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
DW-AD-509-M18-120	$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
DW-AS-509-M18-120	$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
DW-AD-509-M18-320	$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
DW-AS-509-M18-320	$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

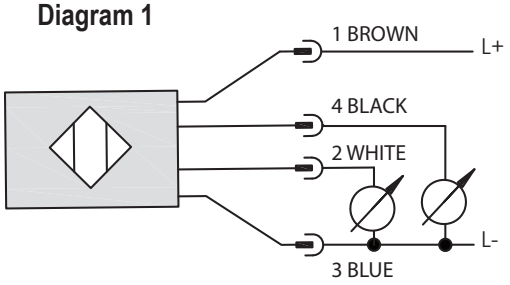
Specification	DW-Ax-509-M18-120	DW-Ax-509-M18-320
Mounting Type	Semi-flush	
Nominal Distance	0-10 mm [0-0.393 in]	
Operating Distance	NA	
Material Correction Factors	See the Material influence table	
Output Type	0-5 VDC or 1-5 mA	0-10 VDC or 4-20mA
Current Output Max. Load / Power Supply	1kΩ / 10VDC; 5kΩ / 30VDC	0.5kΩ / 15VDC; 1 kΩ / 30VDC
Voltage Output Min. Load	500Ω	1kΩ
Operating Voltage	10-30 VDC	15-30 VDC
No-load Supply Current	≤ 10mA	≤ 12mA
Operating (Load) Current	≤ 10mA	
Off-state (Leakage) Current	NA	
Voltage Drop	≤ 2.0 V	
Switching Frequency	NA	
Differential Travel (% of Nominal Distance)	NA	
Repeat Accuracy	± 0.02 mm	
Ripple	≤ 20%	
Response Time	2ms	
Time Delay Before Availability (tv)	≤ 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

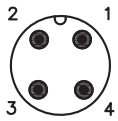
Wiring Diagram

Diagram 1



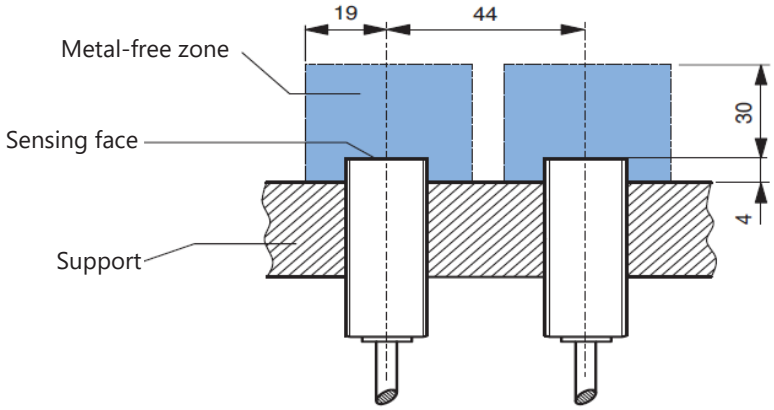
2: Current
4: Voltage

Connector



M12

Installation



Dimensions

mm [inches]

Figure 1

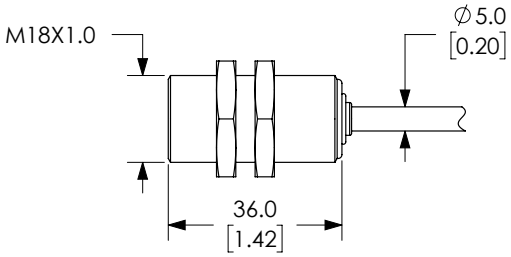
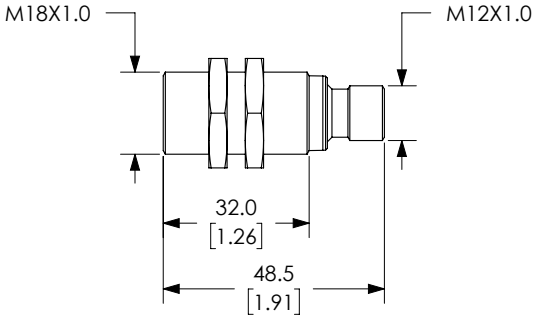


