

PB Series Inductive Proximity Sensors

Nickel-plated Brass - DC



- Low cost/high performance
- Twelve models available
- IP67 rated
- LED status indicators
- M12 quick-disconnect; purchase cable separately
- Lifetime warranty

Basic Series Inductive Prox Selection Chart								
Part Number	Price	Sensing Range	Housing	Output State	Logic	Connection	Wiring	Dimensions
M12 Models								
PBM-AN-1H	\$13.50	2 mm (0.08 in)	Shielded	NO	NPN	M12 (12 mm) connector	Diagram 1	Figure 1
PBM-AP-1H	\$13.50				PNP	M12 (12 mm) connector	Diagram 2	
PBM-AN-2H	\$13.50	4 mm (0.157 in)	Unshielded		NPN	M12 (12 mm) connector	Diagram 1	
PBM-AP-2H	\$13.50				PNP	M12 (12 mm) connector	Diagram 2	
M18 Models								
PBK-AN-1H	\$14.00	5 mm (0.197 in)	Shielded	NO	NPN	M12 (12 mm) connector	Diagram 1	Figure 2
PBK-AP-1H	\$14.00				PNP	M12 (12 mm) connector	Diagram 2	
PBK-AN-2H	\$14.00	8 mm (0.315 in)	Unshielded		NPN	M12 (12 mm) connector	Diagram 1	
PBK-AP-2H	\$14.00				PNP	M12 (12 mm) connector	Diagram 2	
M30 Models								
PBT-AN-1H	\$16.50	10 mm (0.394 in)	Shielded	NO	NPN	M12 (12 mm) connector	Diagram 1	Figure 3
PBT-AP-1H	\$16.50				PNP	M12 (12 mm) connector	Diagram 2	
PBT-AN-2H	\$16.50	15 mm (0.590 in)	Unshielded		NPN	M12 (12 mm) connector	Diagram 1	
PBT-AP-2H	\$16.50				PNP	M12 (12 mm) connector	Diagram 2	

Wiring diagrams

Diagram 1

NPN Output

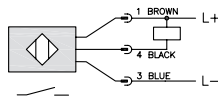
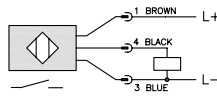


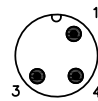
Diagram 2

PNP Output



Connector

M12 connector



PB Series Inductive Proximity Sensors

PB Series Specifications	M12 Models		M18 Models		M30 Models	
Mounting Type	Shielded	Unshielded	Shielded	Unshielded	Shielded	Unshielded
Nominal Sensing Distance	2 mm (0.08 in)	4 mm (0.157 in)	5 mm (0.197 in)	8 mm (0.315 in)	10 mm (0.394 in)	15 mm (0.590 in)
Operating Distance	NA					
Material Correction Factors	See the Material influence table					
Output Type	NPN or PNP, NO only					
Operating Voltage	15 to 30 VDC					
No-load Supply Current	<15 mA					
Operating (Load) Current	100 mA					
Off-state (Leakage) Current	<0.1 mA					
Voltage Drop	<2.5 V					
Switching Frequency	800Hz		400Hz	300Hz		200Hz
Differential Travel (% of Nominal Distance)	NA					
Repeat Accuracy	NA					
Ripple	NA					
Time Delay Before Availability (tv)	NA					
Reverse Polarity Protection	Yes					
Short-circuit Protection	Yes, pulsed					
Operating Temperature	-25° to 70°C (-13° to 158°F)					
Protection Degree (DIN 40050)	IEC IP67					
Indication/Switch Status	Yellow (output energized)					
Housing Material	Housing: brass, nickel-plated; Lock nuts: brass					
Sensing Face Material	Polybutylene Terephthalate (PBT)					
Shock/Vibration	See Proximity Sensor Terminology					
Tightening Torque	7.0 Nm (5.16 lb-ft)		35.0 Nm (25.8 lb-ft)		50.0 Nm (36.8 lb-ft)	
Weight	1.70 g (0.06 oz)		2.83 g (0.10 oz)		8.50 g (0.30 oz)	5.70 g (0.20 oz)
Connectors	M12 connector. 2 lock nuts included					
Agency Approvals	cULus file E328811, CE, RoHS					

Dimensions

mm [inches]

