

# PMW Series Inductive Proximity Sensors



## M12 (12 mm) stainless steel – DC

- Twelve models available
- Low cost/high performance
- LED status indicators are visible at a wide angle.
- Axial cable or M12 quick-disconnect models
- Purchase cable separately (for quick-disconnect models).
- Lifetime warranty

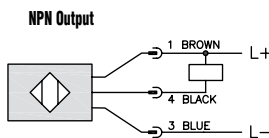


**PMW Series M12 DC Inductive Prox Selection Chart**

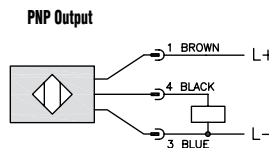
Part Number	Price	Sensing Range	Housing	Output State	Logic	Connection	Wiring	Dimensions
<b>Standard Distance</b>								
<b>PMW-ON-1H</b>	\$39.00	2 mm (0.08 in)	Shielded	NO/N.C	NPN	M12 (12 mm) connector	Diagram 3	Figure 1
<b>PMW-OP-1H</b>	\$39.00				PNP		Diagram 4	Figure 1
<b>PMW-ON-2H</b>	\$39.00	4 mm (0.157 in)	Unshielded	NO/N.C	NPN	M12 (12 mm) connector	Diagram 3	Figure 1
<b>PMW-OP-2H</b>	\$39.00				PNP		Diagram 4	Figure 1
<b>Extended Distance</b>								
<b>PMW-AN-1H</b>	\$45.50	3 mm (0.118 in)	Shielded	NO	NPN	M12 (12 mm) connector	Diagram 1	Figure 4
<b>PMW-AP-1H</b>	\$47.50				PNP		Diagram 2	Figure 4
<b>PMW-AN-2H</b>	\$49.50	6 mm (0.236 in)	Unshielded	NO	NPN	M12 (12 mm) connector	Diagram 1	Figure 5
<b>PMW-AP-2H</b>	\$49.50				PNP		Diagram 2	Figure 5
<b>Triple Distance</b>								
<b>PMW-AN-5A</b>	\$85.00	6 mm (0.236 in)	Shielded	NO	NPN	2 m (6.5') axial cable	Diagram 1	Figure 2
<b>PMW-AP-5A</b>	\$85.00				PNP	2 m (6.5') axial cable	Diagram 2	Figure 2
<b>PMW-AN-5H</b>	\$85.00				NPN	M12 (12 mm) connector	Diagram 1	Figure 3
<b>PMW-AP-5H</b>	\$85.00				PNP	M12 (12 mm) connector	Diagram 2	Figure 3

