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# Displacement Sensors

**FOR PRODUCTION, AUTOMATION, R&D  
AND QUALITY ASSURANCE**

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## Overview Displacement Sensors model numbers 87 ...

MODELS	8709	8710/8711	8712/8713	8718	8719
Figure					
Non-linearity ( $\leq$ % F.S.)	from 0.05	from 0.05	from 0.05	from 0.05	0.05
Description	<b>Potentiometric displacement sensor, miniature version</b>	<b>Potentiometric displacement sensor</b>	<b>Potentiometric displacement transducers</b>	<b>Potentiometric displacement sensor, without rod</b>	<b>Potentiometric displacement sensor</b>
Measuring Range smallest: largest:	0 ... 25 mm 0 ... 250 mm	0 ... 25 mm 0 ... 150 mm	0 ... 10 mm 0 ... 150 mm	0 ... 100 mm 0 ... 2000 mm	0 ... 50 mm 0 ... 900 mm
Special Features	Housing diameter 12.9 mm with integrated cable 1 m, free moveable fastening clamps, option cable 3 m	Positioning speed up to 10 m/s, coupling with no lateral forces through ball and socket coupling	100 million strokes are possible, available as connector or cable version, with internal or external spring rod	Compact construction (without rod), very easy assembly	High protection class, high-quality, lowplay front bearing for rod, option: IP65 or IP67, compressed air connection
Main Application Fields, Examples of Application	Measurement of strokes on riveting machines, spring travel measurements on axes, length measurements on pipe bending equipment, offset measurements on bearings	Measurement of feed, deformation and press-fit displacements, length tolerances, displacements on electromagnets	Measurement of bending, deformation, measurement of advance movements on pneumatic and hydraulic cylinders as well as manual presses	Measuring windup and unwinding lengths, measurements on under-carriages and dosing systems	Measurement of jointing and press-fit displacements, determining the movement on linear axes or electric spindles

MODELS	8738	8739	8740/8741	87240	87350
Figure					
Non-linearity ( $\leq$ % F.S.) *(Accuracy in $\mu\text{m}$ )	from 1 $\mu\text{m}^*$	from 0.1	from 0.1	0.5	0.5
Description	<b>Incremental displacement sensor</b>	<b>Inductive displacement sensor with IN-LINE amplifier</b>	<b>DC/DC displacement sensor without/with spring rod</b>	<b>DC/DC displacement sensor with sliding rod</b>	<b>DC/DC displacement sensor with spring rod</b>
Measuring Range smallest: largest:	0 ... 5 mm 0 ... 100 mm	0 ... 1 mm 0 ... 25 mm	0 ... 1 mm 0 ... 150 mm (8741: to 0 ... 50 mm)	- 1.27 ... + 1.27 mm - 76.20 ... + 76.20 mm	- 1.27 ... + 1.27 mm - 76.20 ... + 76.20 mm
Special Features	Very high resolution up to 0.1 $\mu\text{m}$ , vibration-proof, housing diameter 8 mm with spring rod, protection class IP66, TTL signal	Standard output signal 0 ... 10 V, no wear, vibration-proof, housing diameter 8 mm, implementation 25 mm with rod Option: 4 ... 20 mA, 0 ... 5 V, $\pm$ 5 V, USB with software	Integrated measuring amplifier, output 0 ... 5 V, insusceptible to shock, model 8741 with spring rod Option: 4 ... 20 mA, 10 ... 0 V, 0 ... 10 V, 5 ... 0 V, $\pm$ 5 V	Large operating temperature range - 50 °C to 120 °C, can be used in hydraulic oil up to 3 bar, large output signal thanks to built-in measuring amplifier	External thread on sensor body provides excellent fastening means, galvanic isolation between power supply and measurement signal, polarity reversal protection
Main Application Fields, Examples of Application	Orientation and position direction in testing equipment, concentric running tests on motor shafts, use in assembly equipment and machine tools	Testing equipment for a very wide range of motor vehicle parts, spring travel measurements on plug contacts, height measurement on electronic components	Measuring the extension of heat-treated plastic parts, measuring the advance displacements on painting plants	Length measurement in material testing machines, numerous applications in the wood and plastics industries and in medical biotechnology	Position measurement in servo-systems, punching machines, measuring the feed distance in bonding equipment for the semiconductor industry

**Options:** ■ Sensor housing with mounting nuts ■ High adjustment speed ■ High protection class ■ Venting holes ■ Higher output voltage ■ Higher accuracy

■ Further measurement ranges

**Accessories:** Ball joint couplings, probe tip, mounting set, air lifter pump, mounting nuts

**Services:** Connector mounting, manufacturer calibration certificate

### OUR EXPERT FOR DISPLACEMENT SENSORS



**Grzegorz Romanowski**

+49-7224-645-24

g.romanowski@burster.com

