

# DW Series 12mm Triple Sensing Proximity Sensors



## M12 chrome plated brass – DC

- Sixteen models available
- 12mm threaded triple distance proximity sensor
- 6mm and 10mm sensing
- Complete overload protection
- IP67 rated
- Two M12 lock nuts included
- Chrome plated brass construction
- LED status indicator
- Lifetime warranty

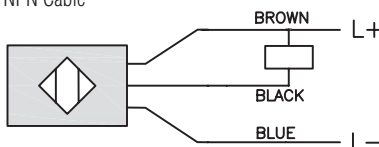


DW Series M12 Triple Distance Inductive Prox Selection Chart									
Part Number	Price	Size	Sensing Range	Mounting	Output State	Logic	Connection	Wiring	Dimensions
<b>Triple Distance Semi-flush</b>									
DW-AD-501-M12		M12	6mm (0.236 in)	Semi-flush	N.O.	NPN	2m (6.5 ft) axial cable	Diagram 1	Figure 1
DW-AD-503-M12		M12	6mm (0.236 in)	Semi-flush	N.O.	PNP	2m (6.5 ft) axial cable	Diagram 2	Figure 1
DW-AS-501-M12		M12	6mm (0.236 in)	Semi-flush	N.O.	NPN	M12 quick-disconnect	Diagram 3	Figure 3
DW-AS-503-M12		M12	6mm (0.236 in)	Semi-flush	N.O.	PNP	M12 quick-disconnect	Diagram 4	Figure 3
DW-AD-502-M12		M12	6mm (0.236 in)	Semi-flush	N.C.	NPN	2m (6.5 ft) axial cable	Diagram 1	Figure 1
DW-AD-504-M12		M12	6mm (0.236 in)	Semi-flush	N.C.	PNP	2m (6.5 ft) axial cable	Diagram 2	Figure 1
DW-AS-502-M12		M12	6mm (0.236 in)	Semi-flush	N.C.	NPN	M12 quick-disconnect	Diagram 3	Figure 3
DW-AS-504-M12		M12	6mm (0.236 in)	Semi-flush	N.C.	PNP	M12 quick-disconnect	Diagram 4	Figure 3
<b>Triple Distance Non-flush</b>									
DW-AD-511-M12		M12	10mm (0.393 in)	Non-flush	N.O.	NPN	2m (6.5 ft) axial cable	Diagram 1	Figure 2
DW-AD-513-M12		M12	10mm (0.393 in)	Non-flush	N.O.	PNP	2m (6.5 ft) axial cable	Diagram 2	Figure 2
DW-AS-511-M12		M12	10mm (0.393 in)	Non-flush	N.O.	NPN	M12 quick-disconnect	Diagram 3	Figure 4
DW-AS-513-M12		M12	10mm (0.393 in)	Non-flush	N.O.	PNP	M12 quick-disconnect	Diagram 4	Figure 4
DW-AD-512-M12		M12	10mm (0.393 in)	Non-flush	N.C.	NPN	2m (6.5 ft) axial cable	Diagram 1	Figure 2
DW-AD-514-M12		M12	10mm (0.393 in)	Non-flush	N.C.	PNP	2m (6.5 ft) axial cable	Diagram 2	Figure 2
DW-AS-512-M12		M12	10mm (0.393 in)	Non-flush	N.C.	NPN	M12 quick-disconnect	Diagram 3	Figure 4
DW-AS-514-M12		M12	10mm (0.393 in)	Non-flush	N.C.	PNP	M12 quick-disconnect	Diagram 4	Figure 4

