

# DW Series Analog Inductive Proximity Sensors

## M18 (18mm) Metal – Analog Output



- Voltage or current analog output
- Metal housing
- Axial cable or M12 quick-disconnect model
- IP67 rated
- Purchase cable separately (for quick-disconnect model)
- Lifetime warranty



### DW Series M18 Analog Inductive Proximity Selection Chart

Part Number	Price	Sensing Range	Mounting	Output	Connection	Wiring	Dimensions
<a href="#">DW-AD-509-M18-120</a>	\$110.00	0-10 mm [0-0.393 in]	Semi-flush	0-5 VDC / 1-5 mA	2m [6.5 ft] axial cable	Diagram 1	Figure 1
<a href="#">DW-AS-509-M18-120</a>	\$110.00	0-10 mm [0-0.393 in]	Semi-flush	0-5 VDC / 1-5 mA	M12 [12mm] quick-disconnect	Diagram 1	Figure 2
<a href="#">DW-AD-509-M18-320</a>	\$110.00	0-10 mm [0-0.393 in]	Semi-flush	0-10 VDC / 4-20 mA	2m [6.5 ft] axial cable	Diagram 1	Figure 1
<a href="#">DW-AS-509-M18-320</a>	\$110.00	0-10 mm [0-0.393 in]	Semi-flush	0-10 VDC / 4-20 mA	M12 [12mm] quick-disconnect	Diagram 1	Figure 2

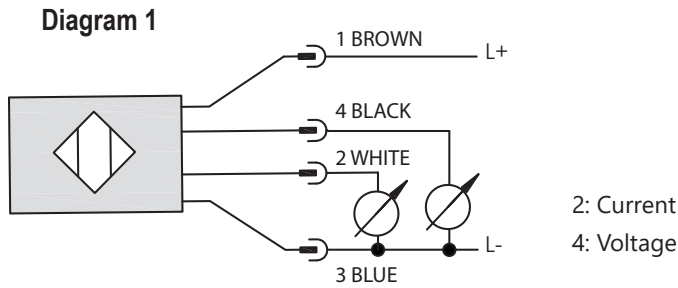
### DW Series M18 Analog Inductive Proximity Specifications

Specification	DW-Ax-509-M18-120	DW-Ax-509-M18-320
Mounting Type	Semi-flush	
Nominal Distance	0-10 mm [0-0.393 in]	
Operating Distance	NA	
Material Correction Factors	See the <a href="#">Material influence table</a>	
Output Type	0-5 VDC or 1-5 mA	0-10 VDC or 4-20mA
Current Output Max. Load / Power Supply	1k $\Omega$ / 10VDC; 5k $\Omega$ / 30VDC	0.5k $\Omega$ / 15VDC; 1 k $\Omega$ / 30VDC
Voltage Output Min. Load	500 $\Omega$	1k $\Omega$
Operating Voltage	10-30 VDC	15-30 VDC
No-load Supply Current	$\leq$ 10mA	$\leq$ 12mA
Operating (Load) Current	$\leq$ 10mA	
Off-state (Leakage) Current	NA	
Voltage Drop	$\leq$ 2.0 V	
Switching Frequency	NA	
Differential Travel (% of Nominal Distance)	NA	
Repeat Accuracy	$\pm$ 0.02 mm	
Ripple	$\leq$ 20%	
Response Time	2ms	
Time Delay Before Availability (tv)	$\leq$ 50ms	
Input Voltage Transient Protection	Up to 30VDC	
Reverse Polarity Protection	Yes	
Short-Circuit Protection	Yes (switch auto-resets after overload is removed)	
Operating Temperature	-25 to +70°C [-13 to 158°F]	
Protection Degree (DIN 40050)	IEC IP67	
Indication/Switch Status	NA	
Housing Material	Chrome-plated brass	
Sensing Face Material	Polybutylene Terephthalate [PBT]	
Shock/Vibration	IEC 60947-5-2	
Tightening Torque	30 N•m (22 lb•ft)	
Weight (cable/M12 connector)	110g [3.88 oz] / 50g [1.76 oz]	
Connection	2m [6.5 ft] axial cable or M12 [12mm] connector	
Agency Approvals	UL file E239373	

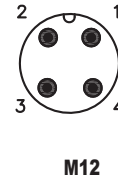
To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page.

