

DW Series Analog Inductive Proximity Sensors



M12 (12mm) Metal – Analog Output

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



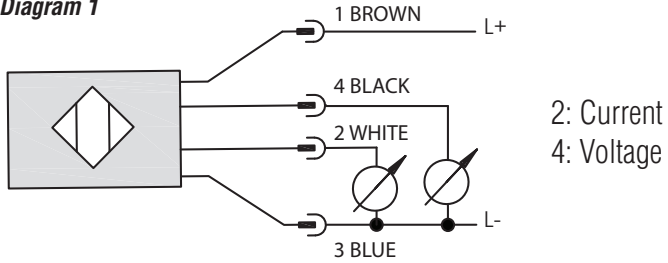
DW Series M12 Analog Inductive Prox Selection Chart							
Part Number	Price	Sensing Range	Mounting	Output	Connection	Wiring	Dimensions
DW-AD-509-M12		0-6 mm (0.236 in)	Semi-flush	0-5 VDC / 1-5 mA	2m [6.56 ft] axial cable	Diagram 1	Figure 1
DW-AS-509-M12		0-6 mm (0.236 in)	Semi-flush	0-5 VDC / 1-5 mA	M12 [12mm] quick-disconnect	Diagram 1	Figure 2
DW-AD-509-M12-390		0-6 mm (0.236 in)	Semi-flush	0-10 VDC / 4-20 mA	2m [6.56 ft] axial cable	Diagram 1	Figure 1
DW-AS-509-M12-390		0-6 mm (0.236 in)	Semi-flush	0-10 VDC / 4-20 mA	M12 [12mm] quick-disconnect	Diagram 1	Figure 2

Specifications		
	DW-Ax-509-M12	DW-Ax-509-M12-390
Mounting Type	Semi-flush	Semi-flush
Nominal Distance	0-6 mm (0.236 in)	0-6 mm (0-0.236 in)
Operating Distance	NA	NA
Material Correction Factors	See the Material influence table	See the Material influence table
Output Type	0-5 VDC / 1-5 mA	0-10 VDC / 4-20 mA
Current Output Max. Load / Power Supply	1kΩ / 10VDC; 5 kΩ / 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	≤ 10mA
Off-state (Leakage) Current	NA	NA
Voltage Drop	≤ 2.0 V	≤ 2.0 V
Switching Frequency	NA	NA
Differential Travel (% of Nominal Distance)	NA	NA
Repeat Accuracy	± 0.01 mm	± 0.01 mm
Ripple	≤ 20%	≤ 20%
Response Time	1ms	1ms
Time Delay Before Availability (tv)	≤ 50ms	≤ 50ms
Reverse Polarity Protection	Yes	Yes
Short-Circuit Protection	Yes (switch auto-resets after overload is removed)	Yes (switch auto-resets after overload is removed)
Operating Temperature	-25° to +70°C (-13° to 158°F)	-25° to +70°C (-13° to 158°F)
Protection Degree (DIN 40050)	IEC IP67	IEC IP67
Indication/Switch Status	NA	NA
Housing Material	Chrome-plated brass	Chrome-plated brass
Sensing Face Material	Polybutylene Terephthalate (PBT)	Polybutylene Terephthalate (PBT)
Shock/Vibration	IEC 60947-5-2	IEC 60947-5-2
Tightening Torque	10 N•m (7.37 lb•ft)	10 N•m (7.37 lb•ft)
Weight (cable/M12 connector)	95g (3.35 oz) / 33g (1.16 oz)	95g (3.35 oz) / 33g (1.16 oz)
Connection	2m (6.56 ft) axial cable or M12 (12mm) connector	2m (6.56 ft) axial cable or M12 (12mm) connector
Agency Approvals	UL file E239373	UL file E239373

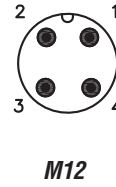
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Wiring diagram

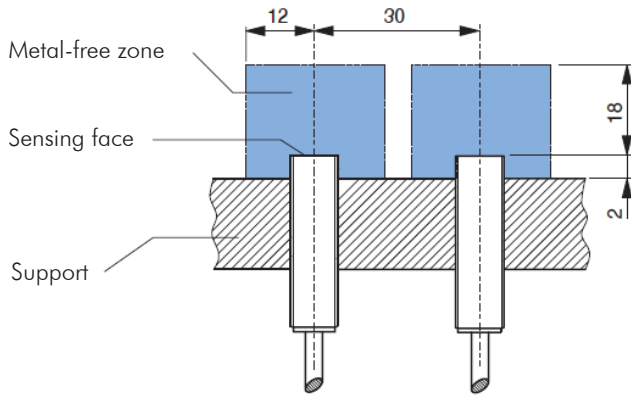
Diagram 1



Connector



Installation



Dimensions

mm [inches]

Figure 1

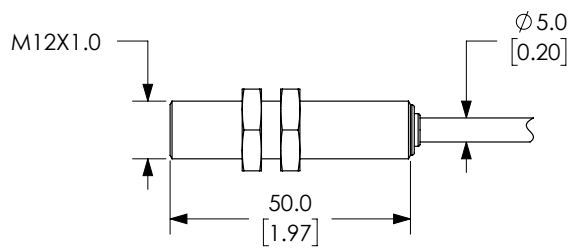
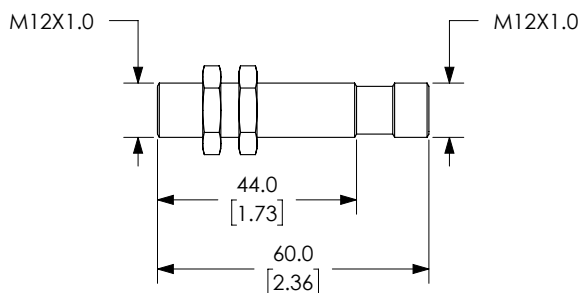