## Wiring diagrams

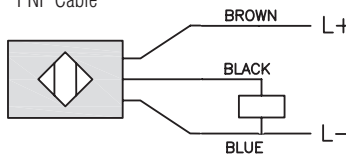
**Diagram 1**

NPN Cable



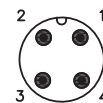
**Diagram 2**

PNP Cable



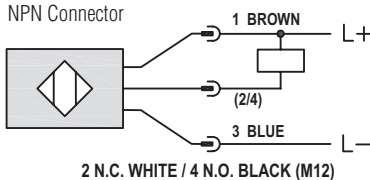
## Connectors

M12 connector



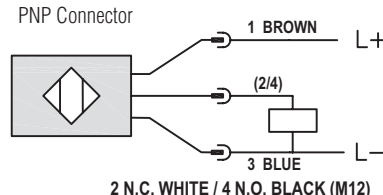
**Diagram 3**

NPN Connector



**Diagram 4**

PNP Connector



# DW Series 12mm Triple Sensing Proximity Sensors

DW Series M12 Specifications		
	DW-Ax-50x-M12	DW-Ax-51x-M12
<b>Mounting Type</b>	Semi-flush	Non-flush
<b>Nominal Sensing Distance</b>	6mm	10mm
<b>Operating Distance</b>	-	
<b>Material Correction Factors</b>	See the <a href="#">Material influence table</a>	
<b>Output Type</b>	NPN or PNP, N.O. or N.C.	
<b>Operating Voltage</b>	10 to 30 VDC	
<b>No-load Supply Current</b>	≤ 10mA	
<b>Operating (Load) Current</b>	≤ 200mA	
<b>Off-state (Leakage) Current</b>	≤ 0.1 mA	
<b>Voltage Drop</b>	≤ 2 V	
<b>Switching Frequency</b>	≤ 800Hz	≤ 400Hz
<b>Differential Travel (% of Nominal Distance)</b>	≤ 10%	
<b>Repeat Accuracy</b>	0.15 mm	0.30 mm
<b>Ripple</b>	≤ 20%	
<b>Time Delay Before Availability (tv)</b>	≤ 50ms	
<b>Reverse Polarity Protection</b>	Yes	
<b>Short-Circuit Protection</b>	Yes	
<b>Operating Temperature</b>	-25 to 70°C (-13 to 158°F)	
<b>Protection Degree (DIN 40050)</b>	IP67	
<b>Indication/Switch Status</b>	Yellow LED	
<b>Housing Material</b>	Chrome-plated brass	
<b>Sensing Face Material</b>	PPS (Polyphenylene sulfide)	
<b>Shock/Vibration</b>	IEC 60947-5-2/7.4	
<b>Tightening Torque</b>	-	
<b>Weight</b>	92g (3.25 oz), 26g (0.92 oz)	90g (3.17 oz), 25g (0.88 oz)
<b>Connection</b>	2m cable, M12 connection	
<b>IO-Link</b>	-	
<b>Agency Approvals</b>	CE, cULus E239373	

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

## Dimensions

mm [inches]

Figure 1

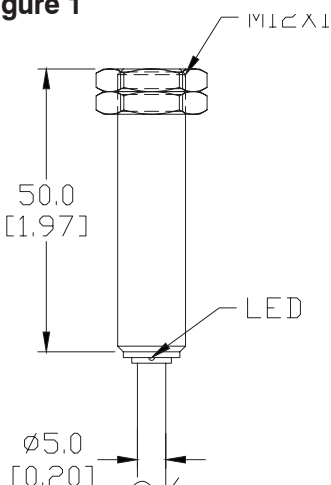
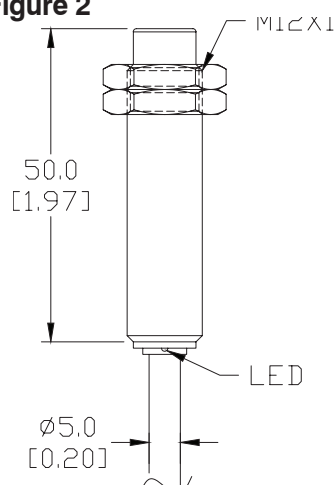


Figure 2



See our website for complete engineering drawings.

# DW Series 12mm Triple Sensing Proximity Sensors

## Dimensions

mm [inches]

Figure 3

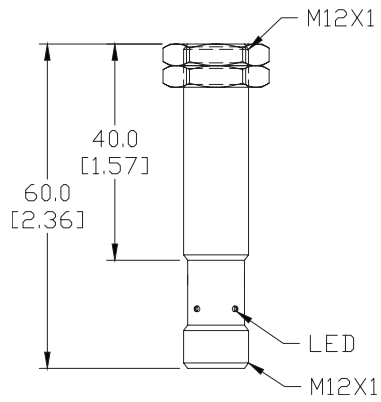
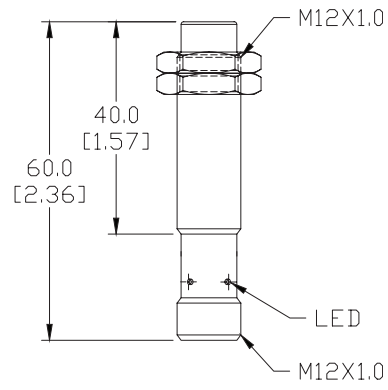


Figure 4



See our website for complete engineering drawings.



# 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)
<a href="#">OPT2102</a>		Wenglor mounting bracket, right-angle, fixed insertion stop adjustment, plastic. For use with 12mm sensors.	<a href="#">PDF</a>	0.05 (22.7)
<a href="#">OPT2103</a>		Wenglor mounting bracket, right-angle, plastic. For use with 12mm sensors.	<a href="#">PDF</a>	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)
<a href="#">OPT2114</a>		Wenglor mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment, aluminum, 12mm rod mount. For use with 12mm sensors.	Aluminum	Stainless steel	<a href="#">PDF</a>	0.14 (63.5)
<a href="#">OPT2115</a>		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	<a href="#">PDF</a>	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)
<a href="#">OPT2109</a>		Wenglor mounting rod, 12mm diameter, 200mm length, 304 stainless steel.	<a href="#">PDF</a>	0.41 (185.97)
<a href="#">OPT2110</a>		Wenglor mounting rod, 12mm diameter, 300mm length, 304 stainless steel.	<a href="#">PDF</a>	0.60 (272.16)
<a href="#">OPT2111</a>		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>		Wenglor mounting bracket, right-angle, nickel plated brass. For use with 12mm mounting rods OPT2109, OPT2110 & OPT2111.	<a href="#">PDF</a>	0.07 (31.8)