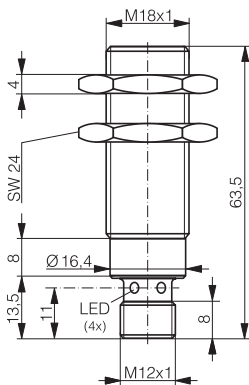
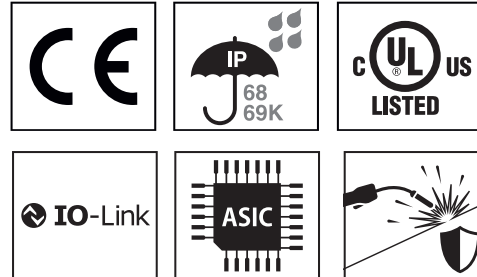
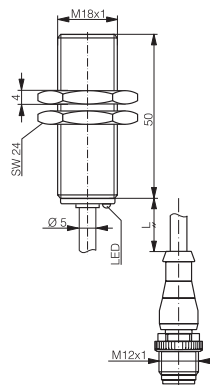


HOUSING	OPERATING DISTANCE	MOUNTING	✓ Anti-spatter coating	✓ Robust full-metal sensor, impact resistant
M18	10 mm	Embeddable	✓ Magnetic-field immunity: medium frequency $\leq 15$ kA 50 Hz fields $\leq 40$ mT	✓ Long operating distance ✓ Factor 1 on Fe and Al



DW-AS-70x-M18-6xx



DW-AV-70x-M18-6xx

DETECTION DATA		INTERFACE	
Rated operating distance ( $S_n$ )	10 mm	Indicator LED, yellow	Sensing state ( $0 \leq s \leq S_n$ )
Assured operating distance ( $S_a$ )	$\leq (0.81 \times S_n)$ mm	IO-Link	✓
Repeat accuracy	$\leq 0.5$ mm	MTTF (@40°C)	1028 y
Hysteresis	$3\% S_r \leq \text{Hyst} \leq 15\% S_r$		
Temperature drift	$\leq 10\% S_r$		
Standard target	30 x 30 x 1 mm <sup>3</sup> , FE360		

Note:  $0.9S_n \leq S_a \leq 1.1S_n$ .

ELECTRICAL DATA		MECHANICAL DATA	
Supply voltage range ( $U_B$ )	10...30 VDC	Mounting	Embeddable
Residual ripple	$\leq 20\% U_B$	Housing material	V2A / 1.4305 / AISI 303 (+ coating)
Output current	$\leq 200$ mA	Sensing face material	V2A / 1.4305 / AISI 303 (+ coating)
Output voltage drop	$\leq 2.0$ VDC	Max tightening torque	50 Nm
Power consumption (no-load)	$\leq 10$ mA	Ambient operating temperature	-25...+85°C <sup>1</sup>
Residual current	$\leq 0.1$ mA	Enclosure rating	IP68 / IP69K
Switching frequency	$\leq 15$ Hz	Weight (cable/connector)	see page 2
Short-circuit protection	✓	Cable minimum bend radius	moving: 15 x D; Fixed: 10 x D
Voltage reversal protection	✓	Shock and vibration	IEC 60947-5-2
Cable length max.	$\leq 300$ m		

<sup>1</sup>Maximum temperature according to UL: 70°C.

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

## CORRECTION FACTORS FOR TARGET OF

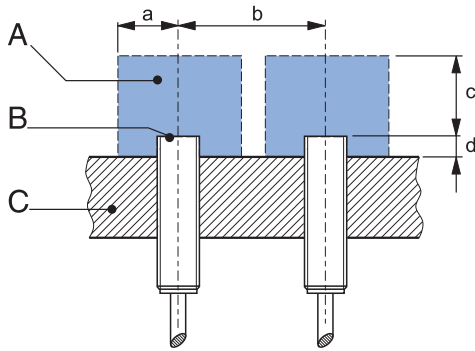
Steel FE 360	1	Copper	0.85	Aluminum	1	Brass	1.3	Stainless Steel V2A 1/2 mm	0.4 / 0.8
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## CORRECTION FACTORS FOR EMBEDDABLE MOUNTING IN SUPPORT OF

