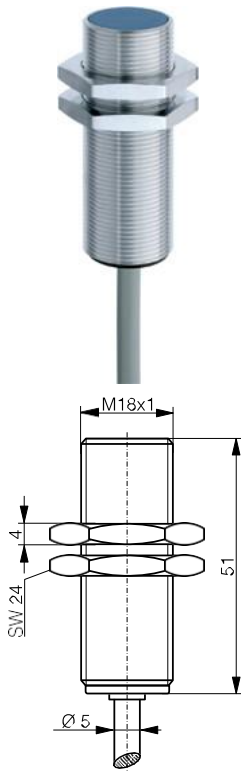
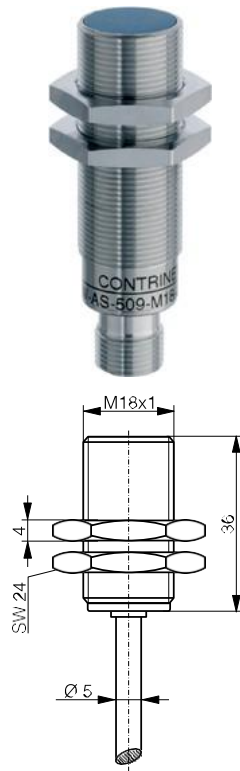


INDUCTIVE SENSOR ANALOG OUTPUT DW-Ax-509-M18

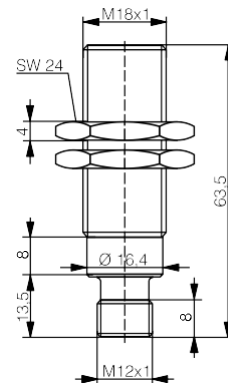
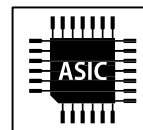
HOUSING	OPERATING DISTANCE	MOUNTING	✓ Long sensing range ✓ Outstanding accuracy and temperature stability ✓ Resolution in μm range	
M18	10 mm	Quasi-embeddable	✓ Exceptional price performance ratio ✓ Current/voltage output ✓ IP67	



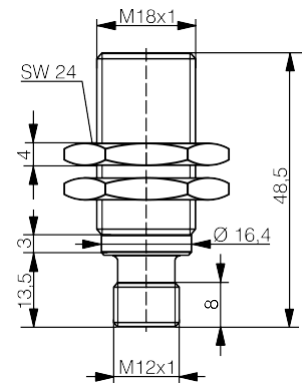
DW-AD-509-M18



DW-AD-509-M18-120



DW-AS-509-M18-002



DW-AS-509-M18-120

DETECTION DATA		INTERFACE	
Sensing distance (S_d)	10 mm	IO-Link	✗
Repeat accuracy (IEC 60947-5-2)	$\pm 0.2 \text{ mm}$	MTTF @40°C	551 y
Static resolution* (@0.67· S_d)	$\leq 0.25 \mu\text{m}$		
Dynamic resolution* (@0.67· S_d)	$\leq 1.24 \mu\text{m}$		
Temperature drift of S_d	$\leq 5\% (0... +70^\circ\text{C})$ $\leq 10\% (-25... 0^\circ\text{C})$		
Standard target	30 x 30 x 1 mm ³ , FE360		

*Static resolution is measured when the target is moving at 20 Hz. Dynamic resolution when the target is moving at the sensor bandwidth limit.

ELECTRICAL DATA		MECHANICAL DATA	
Supply voltage range (U_b)	10...30 VDC	Mounting	Quasi-embeddable
Residual ripple	$\leq 20\% U_b$	Housing material	Chrome-plated brass
Power consumption (no-load)	$\leq 10 \text{ mA}$	Sensing face material	PBTP
Max. load at voltage output	$\leq 10 \text{ mA}$	Max tightening torque	25 Nm
Max. load at current output	1k Ω ($U_b=10\text{V}$) / 5k Ω ($U_b=30\text{V}$)	Ambient operating temperature	-25...+70°C ¹
Bandwidth	500 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 60947-5-2 / 7.4
Short-circuit protection	✓		
Voltage reversal protection	✓		
Cable length max.	$\leq 300 \text{ m}$		

Note: all data measured according to IEC 60947-5-2 standard with $U_b = 20...30\text{VDC}$, $T_A = 23^\circ\text{C} \pm 5^\circ\text{C}$.