Figure 1

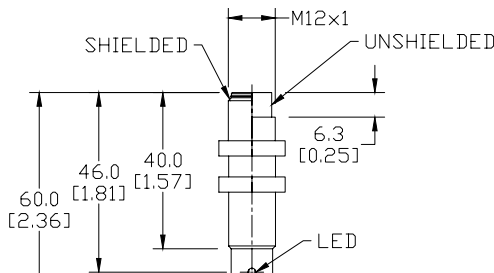


Figure 2

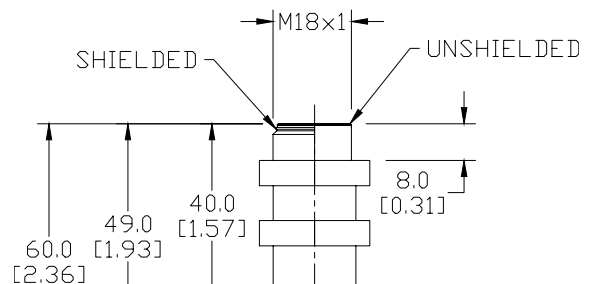
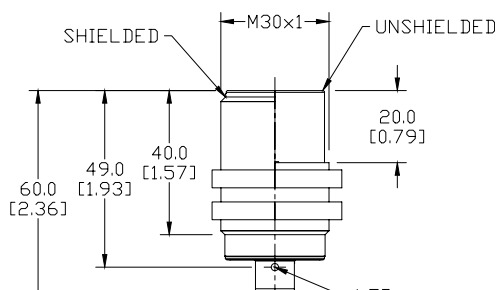


Figure 3



Accessories for 18mm Sensors

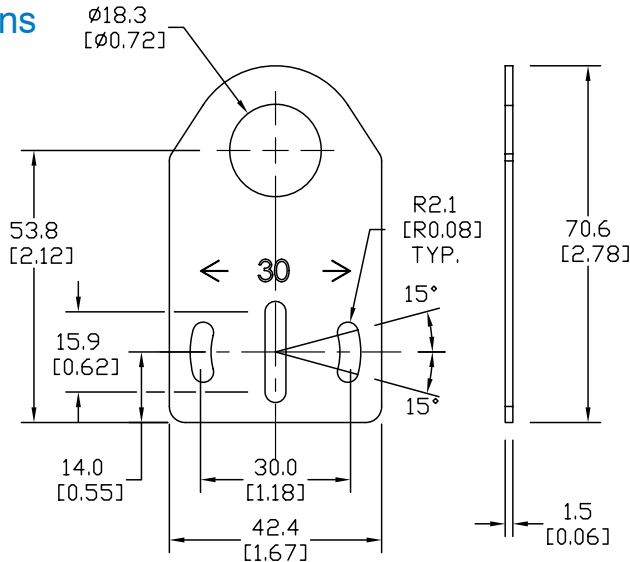
Axial Mounting Bracket

Axial mounting bracket for use with 18mm sensors. Has two mounting holes (use 4mm screws) and allows for rotation of an optical axis for right-beam-angle-adaptor sensors. Hexagonal nuts not included.

Accessories for 18mm Sensors			
Part Number	Price	Description	Weight [lb]
ST18A	\$1.25	Mounting bracket, axial, zinc-plated steel. For use with 18mm sensors. 1/pk.	0.06
ST18A7W	\$6.00	Mounting bracket, axial, 316L stainless steel. For use with 18mm sensors. 1/pk.	0.06

Dimensions

mm [inches]



ST18A

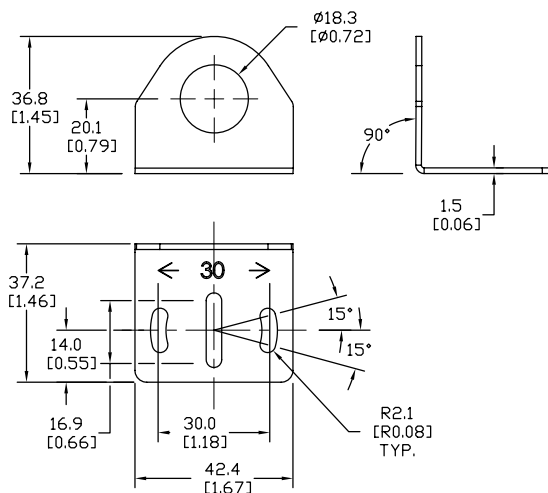
Right-angle Mounting Bracket

Right-angle mounting bracket for use with 18mm sensors. Has two mounting holes (use 4mm screws) and allows the rotation of an optical axis for axial sensors. Hexagonal nuts not included.

Accessories for 18mm Sensors			
Part Number	Price	Description	Weight [lb]
ST18C	\$1.25	Mounting bracket, right angle, zinc-plated steel. For use with 18mm sensors. 1/pk.	0.06
ST18C7W	\$6.00	Mounting bracket, right angle, 316L stainless steel. For use with 18mm sensors. 1/pk.	0.06

Dimensions

mm [inches]



ST18C

See our website: www.AutomationDirect.com for complete engineering drawings

Accessories for 18mm Sensors

Right-angle Mounting Brackets

Mounting bracket, right-angle, fixed insertion stop adjustment, plastic. For use with 18mm sensors. Available with or without fixed insertion stop.

