



# More Precision

**induSENSOR** // Linear inductive displacement sensors





- *Wear-free and maintenance-free*
- *Temperature stability*
- *Operating temperature range up to 160 °C*
- *Compact design – short installation length*
- *Small sensor diameter*
- *High measurement signal quality*

The specific sensor configuration of the LDR series of linear displacement sensors is characterized by its short, compact design and small diameter. Three connections are required as an interface to the sensor. The compact design and the small sensor diameter facilitate the installation of the measuring systems in locations where space is restricted.

#### **Typical applications**

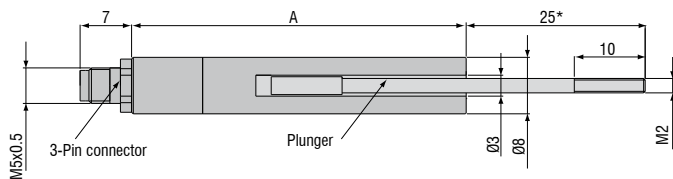
Low-cost LDR sensors are also particularly suitable for large-scale installation under restricted spatial conditions and in industrial environments with a high measuring rate.

Model	LDR-10-		LDR-25-		LDR-50-	
	SA	CA	SA	CA	SA	CA
Connection	SA	CA	SA	CA	SA	CA
Measuring range	10 mm		25 mm		50 mm	
Measuring principle	LDR - sensor					
Linearity	typ. $\pm 0.30\%$ FSO		typ. $\pm 0.35\%$ FSO		typ. $\pm 0.5\%$ FSO	
	$\pm 0.030$ mm		$\pm 0.088$ mm		$\pm 0.35$ mm	
	max. $\pm 0.50\%$ FSO		max. $\pm 0.70\%$ FSO		max. $\pm 0.70\%$ FSO	
Excitation frequency	16 kHz		12 kHz		8 kHz	
Excitation amplitude	1 V <sub>eff</sub>		1 V <sub>eff</sub>		2.6 V <sub>eff</sub>	
Sensitivity	51 mV/Vmm		21 mV/Vmm		5.5 mV/Vmm	
Temperature range	SA	Storage: -40 ... +80 °C / Operation: -15 ... +80 °C				
	CA	Storage: -40 ... +160 °C / Operation: -40 ... +160 °C				
Temperature stability <sup>1)</sup>	Zero	30 ppm / °C				40 ppm / °C
	Max. temp. error	100 ppm / °C				150 ppm / °C
Housing (material)	ferromagnetic stainless steel					
Weight sensor (without plunger)	9 g	24 g	14 g	28 g	23 g	37 g
Weight (plunger)	1.5 g		2.2 g		3.5 g	
Minimum bending radius (sensor cable fixed/moved)	8 / 15 mm	10 / 30mm	8 / 15 mm	10 / 30mm	8 / 15 mm	10 / 30mm
Outer diameter (sensor cable)	3.1 mm	1.8 mm	3.1 mm	1.8 mm	3.1 mm	1.8 mm
Protection class	IP67					
Shock	40 g, 3000 shocks / axis					
	100 g radial, 300 g axial					
Vibration	5 ... 44 Hz $\pm 2.5$ mm / 44 ... 500 Hz $\pm 20$ g					
Electrical connection	SA	3-pin plug-in connection (accessory cable, article 0157047/047, 3 or 5 m)				
	CA	integral axial cable (shielded), 2 m				
Suitable controller	MSC7401 (pages 10 - 11)					

FSO = Full Scale Output SA = connector axial CA = cable axial

<sup>1)</sup> Determined according to box method (-40 ... +160 °C)