## Wiring diagrams

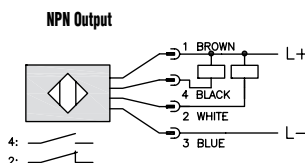
**Diagram 1**



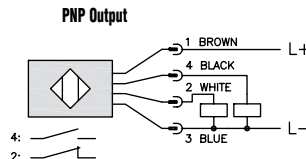
**Diagram 2**



**Diagram 3**



**Diagram 4**



## Connector

### M12 connector



*Note: Pin 2 is not present on some models.*

# PMW Series Inductive Proximity Sensors

Specifications	Standard Distance Models	Extended Distance Models	Triple Distance Models	PMW-A*-1H	PMW-A*-2H	
<b>Mounting Type</b>	Shielded	Unshielded	Shielded	Shielded	Unshielded	
<b>Nominal Sensing Distance</b>	2 mm (0.08 in) <sup>1</sup>	4 mm (0.157 in) <sup>1</sup>	6 mm (0.236 in)	3 mm (0.118 in)	6 mm (0.236 in)	
<b>Operating Distance</b>	NA			0 to 2.4 mm (0.09 in)	0 to 4.9 mm (0.19 in)	
<b>Material Correction Factors</b>	See the <a href="#">Material influence table</a>					
<b>Output Type</b>	NPN or PNP and NO/NC complementary		NPN or PNP, NO only	NPN or PNP, NO only		
<b>Operating Voltage</b>	10 to 30 VDC			10 to 36 VDC		
<b>No-load Supply Current</b>	≤15 mA		≤10 mA	≤20 mA	≤25 mA	
<b>Operating (Load) Current</b>	≤100 mA		≤200 mA	≤100 mA	≤100 mA	
<b>Off-state (Leakage) Current</b>	≤10µA			≤100µA		
<b>Voltage Drop</b>	≤1.2 V		≤2.0 V	<2.5 V		
<b>Switching Frequency</b>	2k Hz		400 Hz	100 Hz	500 Hz	
<b>Differential Travel (% of Nominal Distance)</b>	2 to 10%		≤15%	≤20%		
<b>Repeat Accuracy</b>	≤5%			Not available		
<b>Ripple</b>	≤10%		≤20%	Not available		
<b>Time Delay Before Availability (tv)</b>	100 ms		≤10 ms	negligible		
<b>Reverse Polarity Protection</b>	Yes					
<b>Short-circuit Protection</b>	Yes					
<b>Operating Temperature / Temperature Drift</b>	-25° to 70°C (-13° to 158°F) / 10%/Sr			-25° to 70°C (-13° to 158°F) / 20%/Sr	0° to 100°C (32° to 212°F)	
<b>Protection Degree (DIN 40050)</b>	IEC IP67/68		IEC IP67 <sup>2</sup> (connector/IP68 <sup>2</sup> (cable))	IEC IP67/68	IEC IP65/67/68/69K	
<b>Indication/Switch Status</b>	Yellow (NO output energized)					
<b>Housing Material</b>	Stainless steel		Stainless steel	Stainless steel. 2 lock nuts included.		
<b>Sensing Face Material</b>	PPS		Stainless steel	Stainless steel		
<b>Shock/Vibration</b>	See <a href="#">Proximity Sensor Terminology</a>					
<b>Tightening Torque</b>	10 Nm (7.25 lb-in)			20 Nm (14.5 lb-in)		
<b>Weight</b>	35 g (1.23 oz)		89 g (3.14 oz)	29 g (1.023 oz.)	30 g (1.058 oz.)	
<b>Connections</b>	M12 connector with gold-plated contacts					
<b>Agency Approvals</b>	NA		UL file E328811, RoHS	cULus file E328811, CE, RoHS		

Notes: <sup>1</sup>With 12 x 12mm FE360 target <sup>2</sup>Fully submersible to 290 psi.

## Dimensions mm[inches]

Figure 1

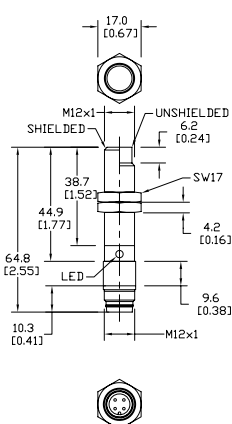


Figure 2

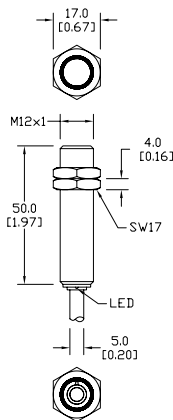


Figure 3

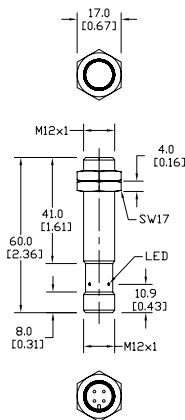


Figure 4

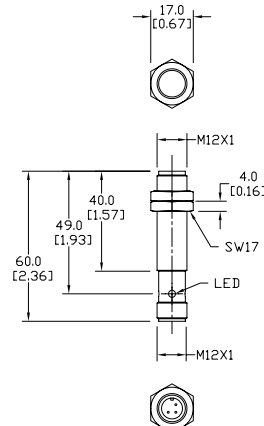
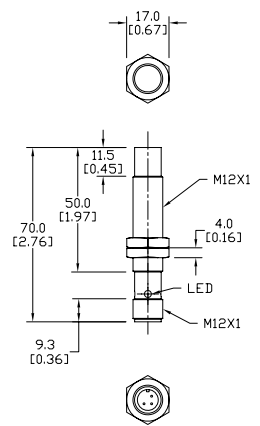


Figure 5



Note: Pin 2 is not present on some models.

