PMW Series Inductive Proximity Sensors

M12 (12mm) 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**	**Mounting**	**Output State**	**Logic**	**Connection**	**Wiring**	**Dimensions**
Standard Distance								
PMW-0N-1H		2 mm (0.08 in)	Flush	N.O./N.C.	NPN	M12 (12mm) connector	Diagram 3	Figure 1
PMW-0P-1H					PNP	M12 (12mm) connector	Diagram 4	Figure 1
PMW-0N-2H		4 mm (0.157 in)	Non-flush	N.O./N.C.	NPN	M12 (12mm) connector	Diagram 3	Figure 1
PMW-0P-2H					PNP	M12 (12mm) connector	Diagram 4	Figure 1
Extended Distance								
PMW-AN-2H		6 mm (0.236 in)	Non-flush	N.O.	NPN	M12 (12mm) connector	Diagram 1	Figure 5
Triple Distance								
PMW-AN-5A		6 mm (0.236 in)	Flush	N.O.	NPN	2m (6.5') axial cable	Diagram 1	Figure 2
PMW-AP-5A					PNP	2m (6.5') axial cable	Diagram 2	Figure 2
PMW-AN-5H					NPN	M12 (12mm) connector	Diagram 1	Figure 3
PMW-AP-5H					PNP	M12 (12mm) connector	Diagram 2	Figure 3

Wiring diagrams

Diagram 1

NPN Output
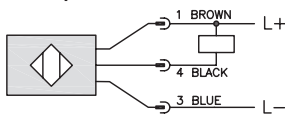
Diagram 2
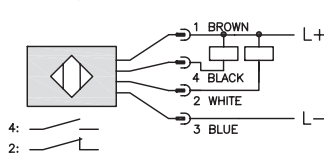
PNP Output

Connector

M12 connector

Note: Pin 2 is not present on some models.

Diagram 3

NPN Output

Diagram 4

PNP Output
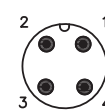
PMW Series Inductive Proximity Sensors

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	2mm (0.08 in)[1]	4mm (0.157 in)[1]	6mm (0.236 in)	3mm (0.118 in)	6mm (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 N.O./N.C. complementary		NPN or PNP, N.O. only	NPN or PNP, N.O. 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	≤1 00 mA
Off-state (Leakage) Current	≤1 0µA			≤ 100µA	
Voltage Drop	≤ 1.2 V		≤ 2.0 V	< 2.5 V	
Switching Frequency	2kHz		400Hz	100Hz	500Hz
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)	100ms		≤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 (N.O. 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	35g (1.23 oz)		89g (3.14 oz)	29g (1.023 oz.)	30g (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.
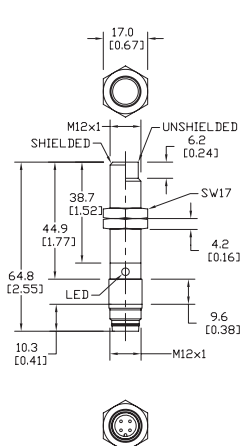
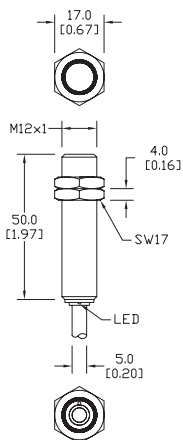## Dimensions mm[inches]

Figure 1
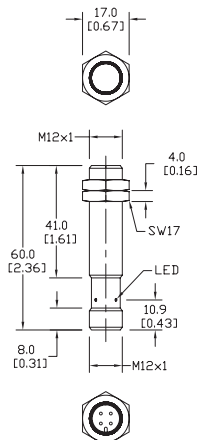

Figure 2
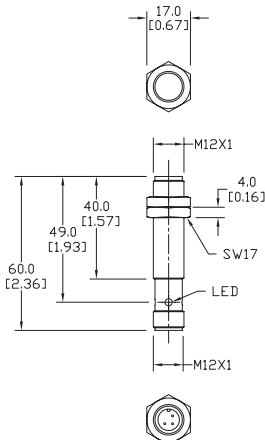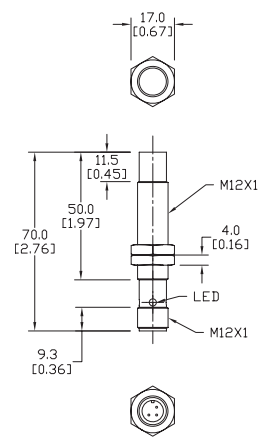

Figure 3

Figure 4

Figure 5

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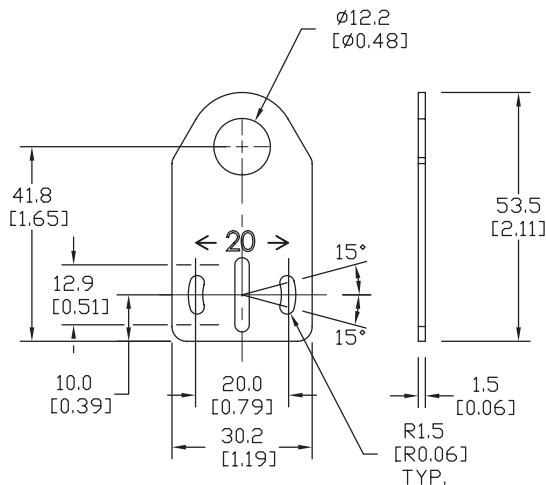
Accessories for 12mm Sensors

Axial Mounting Bracket

Mounting bracket, axial, available in zinc-plated steel or 316L staineless 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

**ST12A**

Dimensions

mm [inches]

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)

ST12C

Dimensions

mm [inches]
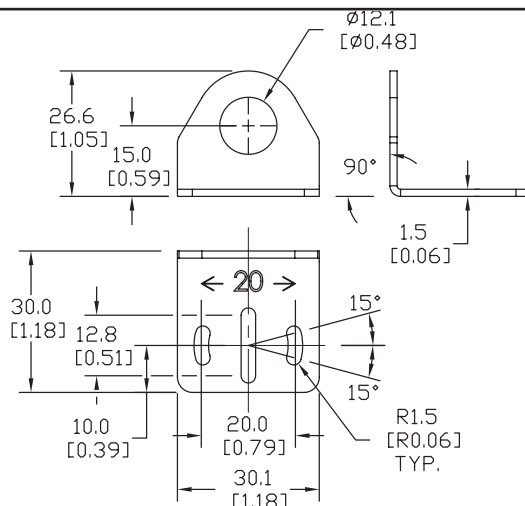
Accessories for 12mm Sensors

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	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)

OPT2102, OPT2103

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	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).

OPT2114, OPT2115

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)