# DW Series Analog Inductive Proximity Sensors

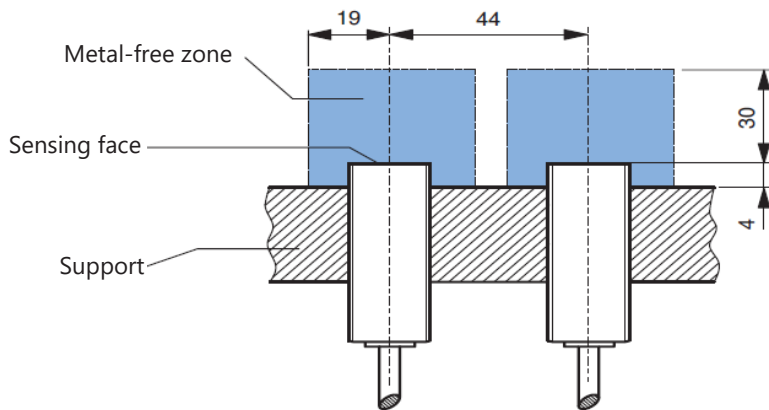
## Wiring Diagram



## Connector



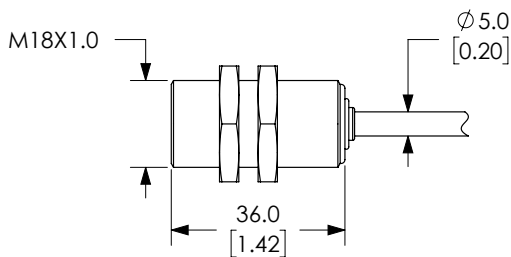
## Installation



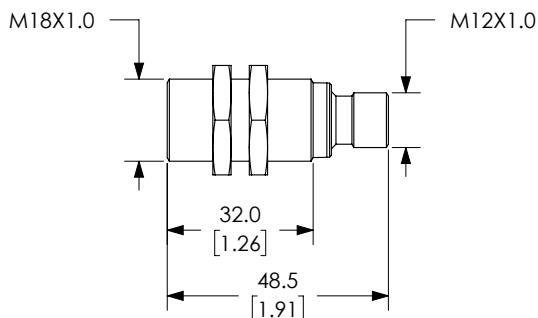
## Dimensions

mm [inches]

**Figure 1**



**Figure 2**



# Accessories for 18mm Sensors

## Axial Mounting Bracket

Axial mounting bracket available in zinc plated steel or 316L stainless steel. Has two mounting holes (use 4mm screws) and allows for rotation of an optical axis for right-beam-angle-adaptor sensors. Hexagonal nuts not included. For use with 18mm sensors.



**ST18A**

Accessories for 18mm Sensors			
Part Number	Price	Description	Weight lb [g]
<b>ST18A</b>	\$2.00	Micro Detectors mounting bracket, axial, zinc plated steel. For use with 18mm sensors.	0.06 [27.2]
<b>ST18A7W</b>	\$7.25	Micro Detectors mounting bracket, axial, 316L stainless steel. For use with 18mm sensors.	0.06 [27.2]

## Dimensions

mm [inches]



## Right-angle Mounting Bracket

Right-angle mounting bracket for use with 18mm sensors. Has two mounting holes (use 4mm screws) and allows the rotation of an optical axis for axial sensors. Hexagonal nuts not included.

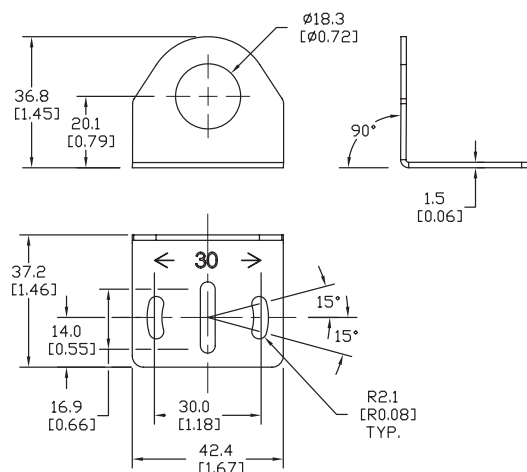


**ST18C**

Accessories for 18mm Sensors			
Part Number	Price	Description	Weight lb [g]
<b>ST18C</b>	\$2.00	Micro Detectors mounting bracket, right-angle, zinc plated steel. For use with 18mm sensors.	0.06 [27.2]
<b>ST18C7W</b>	\$7.25	Micro Detectors mounting bracket, right-angle, 316L stainless steel. For use with 18mm sensors.	0.06 [27.2]