Figure 2



Accessories for 18mm Sensors

Axial Mounting Bracket

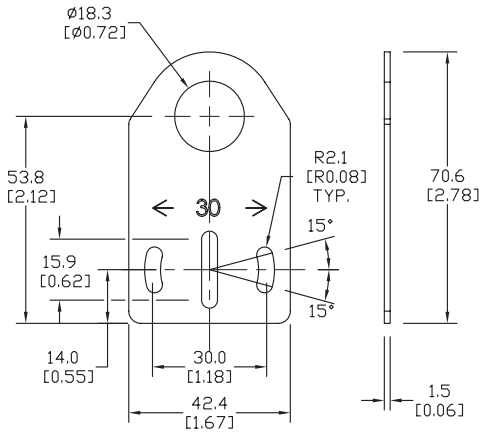
Axial mounting bracket available in zinc plated steel or 316L stainless steel. Has two mounting holes (use 4mm screws) and allows for rotation of an optical axis for right-beam-angle-adapter sensors. Hexagonal nuts not included. For use with 18mm sensors.

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

ST18A

Dimensions

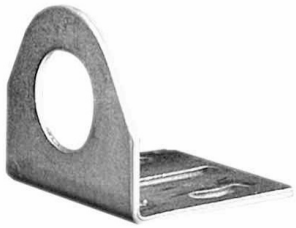
mm [inches]



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.

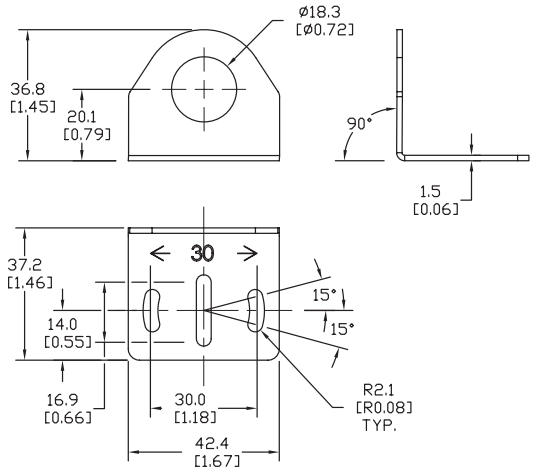
Accessories for 18mm Sensors			
Part Number	***Price***	***Description***	***Weight lb [g]***
ST18C	$2.00	Micro Detectors mounting bracket, right-angle, zinc plated steel. For use with 18mm sensors.	0.06 [27.2]
ST18C7W	$7.25	Micro Detectors mounting bracket, right-angle, 316L stainless steel. For use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



ST18C

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]*
OPT2104	$10.50	Wenglor mounting bracket, right-angle, fixed insertion stop adjustment, plastic. For use with 18mm sensors.	PDF	0.06 [27.2]
OPT2105	$10.50	Wenglor mounting bracket, right-angle, plastic. For use with 18mm sensors.	PDF	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]*
OPT2116	$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	PDF	0.15 [68.0]
OPT2117	$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	PDF	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)*
OPT2109	$13.00	Wenglor mounting rod, 12mm diameter, 200mm length, 304 stainless steel.	PDF	0.41 [185.97]
OPT2110	$16.00	Wenglor mounting rod, 12mm diameter, 300mm length, 304 stainless steel.	PDF	0.60 [272.16]
OPT2111	$21.00	Wenglor mounting rod, 12mm diameter, 500mm length, 304 stainless steel.	PDF	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]*
OPT2108	$16.00	Wenglor mounting bracket, right-angle, nickel-plated brass. For use with 12mm mounting rods OPT2109, OPT2110 & OPT2111.	PDF	0.07 [31.8]