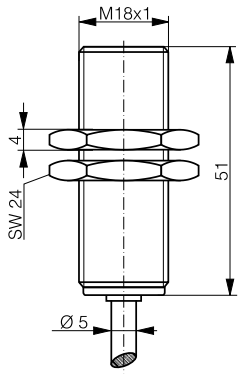
CONTRINEX

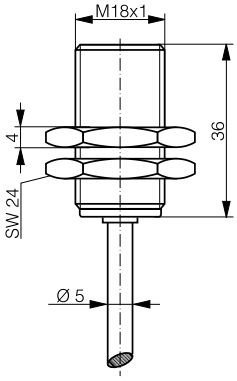
INDUCTIVE SENSOR
ANALOG OUTPUT
DW-Ax-509-M18-3x0

HOUSING	OPERATING DISTANCE	MOUNTING
M18	10 mm	Quasi-embeddable

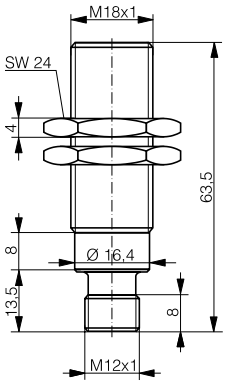
- ✓ Long sensing range
- ✓ Outstanding accuracy and temperature stability
- ✓ Resolution in µm range
- ✓ Exceptional price perfmance ratio
- ✓ Current/voltage output
- ✓ IP67



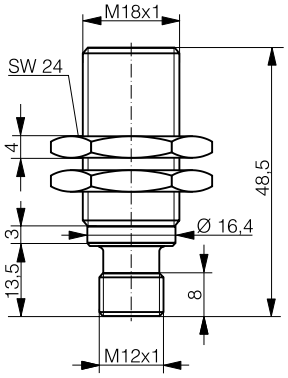
DW-AD-509-M18-390



DW-AD-509-M18-320



DW-AS-509-M18-390



DW-AS-509-M18-320

DETECTION DATA

Sensing distance (S_d)	10 mm
Repeat accuracy*	± 0.2 mm
Static resolution** (@0.67·S_d)	≤ 0.25 µm
Dynamic resolution* (@0.67·S_d)	≤ 1.24 µm
Temperature drift on output signal***	≤± 10%
Standard target	30 x 30 x 1 mm³, FE360

INTERFACE

IO-Link	×
MTTF (@40°C)	551 y

*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

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	0.4kΩ (Ub=15V) / 1kΩ (Ub=30V)
Bandwidth	500 Hz
Time delay before availability	20 ms
Recovery time	20 ms
Warm-up time (temperature stability)	5 min
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	25 Nm
Ambient operating temperature	-25...+70°C[1]
Enclosure rating	IP 67
Weight (cable / connector)	see page 2
Shock and vibration	IEC 60947-5-7

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.

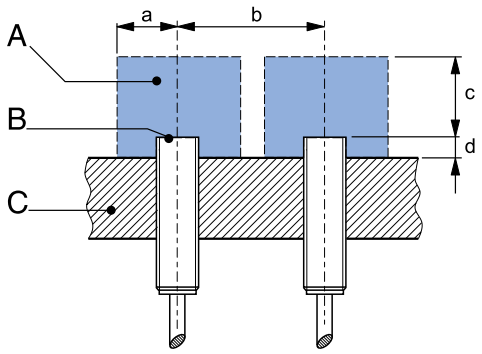
CONTRINEX AG Industrial Electronics
Route du Pâquis 3 – P.O. Box – CH 1720 Corminboeuf – Switzerland – **Tel:** +41 26 460 46 46
Fax: +41 26 460 46 40 – **Internet:** www.contrinex.com – **E-mail:** info@contrinex.com

CORRECTION FACTORS

Steel FE 360	**1**	Copper	**0.31**	Aluminum	**0.34**	Brass	**0.44**	Stainless S. V2A 1 / 2 mm	**0.72**

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



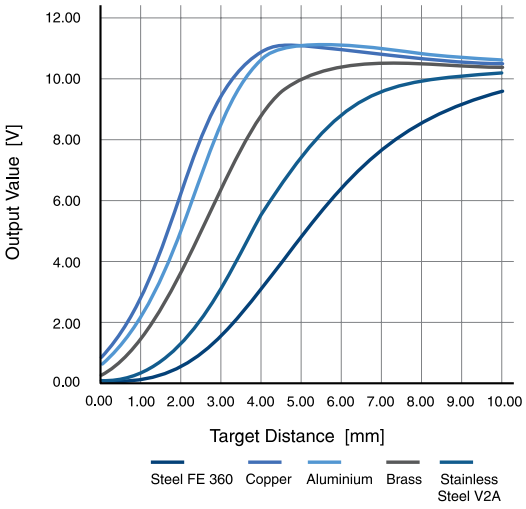
A : metal free zone
B : sensing face
C : support

a : 19 mm
b : 24 mm
c : 30 mm

d : steel 4 mm

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

RESPONSE DIAGRAM

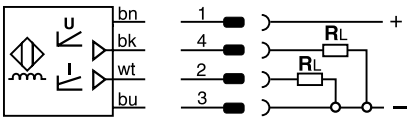


Typical curves

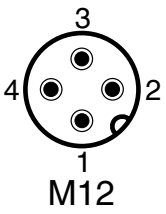
Output voltage	s = 0	0 V / -0.0 +0.4 V
	$s = S_d/2$	5.2 V ± 0.4 V
	$s = S_d$	10.0 V ± 0.4 V
	$s > 3*S_d$	+10.5 V ± 0.4 V

Output current	s = 0	4 mA ± 0.8 mA
	$s = S_d/2$	12.3 mA ± 0.8 mA
	$s = S_d$	20 mA ± 0.8 mA
	$s > 3*S_d$	20…23 mA ± 0.8 mA

WIRING DIAGRAM



PIN ASSIGNMENT



AVAILABLE TYPES

Part number	Part reference	Connection	Output on pin 2 / wh	Output on pin 4 / bk	Weight
330-020-382	DW-AD-509-M18-320	PUR, 2 m, 4 wire	4...20 mA	0...10 V	115 g
330-020-385	DW-AD-509-M18-390	PUR, 2 m, 4 wire	4...20 mA	0...10 V	130 g
330-020-395	DW-AS-509-M18-320	M12 4-pin	4...20 mA	0...10 V	49 g
330-020-396	DW-AS-509-M18-390	M12 4-pin	4...20 mA	0...10 V	56 g

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

CONTRINEX AG Industrial Electronics
Route du Pâquier 3 – P.O. Box – CH 1720 Corminboeuf – Switzerland – **Tel:** +41 26 460 46 46
Fax: +41 26 460 46 40 – **Internet:** www.contrinex.com – **E-mail:** info@contrinex.com