## Dimensions

mm [inches]



# Accessories for 18mm Sensors

## Right-angle Mounting Brackets

Mounting bracket, right-angle, fixed insertion stop adjustment, plastic. For use with 18mm sensors. Available with or without fixed insertion stop.

Accessories for 18mm Sensors				
Part Number	Price	Description	Drawing Link	Weight lb [g]
<a href="#">OPT2104</a>	\$10.50	Wenglor mounting bracket, right-angle, fixed insertion stop adjustment, plastic. For use with 18mm sensors.	<a href="#">PDF</a>	0.06 [27.2]
<a href="#">OPT2105</a>	\$10.50	Wenglor mounting bracket, right-angle, plastic. For use with 18mm sensors.	<a href="#">PDF</a>	0.06 [27.2]



[OPT2104](#), [OPT2105](#)

## Right-angle Swivel Mounting Systems

Mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment, 12mm rod mount. For use with 18mm sensors. Available in all 304 stainless steel or with an aluminum head and a stainless steel mounting plate.

Accessories for 18mm Sensors						
Part Number	Price	Description	Mounting Head	Mounting Plate	Drawing Link	Weight lb [g]
<a href="#">OPT2116</a>	\$11.50	Wenglor mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment, aluminum, 12mm rod mount. For use with 18mm sensors.	Aluminum	304 Stainless steel	<a href="#">PDF</a>	0.15 [68.0]
<a href="#">OPT2117</a>	\$21.00	Wenglor mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment, 304 stainless steel, 12mm rod mount. For use with 18mm sensors.	304 Stainless steel	304 Stainless steel	<a href="#">PDF</a>	0.28 [127.0]



[OPT2116](#), [OPT2117](#)

Note: 304 Stainless steel mounting rods sold separately: [OPT2109](#) (200mm [7.87 in] length), [OPT2110](#) (300mm [11.81 in] length), and [OPT2111](#) (500mm [19.69 in] length).

# Mounting Rods and Brackets

## Mounting Rods

304 Stainless steel rods for mounting swivel brackets [OPT2112](#) - [OPT2127](#). Available in three lengths: 200mm, 300mm, and 500mm. 12mm diameter.

Mounting Rods for OPT2112-2127 Swivel Mounting Brackets				
Part Number	Price	Description	Drawing Link	Weight lb (g)
<a href="#">OPT2109</a>	\$13.00	Wenglor mounting rod, 12mm diameter, 200mm length, 304 stainless steel.	<a href="#">PDF</a>	0.41 [185.97]
<a href="#">OPT2110</a>	\$16.00	Wenglor mounting rod, 12mm diameter, 300mm length, 304 stainless steel.	<a href="#">PDF</a>	0.60 [272.16]
<a href="#">OPT2111</a>	\$21.00	Wenglor mounting rod, 12mm diameter, 500mm length, 304 stainless steel.	<a href="#">PDF</a>	0.98 [444.52]



## Right-angle Mounting Bracket

Mounting bracket, right-angle, nickel-plated brass. For use with 12mm mounting rods [OPT2109](#), [OPT2110](#) & [OPT2111](#).

Right-angle Mounting Brackets for 12mm Sensors				
Part Number	Price	Description	Drawing Link	Weight lb [g]
<a href="#">OPT2108</a>	\$16.00	Wenglor mounting bracket, right-angle, nickel-plated brass. For use with 12mm mounting rods <a href="#">OPT2109</a> , <a href="#">OPT2110</a> & <a href="#">OPT2111</a> .	<a href="#">PDF</a>	0.07 [31.8]