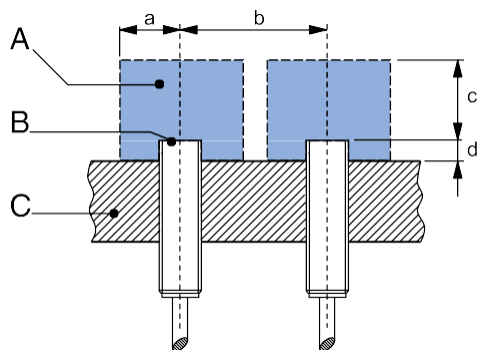
¹Maximum temperature according to UL: 70°C.

CORRECTION FACTORS

Steel FE 360	1	Copper	0.31	Aluminum	0.34	Brass	0.44	Stainless S. V2A 1 / 2 mm	0.72
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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 $S_{n,Al} = S_n \times CF_{Al} \times CF_{emb,Al}$.

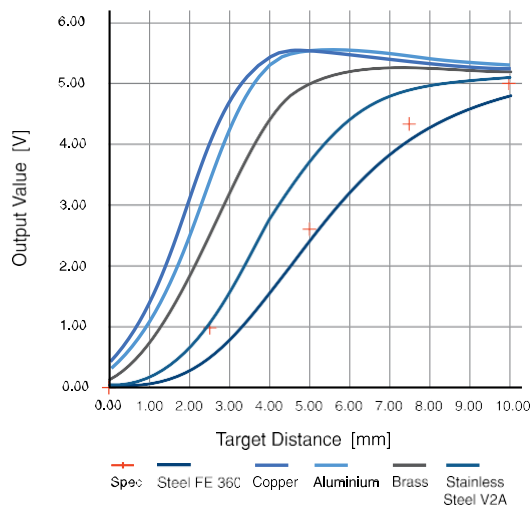
INSTALLATION CONDITIONS



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

a : 19 mm
b : 24 mm
c : 30 mm
d : steel 4 mm

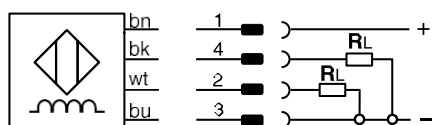
RESPONSE DIAGRAM



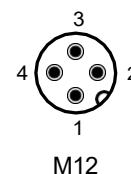
Note: additional installation information can be found in the glossary of the Contrinex General Catalog.

Output voltage	s = 0 mm	0 V / -0.0 +0.2 V	Output current	s = 0 mm	1 mA ± 0.2 mA
	s = $S_d/2$ mm	2.6 V ± 0.2 V		s = $S_d/2$ mm	3.1 mA ± 0.2 mA
	s = S_d mm	5.0 V ± 0.2 V		s = S_d mm	5 mA ± 0.2 mA
	s > S_d mm	5...6 V ± 0.2 V		s > S_d mm	5...5.75 mA ± 0.2 mA

WIRING DIAGRAM



PIN ASSIGNMENT



AVAILABLE TYPES

Part number	Part reference	Connection	Output on pin 2 / wh	Output on pin 4 / bk	Weight
330-020-379	DW-AD-509-M18	PUR, 2 m, 4 wire	1...5 mA	0...5 V	130 g
330-020-380	DW-AD-509-M18-120	PUR, 2 m, 4 wire	1...5 mA	0...5 V	115 g
330-020-393	DW-AS-509-M18-002	M12 4-pin	1...5 mA	0...5 V	56 g
330-020-394	DW-AS-509-M18-120	M12 4-pin	1...5 mA	0...5 V	49 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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