Steel FE 360	0.7	Aluminum	0.7	Brass	0.55	Stainless Steel V2A	0.65
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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 : 25 mm  
 b : 50 mm  
 c : 30 mm

d : steel 0 mm

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

## IO-LINK FUNCTIONALITIES

IO-Link version	1.1
SIO mode	Supported
Process data	7-bit input
Baudrate	COM2 (38.4 kBaud)
Minimum cycle time	10.4 ms
ISDU	Not supported



IO-Link files may be downloaded from

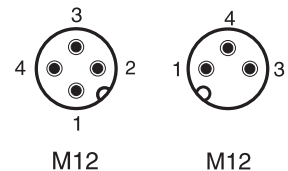
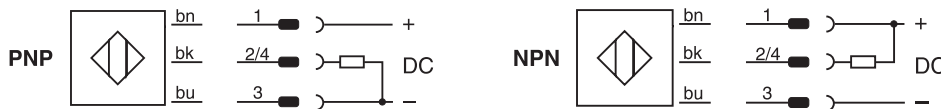
[www.contrinex.com/product-range/inductive-sensors/](http://www.contrinex.com/product-range/inductive-sensors/).

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## WIRING DIAGRAM

## PIN ASSIGNMENT



## AVAILABLE TYPES

### UNCOATED

Part number	Part reference	Old ref.	Polarity	Connection	Output on pin 2	Output on pin 4 / bk	Weight
330-320-145	DW-AS-703-M18-673	-	PNP	M12 4-pin	-	Normally open (NO)	53 g
320-420-763	DW-AV-701-M18-673	xxx-692	NPN	PUR, 0.2m + M12 3-pin	-	Normally open (NO)	66 g
330-320-169	DW-AV-703-M18-673	xxx-695	PNP	PUR, 0.2m + M12 3-pin	-	Normally open (NO) / IO-Link	66 g
320-420-765	DW-AS-701-M18-673	-	NPN	M12 4-pin	-	Normally open (NO)	53 g

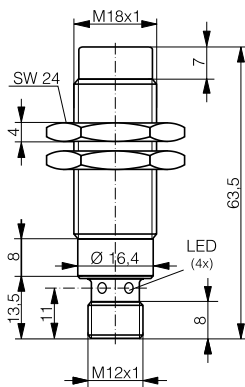
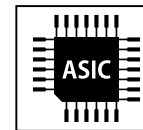
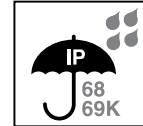
### COATED

Part number	Part reference	Old ref.	Polarity	Connection	Output on pin 2	Output on pin 4 / bk	Weight
330-320-162	DW-AS-703-M18-697	-	PNP	M12 4-pin	-	Normally open (NO)	53 g
320-420-780	DW-AV-701-M18-693	xxx-696	NPN	PUR, 0.2m + M12 3-pin	-	Normally open (NO)	66 g
330-320-170	DW-AV-703-M18-693	xxx-696	PNP	PUR, 0.2m + M12 3-pin	-	Normally open (NO) / IO-Link	66 g

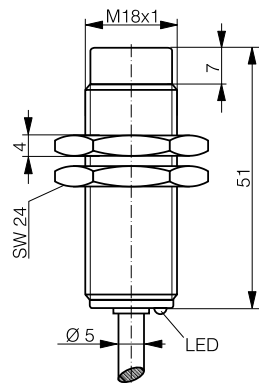
Note: part reference may include additional suffix to indicate a revision version or special version. Further information is available on request.

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HOUSING	OPERATING DISTANCE	MOUNTING	✓ One-piece housing in stainless steel V2A	✓ Extremely robust
M18	20 mm	Non-embeddable	✓ Long operating distance	✓ Water resistant
			✓ Factor 1 on Fe and Al	✓ IP68/IP69K
				✓ IO-Link v1.1



DW-AS-71x-M18-002



DW-AD-71x-M18

DETECTION DATA		INTERFACE	
Rated operating distance ( $S_n$ )	20 mm	Indicator LED, yellow	Sensing state ( $0 \leq s \leq 0.8 S_r$ )
Assured operating distance ( $S_a$ )	$\leq (0.81 \times S_n)$ mm	Indicator LED, yellow, blinking	Sensing state ( $0.8 S_r < s \leq S_r$ )
Repeat accuracy	$\leq 0.6$ mm	IO-Link	✓
Hysteresis	$3\% S_r < \text{Hyst} \leq 15\% S_r$	MTTF (@40°C)	1028 y
Temperature drift	$\leq 10\% S_r$		
Standard target	60 x 60 x 1 mm <sup>3</sup> , FE360		

Note:  $0.9S_n \leq S_a \leq 1.1S_n$ .

