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

NEED CABLES?

PMW Series M12 DC Inductive Prox Selection Chart								
Part Number	**Price**	**Sensing Range**	**Mounting**	**Output State**	**Logic**	**Connection**	**Wiring**	**Dimensions**
Standard Distance								
PMW-0N-1H	$41.00	2 mm (0.08 in)	Flush	NO/N.C	NPN	M12 (12 mm) connector	Diagram 3	Figure 1
PMW-0P-1H	$41.00				PNP	M12 (12 mm) connector	Diagram 4	Figure 1
PMW-0N-2H	$41.00	4 mm (0.157 in)	Non-flush	NO/N.C	NPN	M12 (12 mm) connector	Diagram 3	Figure 1
PMW-0P-2H	$41.00				PNP	M12 (12 mm) connector	Diagram 4	Figure 1
Extended Distance								
PMW-AN-1H	$47.50	3 mm (0.118 in)	Flush	NO	NPN	M12 (12 mm) connector	Diagram 1	Figure 4
PMW-AP-1H	$49.50				PNP	M12 (12 mm) connector	Diagram 2	Figure 4
PMW-AN-2H	$52.00	6 mm (0.236 in)	Non-flush	NO	NPN	M12 (12 mm) connector	Diagram 1	Figure 5
PMW-AP-2H	$52.00				PNP	M12 (12 mm) connector	Diagram 2	Figure 5
Triple Distance								
PMW-AN-5A	$89.00	6 mm (0.236 in)	Flush	NO	NPN	2 m (6.5') axial cable	Diagram 1	Figure 2
PMW-AP-5A	$89.00				PNP	2 m (6.5') axial cable	Diagram 2	Figure 2
PMW-AN-5H	$89.00				NPN	M12 (12 mm) connector	Diagram 1	Figure 3
PMW-AP-5H	$89.00				PNP	M12 (12 mm) connector	Diagram 2	Figure 3

Wiring diagrams

Diagram 1

NPN Output

1 BROWN L+
4 BLACK
3 BLUE L−

Diagram 2

PNP Output

1 BROWN L+
4 BLACK
3 BLUE L−
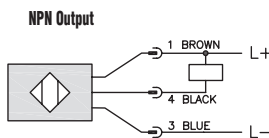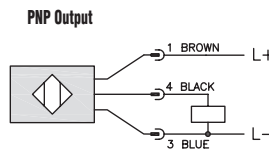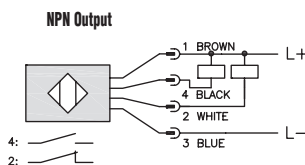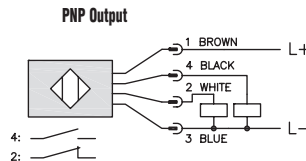
Connector

M12 connector

2
1
3 4

Note: Pin 2 is not present on some models.

Diagram 3

NPN Output

1 BROWN L+
4 BLACK
2 WHITE
3 BLUE L−
4:
2:

Diagram 4

PNP Output

1 BROWN L+
4 BLACK
2 WHITE
3 BLUE L−
4:
2:
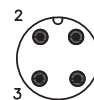
PMW Series Inductive Proximity Sensors

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

Notes: [1]With 12 x 12mm FE360 target [2]Fully submersible to 290 psi.
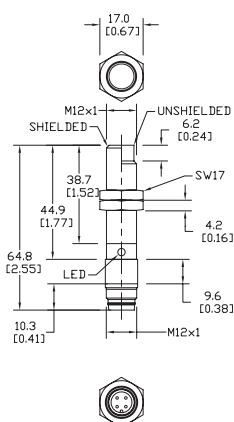
Dimensions mm[inches]

Figure 1

Figure 2

Figure 3

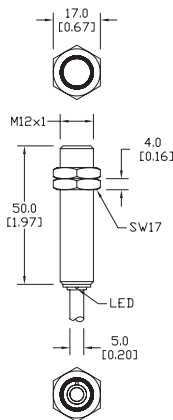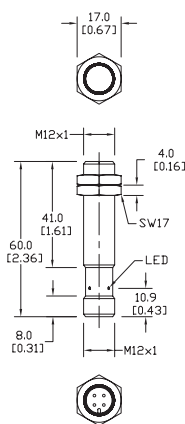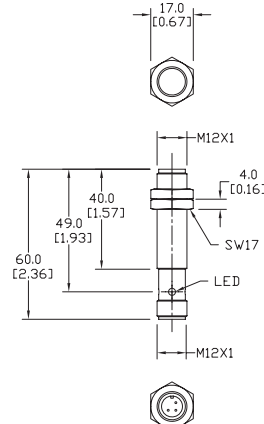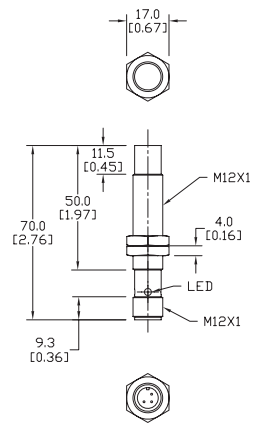### Figure 4

