

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

HOUSING	OPERATING DIST	ANCE MOUNTING	<ul> <li>✓ Long sensing range</li> <li>✓ Outstanding accuracy</li> </ul>	<ul> <li>✓ Exceptional price and perfmance ratio</li> </ul>	
M18	10 mm	Quasi- embeddable	temperature stability ✓ Resolution in µm range	<ul> <li>✓ Current/voltage output</li> <li>✓ IP67</li> </ul>	
		CONTRINS AS-E09-MIN	ASIC	CULUS	
SW24				SW 24	
	9-M18-390	DW-AD-509-M18-320	DW-AS-509-M18-390	DW-AS-509-M18-320	
DETECTION DA	TA		INTERFACE		
Sensing distance Repeat accuracy		mm ).2 mm	IO-Link MTTF (@40°C)	× 551 y	
Static resolution**		) 25 um			

Repeat accuracy*	$\pm$ 0.2 mm	MTTF (@40°C)
Static resolution** (@0.67·S <sub>d</sub> )	≤ 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 mm <sup>3</sup> , FE360	

\*Measured under 3o 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 <sub>B</sub> )	1530 VDC	Mounting	Quasi-embeddable	
Residual ripple	$\leq$ 20% U <sub>B</sub>	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	25 Nm	
Max. load at current output	0.4kΩ (Ub=15V) / 1kΩ (Ub=30V)	Ambient operating temperature	-25+70°C1	
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 60947-5-7	
Warm-up time (temperature stability)	5 min			
Short-circuit protection	$\checkmark$			
Voltage reversal protection	$\checkmark$			
Cable length max.	≤ 300 m			
Note: all data measured according to IEC 60947	7-5-2 standard with $U_p = 2030$ VDC, $T_s = 23^{\circ}$ C $\pm 5^{\circ}$	С.	<sup>1</sup> Maximum temperature according to UL: 70°C.	

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CORRECTION FA	CTORS								
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  $S_{n,AI} = S_n \times CF_{AI}$ . In case of embeddable mounting, the distance is multiplied by the additional correction factor of the support, thus  $S_{n,AI} = S_n \times CF_{AI} \times CF_{emb,AI}$ .

**RESPONSE DIAGRAM** 

b 12.00 Α 10.00 с В Σ 8.00 d Output Value Typical curves 6.00 4.00 2.00 0.00 0.00 1.00 2.00 3.00 4.00 5.00 6.00 7.00 8.00 9.00 10.00 a: 19 mm A : metal free zone Target Distance [mm] B : sensing face b: 24 mm C : support c: 30 mm Steel FE 360 Copper Aluminium Brass Stainless Steel V2A d: steel 4 mm s = 0 0 V / -0.0 +0.4 V s = 0  $4 \text{ mA} \pm 0.8 \text{ mA}$ Note: additional installation information can be found in the glossary of the  $s = S_d/2$  $5.2 V \pm 0.4 V$  $s = S_{a}/2$  $12.3 \text{ mA} \pm 0.8 \text{ mA}$ Contrinex General Catalog. Output Output  $s = S_d$ 10.0 V ± 0.4 V  $s = S_d$  $20 \text{ mA} \pm 0.8 \text{ mA}$ voltage current 20...23 mA ± 0.8 s > 3\*S, +10.5 V ± 0.4 V s > 3\*S, mA WIRING DIAGRAM **PIN ASSIGNMENT** bn ...

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## **AVAILABLE TYPES**

INSTALLATION CONDITIONS

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	420 mA	010 V	115 g
330-020-385	DW-AD-509-M18-390	PUR, 2 m, 4 wire	420 mA	010 V	130 g
330-020-395	DW-AS-509-M18-320	M12 4-pin	420 mA	010 V	49 g
330-020-396	DW-AS-509-M18-390	M12 4-pin	420 mA	010 V	56 g

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

Product warranty is contingent upon professional use and proper installation of the product in applications for which the product was intended for, namely systems of automated manufacturing processes (factory automation). The warranty does not cover products that were modified, that have expired or that were subjected to physical, environmental, chemical or electrical stress. beyond their original design specifications. This product is not a safety component as defined by IEC-61508, ISO 13489 or other international safety standards. The manufacturer does not guarantee product performance in specific applications and does not warrant specifications in case of significant recurring temperature cycling. Terms of delivery and rights to change design reserved. All rights reserved.

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M12

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