ELECTRICAL DATA		MECHANICAL DATA	
Supply voltage range ( $U_B$ )	10...30 VDC	Mounting	Non-embeddable
Residual ripple	$\leq 20\% U_B$	Housing material	V2A / 1.4305 / AISI 303
Output current	$\leq 200$ mA	Sensing face material	V2A / 1.4305 / AISI 303
Output voltage drop	$\leq 2.0$ VDC	Max tightening torque	50 Nm
Power consumption (no-load)	$\leq 10$ mA	Ambient operating temperature	-25...+85°C <sup>1</sup>
Residual current	$\leq 0.1$ mA	Enclosure rating	IP68 / IP69K
Switching frequency	$\leq 200$ Hz	Weight (cable/connector)	see page 2
Short-circuit protection	✓	Shock and vibration	IEC 60947-5-2 / 7.4
Voltage reversal protection	✓		
Cable length max.	$\leq 300$ m		

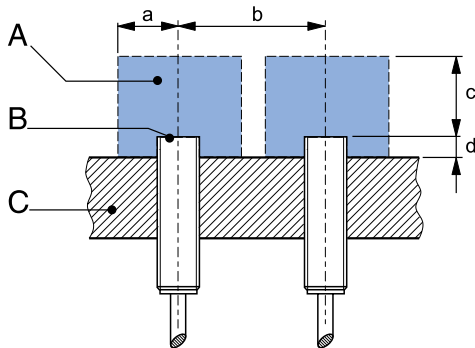
<sup>1</sup>Maximum temperature according to UL: 70°C.

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

## CORRECTION FACTORS FOR TARGET OF

Steel FE 360	1	Copper	0.9	Aluminum	1	Brass	1.35	Stainless Steel V2A 1/2 mm	0.2 / 0.7
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## INSTALLATION CONDITIONS



A : metal free zone      a : 50 mm      d : steel 36 mm  
 B : sensing face      b : 200 mm  
 C : support      c : 60 mm

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

## IO-LINK FUNCTIONALITIES

IO-Link version	1.1
SIO mode	Supported
Process data	7-bit input
Baudrate	COM2 (38.4 kBaud)
Minimum cycle time	10.4 ms
ISDU	Not supported



IO-Link files may be downloaded from

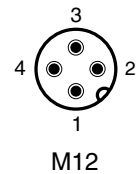
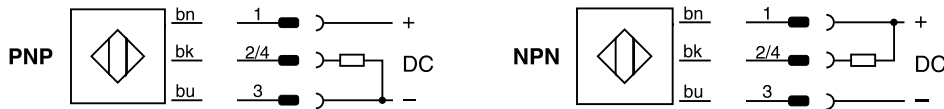
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## WIRING DIAGRAM

## PIN ASSIGNMENT



## AVAILABLE TYPES

Part number	Part reference	Polarity	Connection	Output on pin 2	Output on pin 4 / bk	Weight
320-420-231	DW-AD-711-M18	NPN	PUR, 2 m, 3 wire	-	Normally open (NO)	115 g
320-420-232	DW-AD-712-M18	NPN	PUR, 2 m, 3 wire	Normally close (NC)	-	115 g
330-320-016	DW-AD-713-M18	PNP	PUR, 2 m, 3 wire	-	Normally open (NO) / IO-Link	115 g
320-420-234	DW-AD-714-M18	PNP	PUR, 2 m, 3 wire	Normally close (NC)	-	115 g
320-420-236	DW-AS-711-M18-002	NPN	M12 4-pin	-	Normally open (NO)	53 g
320-420-237	DW-AS-712-M18-002	NPN	M12 4-pin	Normally close (NC)	-	53 g
330-320-017	DW-AS-713-M18-002	PNP	M12 4-pin	-	Normally open (NO) / IO-Link	53 g
320-420-239	DW-AS-714-M18-002	PNP	M12 4-pin	Normally close (NC)	-	53 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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