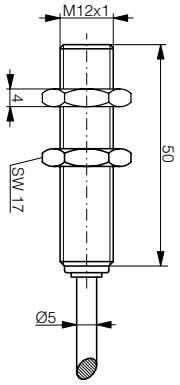
CONTRINEX

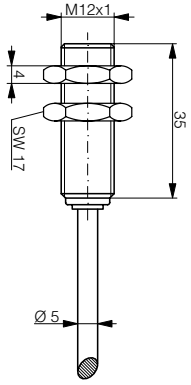
INDUCTIVE SENSOR
ANALOG OUTPUT
DW-Ax-509-M12-3x0

HOUSING	OPERATING DISTANCE	MOUNTING
M12	6 mm	Quasi-embeddable

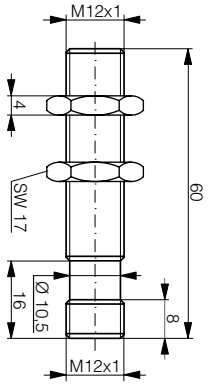
- ✓ Long sensing range
- ✓ Outstanding accuracy and temperature stability
- ✓ Resolution in µm range
- ✓ Exceptional price perfmance ratio
- ✓ Current/voltage output
- ✓ IP67



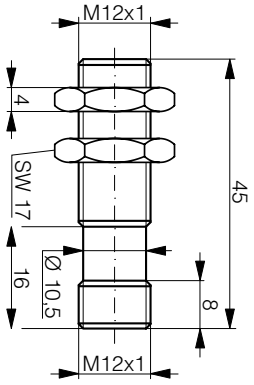
DW-AD-509-M12-390



DW-AD-509-M12-320



DW-AS-509-M12-390



DW-AS-509-M12-320

DETECTION DATA		INTERFACE	
Sensing distance (S_d)	6 mm	IO-Link	×
Repeat accuracy*	± 0.32 mm	MTTF (@40°C)	551 y
Static resolution** (@0.67·S_d)	≤ 0.18 µm		
Dynamic resolution* (@0.67·S_d)	≤ 0.9 µm		
Temperature drift on output signal***	≤± 10%		
Standard target	18 x 18 x 1 mm³, FE360		

*Measured under 3σ confidence level (99.7%) at 0.67 Sd, constant temperature and constant voltage supply.
**Static resolution is measured filtering the signal at 20 Hz. Dynamic resolution is measured filtering the signal at 1 kHz.
***Over time a temperature drift of up to 10% can occur on the sensor, so regular calibration is recommended, depending on the application.

ELECTRICAL DATA		MECHANICAL DATA	
Supply voltage range (U_B)	15...30 VDC	Mounting	Quasi-embeddable
Residual ripple	≤ 20% U_B	Housing material	Chrome-plated brass
Power consumption (no-load)	≤ 10 mA	Sensing face material	PBTP
Max. load at voltage output	≤ 15 mA	Max tightening torque	10 Nm (6 Nm first 10 mm)
Max. load at current output	N/A / 0.4kΩ (Ub=15V)/1kΩ (Ub=30V)	Ambient operating temperature	-25...+70°C[1]
Bandwidth	1000 Hz	Enclosure rating	IP 67
Time delay before availability	20 ms	Weight (cable / connector)	see page 2
Recovery time	20 ms	Shock and vibration	IEC 60947-5-7
Warm-up time (temperature stability)	5 min		
Short-circuit protection	✓		
Voltage reversal protection	✓		
Cable length max.	≤ 300 m		

Note: all data measured according to IEC 60947-5-2 standard with U_B= 20…30VDC, T_A= 23°C ± 5°C.

[1]Maximum temperature according to UL: 70°C.

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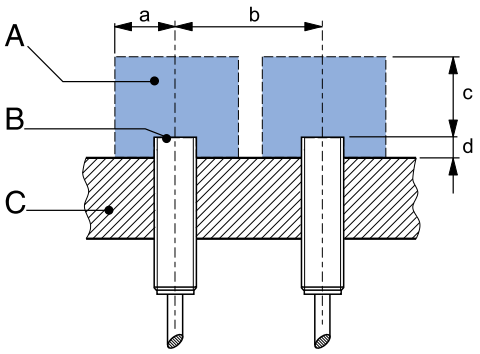
CORRECTION FACTORS

Steel FE 360	**1**	Copper	**0.28**	Aluminum	**0.33**	Brass	**0.43**	Stainless S. V2A 1 / 2 mm	**0.8**

Note: the operating distance of the sensor must be multiplied by the correction factor of the material. For example, the operating distance on Aluminum is $S_{n,\,Al} = S_n \times CF_{Al}$. In case of embeddable mounting, the distance is multiplied by the additional correction factor of the support, thus $S_{n,\,Al} = S_n \times CF_{Al} \times CF_{emb,\,Al}$.

INSTALLATION CONDITIONS



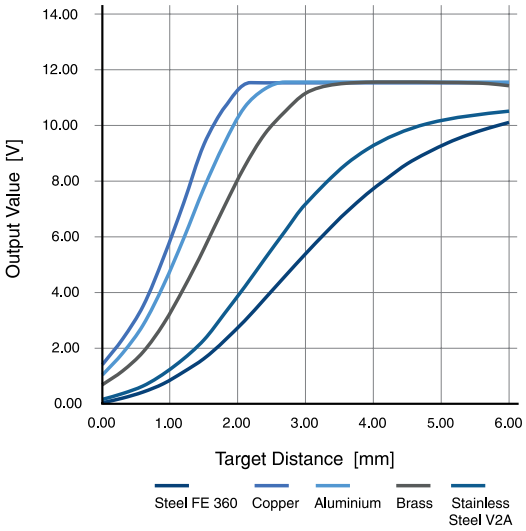
A : metal free zone
B : sensing face
C : support

a : 12 mm
b : 14 mm
c : 18 mm

d : steel 2 mm

Note: additional installation information can be found in the glossary of the Contrinex General Catalog.

RESPONSE DIAGRAM

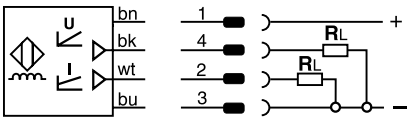


Typical curves

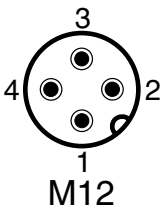
Output voltage	s = 0	0 V / -0.0 + 0.4 V
	s = S_d/2	5.2 V ± 0.4 V
	s = S_d	10.0 V ± 0.4 V
	s > 3*S_d	+10.5 V ± 0.4 V

Output current	s = 0	N/A / 4 mA ± 0.8
	s = S_d/2	N/A / 12 mA ± 0.8
	s = S_d	N/A / 20 mA ± 0.8
	s > 3*S_d	N/A / 20…23 mA ± 0.8

WIRING DIAGRAM



PIN ASSIGNMENT



AVAILABLE TYPES

Part number	Part reference	Connection	Output on pin 2 / wh	Output on pin 4 / bk	Weight
330-020-365	DW-AD-509-M12-320	PUR, 2 m, 3 wire	-	0...10 V	80 g
330-020-367	DW-AD-509-M12-390	PUR, 2 m, 4 wire	4...20 mA	0...10 V	87 g
330-020-372	DW-AS-509-M12-320	M12 4-pin	4...20 mA	0...10 V	23 g
330-020-373	DW-AS-509-M12-390	M12 4-pin	4...20 mA	0...10 V	27 g

Note: part reference may include additional suffix to indicate a revision version or special version. Further information is available on request.

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