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
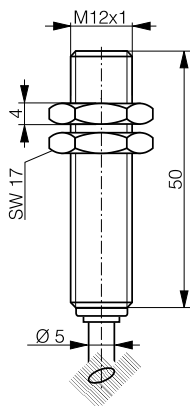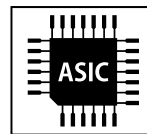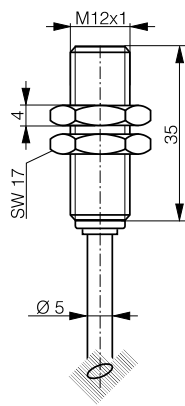
DW-AD-509-M12-390   DW-AD-509-M12-320   DW-AS-509-M12-390   DW-AS-509-M12-320
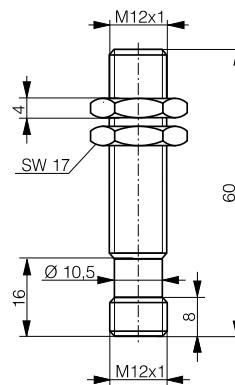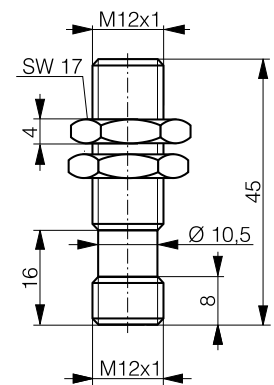
DETECTION DATA

Sensing distance (S$_d$)	6 mm
Repeat accuracy (IEC 60947-5-2)	± 0.32 mm
Static resolution* (@0.67·S$_d$)	≤ 0.18 µm
Dynamic resolution* (@0.67·S$_d$)	≤ 0.9 µm
Temperature drift of S$_d$	≤ 5% (0... +70˚C) ≤ 10% (-25... 0˚C)
Standard target	18 x 18 x 1 mm³, FE360

INTERFACE

IO-Link	✔
MTTF (@40°C)	551 y

*Static resolution is measured when the target is moving at 20 Hz. Dynamic resolution when the target is moving at 1 kHz.

ELECTRICAL DATA

Supply voltage range (U$_B$)	15...30 VDC
Residual ripple	≤ 20% U$_B$
Power consumption (no-load)	≤ 10 mA
Max. load at voltage output	≤ 15 mA
Max. load at current output	N/A / 0.4kΩ (Ub=15V)/1kΩ (Ub=30V)
Bandwidth	1000 Hz
Time delay before availability	20 ms
Recovery time	20 ms
Short-circuit protection	✔
Voltage reversal protection	✔
Cable length max.	≤ 300 m

MECHANICAL DATA

Mounting	Quasi-embeddable
Housing material	Chrome-plated brass
Sensing face material	PBTP
Max tightening torque	10 Nm (6 Nm first 10 mm)
Ambient operating temperature	-25...+70°C[1]
Enclosure rating	IP 67
Weight (cable / connector)	see page 2
Shock and vibration	IEC 60947-5-2 / 7.4

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.

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 $S_{n, Al} = S_n \times CF_{Al} \times CF_{emb, Al}$.
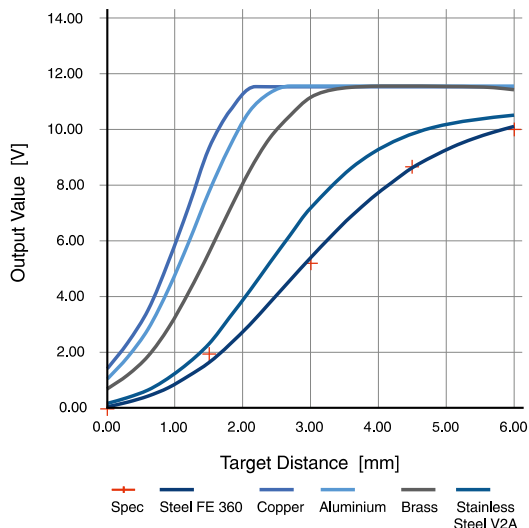
INSTALLATION CONDITIONS
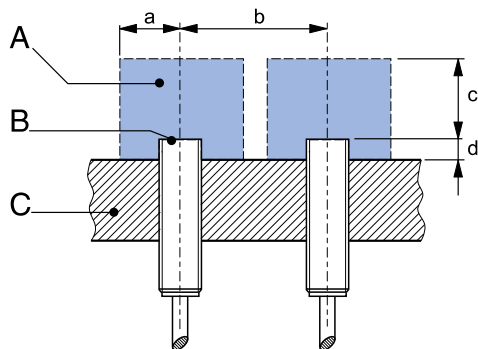
A : metal free zone   a : 12 mm
B : sensing face   b : 14 mm
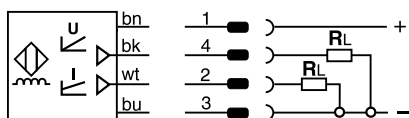C : support   c : 18 mm

           d : steel   2 mm

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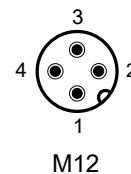
RESPONSE DIAGRAM

Output voltage	s = 0 mm	0 V / -0.0 + 0.4 V
	s = S_d/2 mm	5.2 V ± 0.4 V
	s = S_d mm	10.0 V ± 0.4 V
	s > S_d mm	10…12 V ± 0.4 V

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

WIRING DIAGRAM

PIN ASSIGNMENT

M12

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	-	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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