# Accessories for 12mm Sensors

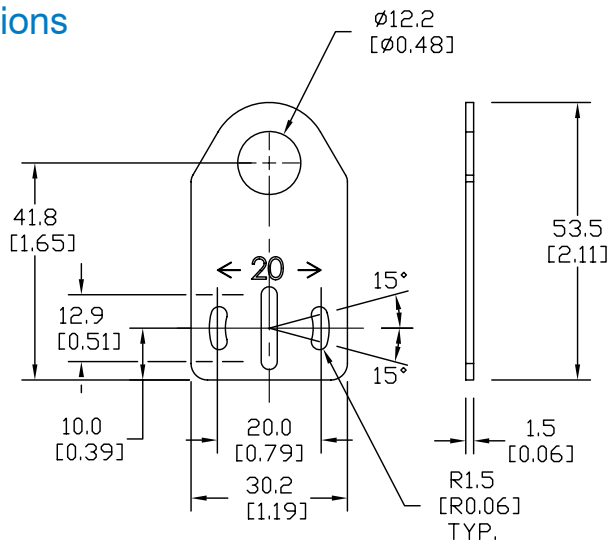
## Axial Mounting Bracket

Mounting bracket, axial, zinc-plated 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)
ST12A	\$2.00	Mounting bracket, axial, zinc-plated steel. For use with 12mm sensors. 1/pk.	0.03
ST12A7W	\$6.25	Mounting bracket, axial, 316L stainless steel. For use with 12mm sensors. 1/pk.	0.03

### Dimensions

mm [inches]



ST12A

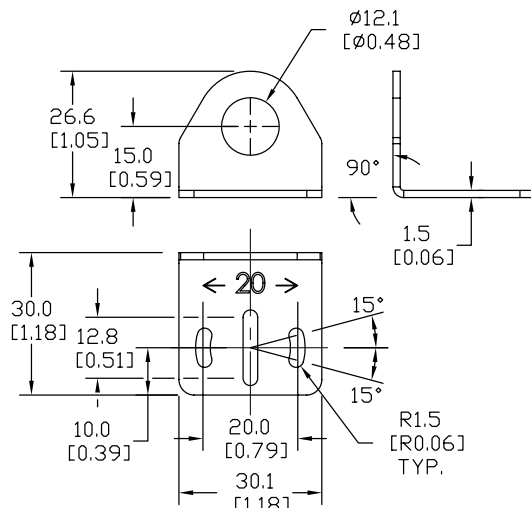
## Right-angle Mounting Bracket

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)
ST12C	\$2.00	Mounting bracket, right angle, zinc-plated steel. For use with 12mm sensors. 1/pk.	0.03
ST12C7W	\$6.25	Mounting bracket, right angle, 316L stainless steel. For use with 12mm sensors. 1/pk.	0.03

### Dimensions

mm [inches]



ST12C

See our website: [www.AutomationDirect.com](http://www.AutomationDirect.com) 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.

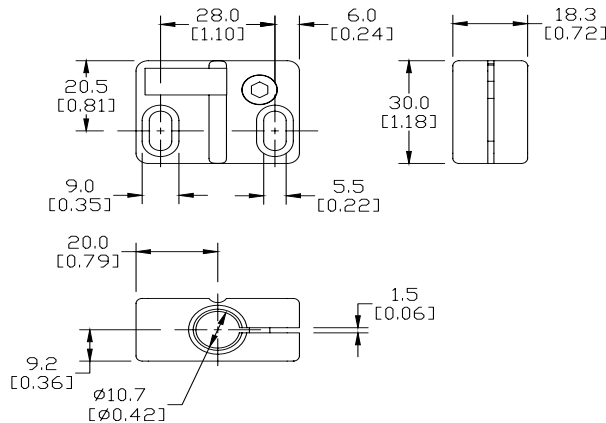
Accessories for 12mm Sensors					
Part Number	Price	Description	Weight [lb]		
<b>OPT2102</b>	\$6.25	Mounting bracket, right-angle, fixed insertion stop adjustment, plastic. For use with 12mm sensors.	0.05		
<b>OPT2103</b>	\$6.25	Mounting bracket, right-angle, plastic. For use with 12mm sensors.	0.05		



**OPT2102, OPT2103**

### Dimensions

mm [inches]