Figure 5

Note: Pin 2 is not present on some models.
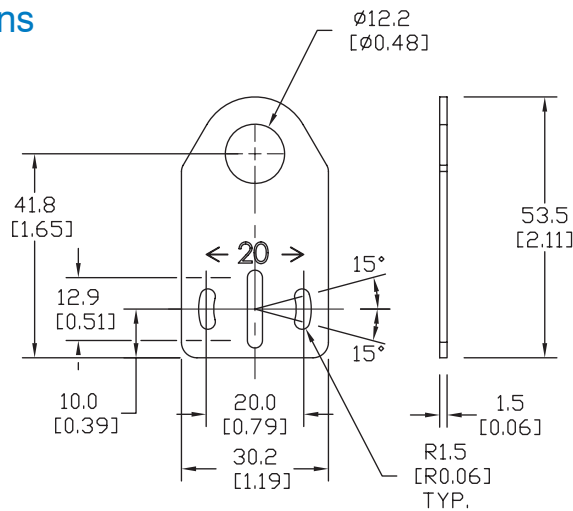
Accessories for 12mm Sensors

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 (gm)
ST12A	$2.00	Mounting bracket, axial, zinc-plated steel. For use with 12mm sensors. 1/pk.	0.03
ST12A7W	$6.50	Mounting bracket, axial, 316L stainless steel. For use with 12mm sensors. 1/pk.	0.03

ST12A

Dimensions

mm [inches]

Ø12.2 [Ø0.48]

41.8 [1.65]

53.5 [2.11]

12.9 [0.51]

15°
15°

10.0 [0.39]

20.0 [0.79]

30.2 [1.19]

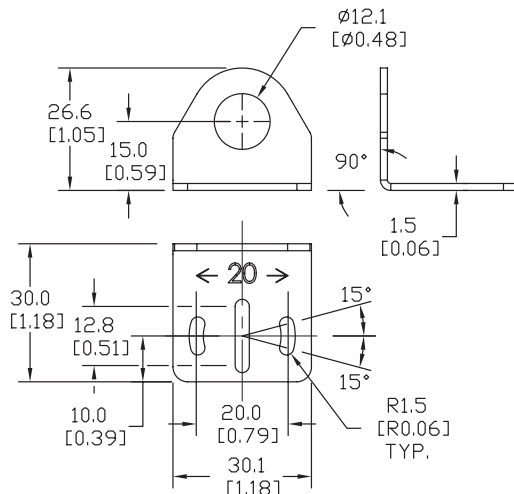1.5 [0.06]

R1.5 [R0.06] TYP.

20

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 (gm)
ST12C	$2.00	Mounting bracket, right angle, zinc-plated steel. For use with 12mm sensors. 1/pk.	0.03 (13.6)
ST12C7W	$6.50	Mounting bracket, right angle, 316L stainless steel. For use with 12mm sensors. 1/pk.	0.03 (13.6)

ST12C

Dimensions

mm [inches]

Ø12.1 [Ø0.48]

26.6 [1.05]

15.0 [0.59]

90°

1.5 [0.06]

30.0 [1.18]

12.8 [0.51]

20

15°
15°

10.0 [0.39]

20.0 [0.79]

30.1 [1.18]

R1.5 [R0.06] TYP.

See our website: www.AutomationDirect.com for complete engineering drawings
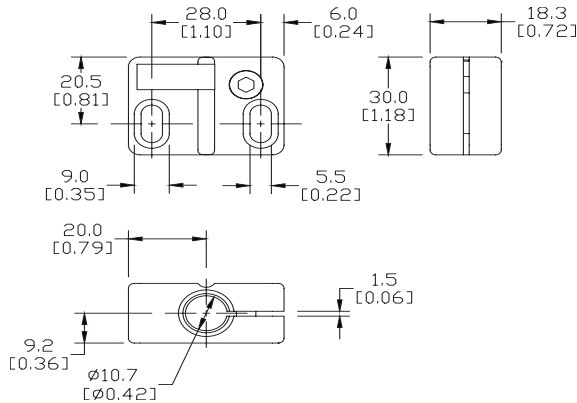
Accessories for 12mm Sensors

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.