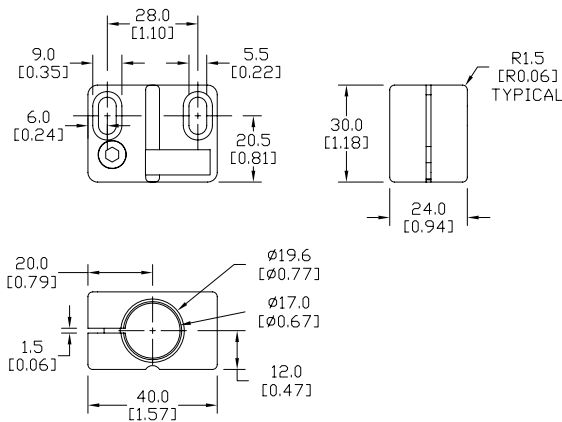
Accessories for 18mm Sensors				
Part Number	Price	Description	Weight [lb]	
OPT2104	\$8.00	Mounting bracket, right-angle, fixed insertion stop adjustment, plastic. For use with 18mm sensors.	0.06	
OPT2105	\$8.00	Mounting bracket, right-angle, plastic. For use with 18mm sensors.	0.06	



OPT2104, OPT2105

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 18mm sensors. Available in all 304 stainless steel or with an aluminum head and a stainless steel mounting plate.

Accessories for 18mm Sensors					
Part Number	Price	Description	Mounting Head	Mounting Plate	Weight [lb]
OPT2116	\$9.00	Mounting bracket, right-angle swivel, 360 vertical and horizontal adjustment, aluminum, 12mm rod mount. For use with 18mm sensors.	Aluminum	304 Stainless Steel	0.15
OPT2117	\$16.00	Mounting bracket, right-angle swivel, 360 vertical and horizontal adjustment, 304 stainless steel, 12mm rod mount. For use with 18mm sensors.	304 Stainless Steel	304 Stainless Steel	0.28

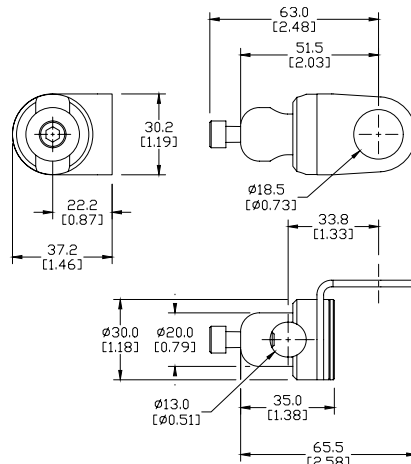
Note: 304 Stainless steel mounting rods sold separately: OPT2109 (200mm length), OPT2110 (300mm length), and OPT2111 (500mm length).



OPT2116, OPT2117

Dimensions

mm [inches]



See our website: 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.

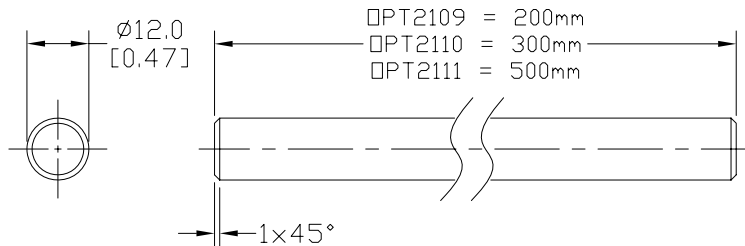
Mounting Rods for OPT2112-2127 Swivel Mounting Brackets			
Part Number	Price	Description	Weight [lb]
OPT2109	\$10.00	Mounting rod, 12mm diameter, 200mm length, 304 stainless steel.	0.41
OPT2110	\$12.00	Mounting rod, 12mm diameter, 300mm length, 304 stainless steel.	0.60
OPT2111	\$16.00	Mounting rod, 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.

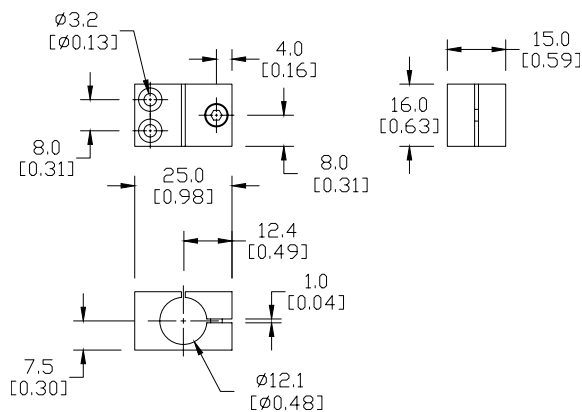
Accessories for 12mm Sensors			
Part Number	Price	Description	Weight [lb]
OPT2108	\$12.00	Mounting bracket, right-angle, nickel-plated brass. For use with 12mm mounting rods OPT2109, OPT2110 & OPT2111.	0.07



OPT2108

Dimensions

mm [inches]



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