## 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.

Accessories for 12mm Sensors					
Part Number	Price	Description	Mounting Head	Mounting Plate	Weight [lb]
<b>OPT2114</b>	\$9.25	Mounting bracket, right-angle swivel, 360 vertical and horizontal adjustment, aluminum, 12mm rod mount. For use with 12mm sensors.	Aluminum	Stainless Steel	0.14
<b>OPT2115</b>	\$16.50	Mounting bracket, right-angle swivel, 360 vertical and horizontal adjustment, 304 stainless steel, 12mm rod mount. For use with 12mm sensors.	304 Stainless Steel	304 Stainless Steel	0.27

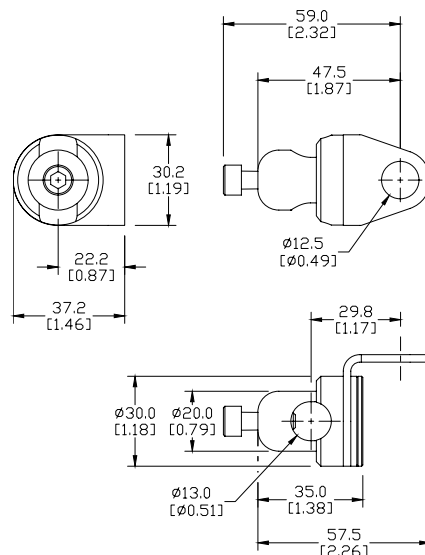
**Note: 304 Stainless steel mounting rods sold separately: OPT2109 (200mm length), OPT2110 (300mm length), and OPT2111 (500mm length).**



**OPT2114, OPT2115**

### Dimensions

mm [inches]



See our website: [www.AutomationDirect.com](http://www.AutomationDirect.com) for complete engineering drawings

# Mounting Rods

## Mounting Rods

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

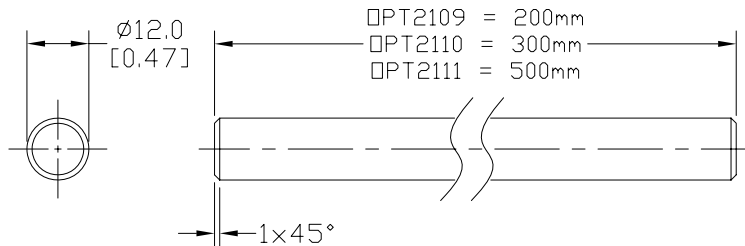
Mounting Rods for OPT2112-2127 Swivel Mounting Brackets			
Part Number	Price	Description	Weight [lb]
<b>OPT2109</b>	\$10.50	Mounting rod, 12mm diameter, 200mm length, 304 stainless steel.	0.41
<b>OPT2110</b>	\$12.50	Mounting rod, 12mm diameter, 300mm length, 304 stainless steel.	0.60
<b>OPT2111</b>	\$16.50	Mounting rod, 12mm diameter, 500mm length, 304 stainless steel.	0.98



**OPT2109, OPT2110, OPT2111**

## Dimensions

mm [inches]



## Right-angle Mounting Bracket

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

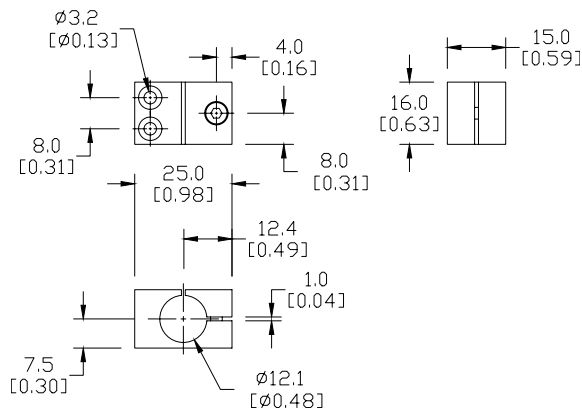
Accessories for 12mm Sensors			
Part Number	Price	Description	Weight [lb]
<b>OPT2108</b>	\$12.50	Mounting bracket, right-angle, nickel-plated brass. For use with 12mm mounting rods OPT2109, OPT2110 & OPT2111.	0.07



**OPT2108**

## Dimensions

mm [inches]



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