Part Number	Price	Description	Weight lb (g)
Accessories for 12mm Sensors			
OPT2102	$6.50	Mounting bracket, right-angle, fixed insertion stop adjustment, plastic. For use with 12mm sensors.	0.05 (22.7)
OPT2103	$6.50	Mounting bracket, right-angle, plastic. For use with 12mm sensors.	0.05 (22.7)

OPT2102, OPT2103

Dimensions

mm [inches]

28.0 [1.10]   6.0 [0.24]   18.3 [0.72]
20.5 [0.81]
30.0 [1.18]
9.0 [0.35]   5.5 [0.22]
20.0 [0.79]
1.5 [0.06]
9.2 [0.36]
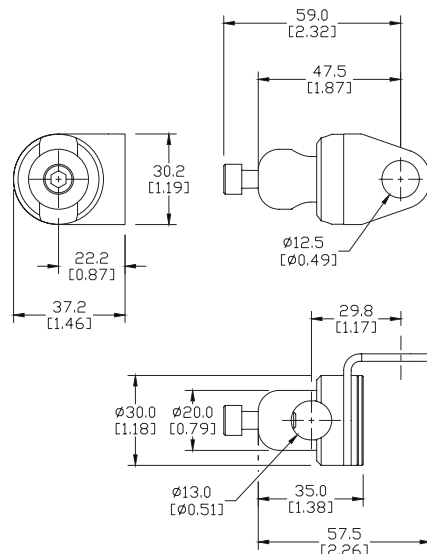Ø10.7 [Ø0.42]

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.

Part Number	Price	Description	Mounting Head	Mounting Plate	Weight lb (g)
Accessories for 12mm Sensors					
OPT2114	$9.50	Mounting bracket, right-angle swivel, 360 vertical and horizontal adjustment, aluminum, 12mm rod mount. For use with 12mm sensors.	Aluminum	Stainless steel	0.14 (63.5)
OPT2115	$17.00	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 (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).

OPT2114, OPT2115

Dimensions

mm [inches]

59.0 [2.32]
47.5 [1.87]
30.2 [1.19]
22.2 [0.87]
37.2 [1.46]
Ø12.5 [Ø0.49]
29.8 [1.17]
Ø30.0 [1.18]   Ø20.0 [0.79]
Ø13.0 [Ø0.51]   35.0 [1.38]
57.5 [2.26]

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 (g)
OPT2109	$10.50	Mounting rod, 12mm diameter, 200mm length, 304 stainless steel.		0.41 (185.97)
OPT2110	$13.00	Mounting rod, 12mm diameter, 300mm length, 304 stainless steel.		0.60 (272.16)
OPT2111	$17.00	Mounting rod, 12mm diameter, 500mm length, 304 stainless steel.		0.98 (444.52)
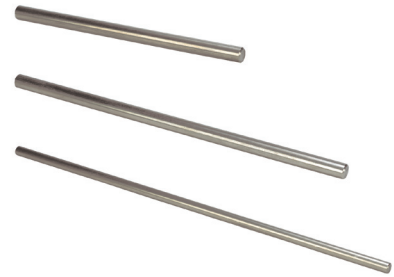
OPT2109, OPT2110, OPT2111

Dimensions

mm [inches]
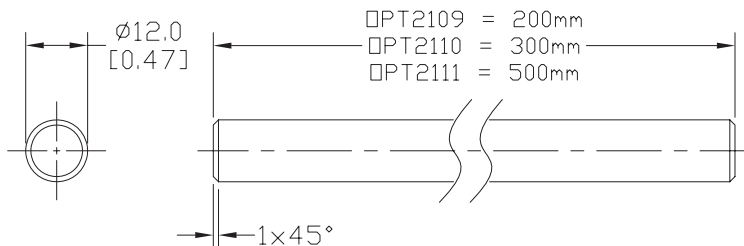
Ø12.0 [0.47]

OPT2109 = 200mm
OPT2110 = 300mm
OPT2111 = 500mm

1×45°

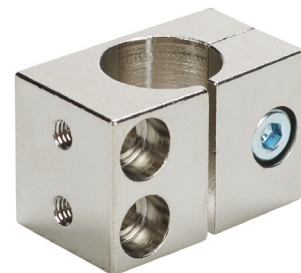## Right-angle Mounting Bracket

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

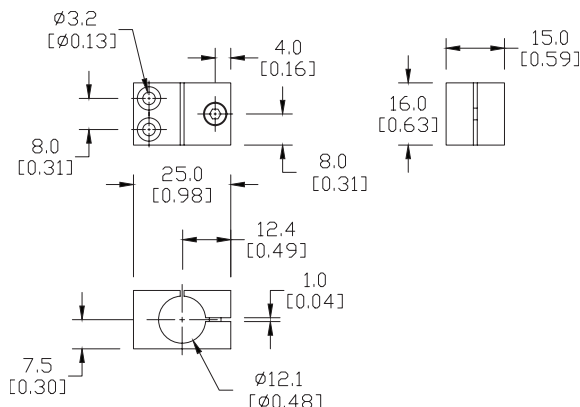| Accessories for 12mm Sensors			
Part Number	Price	Description	Weight lb (g)
OPT2108	$13.00	Mounting bracket, right-angle, nickel-plated brass. For use with 12mm mounting rods OPT2109, OPT2110 & OPT2111.	0.07 (31.8)

OPT2108

Dimensions

mm [inches]

Ø3.2 [Ø0.13], 4.0 [0.16], 15.0 [0.59], 16.0 [0.63], 8.0 [0.31], 25.0 [0.98], 8.0 [0.31], 12.4 [0.49], 1.0 [0.04], 7.5 [0.30], Ø12.1 [Ø0.48]