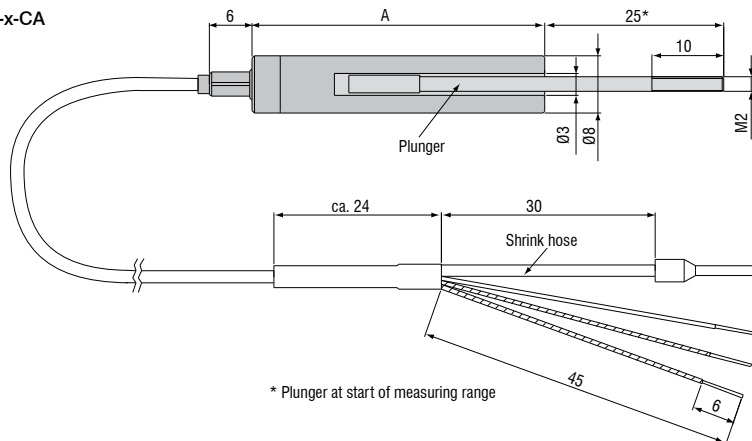
#### LDR-x-SA



\* Plunger at start of measuring range

Model	A
LDR-10-SA	47 mm
LDR-25-SA	73 mm
LDR-50-SA	127 mm

#### LDR-x-CA



\* Plunger at start of measuring range

Model	A
LDR-10-CA	41 mm
LDR-25-CA	67 mm
LDR-50-CA	121 mm

**General accessories**

2960031	MC25D	Digital micrometer calibration fixture
2420062	PS2020	Power supply on DIN rail, input 100 - 240 VAC, output 24 VDC / 2.5 A
2984026		Function and linearity inspection certificate incl. protocol with listed measurement data of the linearity inspection and documentation
2213034		IF7001 single-channel USB/RS485 converter

**Accessories for LDR series****Connection cables**

0157047	C7210-5/3	Sensor cable, 5 m, with cable connector
0157048	C7210/90-5/3	Sensor cable, 5 m, with 90° cable connector

**Supply cable**

2901087	PC710-6/4	Supply/output cable, 6 m
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**Spare plungers**

0800136	LDR-10	Spare plunger
0800137	LDR-25	Spare plunger
0800138	LDR-50	Spare plunger

**Service**

Connector installation and adjustment

**Accessories for EDS series****Service**

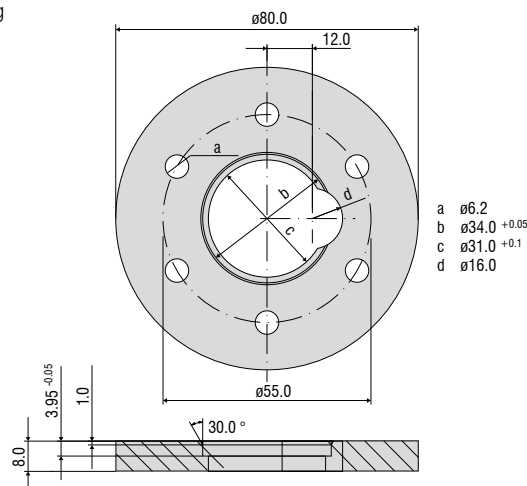
2985001		Function and linearity inspection for EDS series incl. pressure inspection and documentation without recalibration
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**Connection cables**

0157043	C703-5	VIP/LVP/EDS 7-pin connection cable for S series, 5 m
2902084	C703-5/U	VIP/LVP/EDS 7-pin connection cable for S series, 5 m for voltage output 1 - 5 V
0157050	C703/90-5	VIP/LVP/EDS 7-pin connection cable for S series, 5 m with 90° cable connector
2901143	C705-5	VIP/LVP/EDS 5-pin connection cable for F series, 5 m
2901160	C705-15	VIP/LVP/EDS 5-pin connection cable for F series, 15 m

**Installation ring**

0483326		EDS mounting ring
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Linearity inspection certificate

## High performance sensors made by Micro-Epsilon



Sensors and systems for displacement and position



Sensors and measurement devices for non-contact temperature measurement



2D/3D profile sensors (laser scanner)



Optical micrometers, fiber optic sensors and fiber optics



Color recognition sensors, LED analyzers and color inline spectrometer



Measurement and inspection systems