The sensors can be universally used for different types of tools due to their extremely compact sensor design. The sensors provide an analog signal according to the stroke motion of the drawbar when clamping the tool. Consequently, continuous monitoring is possible without the switching point having to be set mechanically.

The miniature sensor controller can either be accommodated at the point of measurement or in the control cabinet. Thanks to their high accuracy, the sensors contribute significantly to meeting the ever increasing requirements for precision and availability of machine tools.



Model		LVP-25-Z20	LDR-14-Z20
Measuring range		25 mm	14 mm
Resolution <sup>[1]</sup>	50 Hz	6 $\mu$ m	7 $\mu$ m
	300 Hz	12 $\mu$ m	14 $\mu$ m
Linearity <sup>[2]</sup>	typ. $\leq \pm 1.5$ % FSO	$\leq \pm 0.375$ mm	$\leq \pm 0.21$ mm
Temperature stability		$\leq 150$ ppm FSO/K	$\leq 200$ ppm FSO/K
Sensitivity <sup>[3]</sup>		16 mV / mm/V	26 mV / mm/V
Excitation frequency		16 KHz	23 KHz
Excitation voltage		550 mV	
Measuring object		Ring for shaft diameter 8 mm or 10 mm (included in delivery)	
Connection		integrated cable 2 m with open ends; axial cable outlet; cable diameter 1.8 mm; min. bending radius 10 mm	
Temperature range	Storage	-40 ... +85 °C	
	Operation <sup>[4]</sup>	-40 ... +120 °C	
Pressure resistance		Atmospheric pressure	
Shock (DIN EN 60068-2-27)		40 g / 5 ms, 6 axes, 1000 shocks each	
Vibration (DIN EN 60068-2-6)		10 Hz - 49.9 Hz: 2 mm; 20 g / 49.9 Hz – 2000 Hz, 3 axes, 10 cycles each	
Protection class (DIN EN 60529)		IP67	
Material		Stainless steel, PEEK	
Weight	Sensor	approx. 40 g	approx. 30 g
	Target ring	< 1 g	< 1 g
Compatibility		MSC7401, MSC7802, MSC7602	

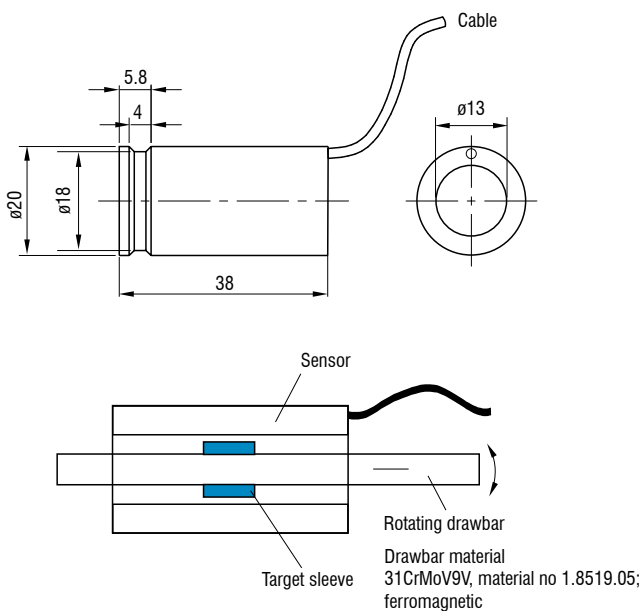
<sup>[1]</sup> Valid when operated with compatible Micro-Epsilon controller

<sup>[2]</sup> Independent linearity

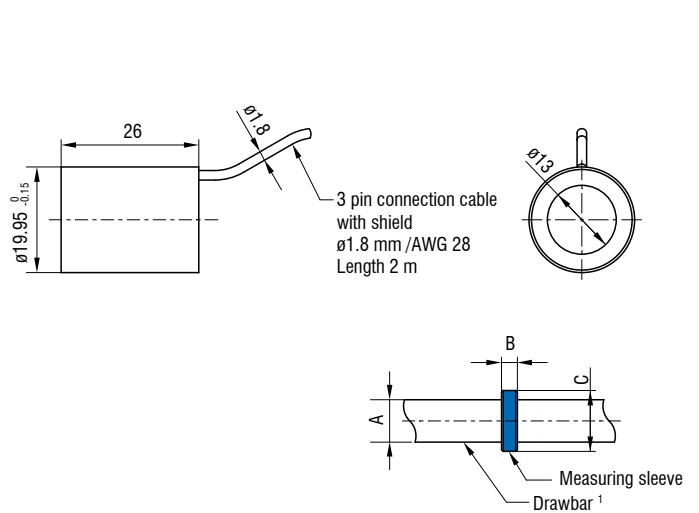
<sup>[3]</sup> With 10 mm reference drawbar

<sup>[4]</sup> Max. temperature change: 3 K / min; higher temperatures on request

### LVP-25-Z20



### LDR-14-Z20



Dimensions in mm, not to scale

Model	Drawbar <sup>1</sup>	Dimensions		
		A	B	C
LVP-25-Z20	D8	ø8 mm	5 mm	ø11.5 mm
	D10	ø10 mm	5.5 mm	ø11.5 mm
LDR-14-Z20	D8	ø8 mm	3 mm	ø11.5 mm
	D10	ø10 mm	5.5 mm	ø11.5 mm

<sup>1)</sup> Not included in delivery

## Sensors and Systems from Micro-Epsilon



Sensors and systems for displacement, position and dimension



Sensors and measurement devices for non-contact temperature measurement



Measuring and inspection systems for quality assurance



Optical micrometers, fiber optics, measuring and test amplifiers



Color recognition sensors, LED Analyzers and inline color spectrometers



3D measurement technology for dimensional testing and surface inspection