Figure 2



Accessories for 12mm Sensors

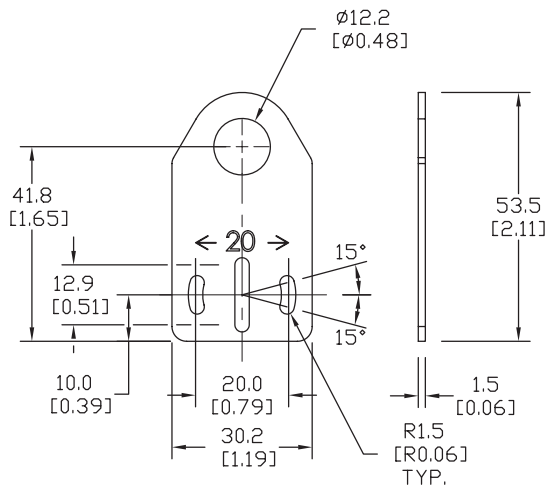
Axial Mounting Bracket

Mounting bracket, axial, available in zinc-plated steel or 316L stainless steel. For use with 12mm sensors. Has two mounting holes (use 3mm screws) and allows the rotation of an optical axis for right-angle adapter sensors. Hexagonal nuts not included.

Accessories for 12mm Sensors			
Part Number	Price	Description	Weight lb (g)
ST12A		Mounting bracket, axial, zinc plated steel. For use with 12mm sensors.	0.03
ST12A7W		Mounting bracket, axial, 316L stainless steel. For use with 12mm sensors.	0.03

Dimensions

mm [inches]



ST12A

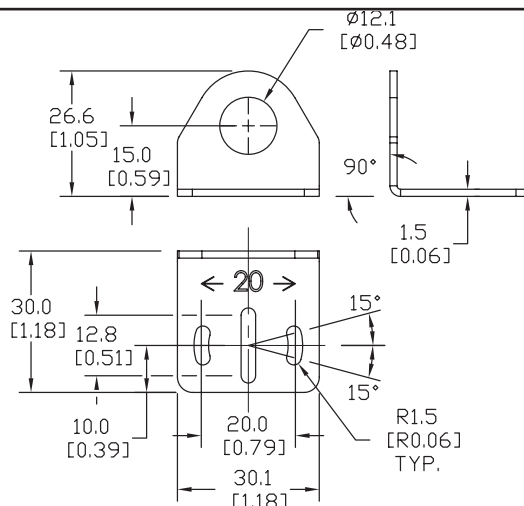
Right-angle Mounting Bracket

Mounting bracket, right-angle, zinc-plated steel or 316L stainless steel. For use with 12mm sensors. Has two mounting holes (use 3mm screws) and allows the rotation of an optical axis for axial sensors. Hexagonal screws not included.

Accessories for 12mm Sensors			
Part Number	Price	Description	Weight lb (g)
ST12C		Mounting bracket, right-angle, zinc plated steel. For use with 12mm sensors.	0.03 (13.6)
ST12C7W		Mounting bracket, right-angle, 316L stainless steel. For use with 12mm sensors.	0.03 (13.6)

Dimensions

mm [inches]



ST12C

Accessories for 12mm Sensors

Right-angle Mounting Brackets

Mounting bracket, right-angle, fixed insertion stop adjustment, plastic. For use with 12mm sensors. Available with or without fixed insertion stop.



OPT2102, OPT2103

Accessories for 12mm Sensors				
Part Number	Price	Description	Drawing Link	Weight lb (g)
OPT2102		Wenglor mounting bracket, right-angle, fixed insertion stop adjustment, plastic. For use with 12mm sensors.	PDF	0.05 (22.7)
OPT2103		Wenglor mounting bracket, right-angle, plastic. For use with 12mm sensors.	PDF	0.05 (22.7)

Right-angle Swivel Mounting Systems

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



OPT2114, OPT2115

Accessories for 12mm Sensors						
Part Number	Price	Description	Mounting Head	Mounting Plate	Drawing Link	Weight lb (g)
OPT2114		Wenglor mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment, aluminum, 12mm rod mount. For use with 12mm sensors.	Aluminum	Stainless steel	PDF	0.14 (63.5)
OPT2115		Wenglor mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment, 304 stainless steel, 12mm rod mount. For use with 12mm sensors.	304 Stainless steel	304 Stainless steel	PDF	0.27 (122.5)

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		Wenglor mounting rod, 12mm diameter, 200mm length, 304 stainless steel.	PDF	0.41 (185.97)
OPT2110		Wenglor mounting rod, 12mm diameter, 300mm length, 304 stainless steel.	PDF	0.60 (272.16)
OPT2111		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		Wenglor mounting bracket, right-angle, nickel plated brass. For use with 12mm mounting rods OPT2109, OPT2110 & OPT2111.	PDF	0.07 (31.8)