

# PKW Series Inductive Proximity Sensors



## M18 (18 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

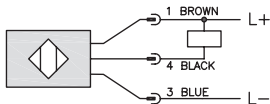
**PKW Series M18 DC Inductive Prox Selection Chart**

Part Number	Price	Sensing Range	Housing	Output State	Logic	Connection	Wiring	Dimensions
<b>Standard Distance</b>								
<b>PKW-ON-1H</b>	\$41.50	5 mm (0.197 in)	Shielded	NO/N.C	NPN	M12 (12 mm) connector	Diagram 3	Figure 1
<b>PKW-OP-1H</b>	\$41.50				PNP	M12 (12 mm) connector	Diagram 4	Figure 1
<b>PKW-AN-1H</b>	\$47.00	5 mm (0.197 in)	Shielded	NO	NPN	M12 (12 mm) connector	Diagram 1	Figure 4
<b>PKW-AP-1H</b>	\$47.00				PNP	M12 (12 mm) connector	Diagram 2	Figure 4
<b>PKW-ON-2H</b>	\$28.25	8 mm (0.315 in)	Unshielded	NO/N.C	NPN	M12 (12 mm) connector	Diagram 3	Figure 1
<b>PKW-OP-2H</b>	\$41.50				PNP	M12 (12 mm) connector	Diagram 4	Figure 1
<b>Extended Distance</b>								
<b>PKW-AN-2H</b>	\$55.00	12 mm (0.472 in)	Unshielded	NO	NPN	M12 (12 mm) connector	Diagram 1	Figure 4
<b>PKW-AP-2H</b>	\$55.00				PNP	M12 (12 mm) connector	Diagram 2	Figure 4
<b>Triple Distance</b>								
<b>PKW-AN-5A</b>	\$87.00	10 mm (0.394 in)	Shielded	NO	NPN	2 m (6.5') axial cable	Diagram 1	Figure 2
<b>PKW-AP-5A</b>	\$87.00				PNP	2 m (6.5') axial cable	Diagram 2	Figure 2
<b>PKW-AN-5H</b>	\$87.00				NPN	M12 (12 mm) connector	Diagram 1	Figure 3
<b>PKW-AP-5H</b>	\$87.00				PNP	M12 (12 mm) connector	Diagram 2	Figure 3

## Wiring diagrams

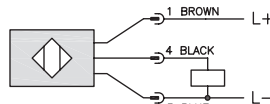
**Diagram 1**

NPN Output



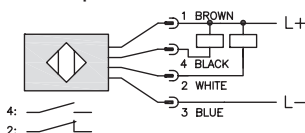
**Diagram 2**

PNP Output



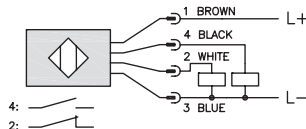
**Diagram 3**

NPN Output



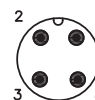
**Diagram 4**

PNP Output



## Connector

M12 connector



Note: Pin 2 is not present on some models.

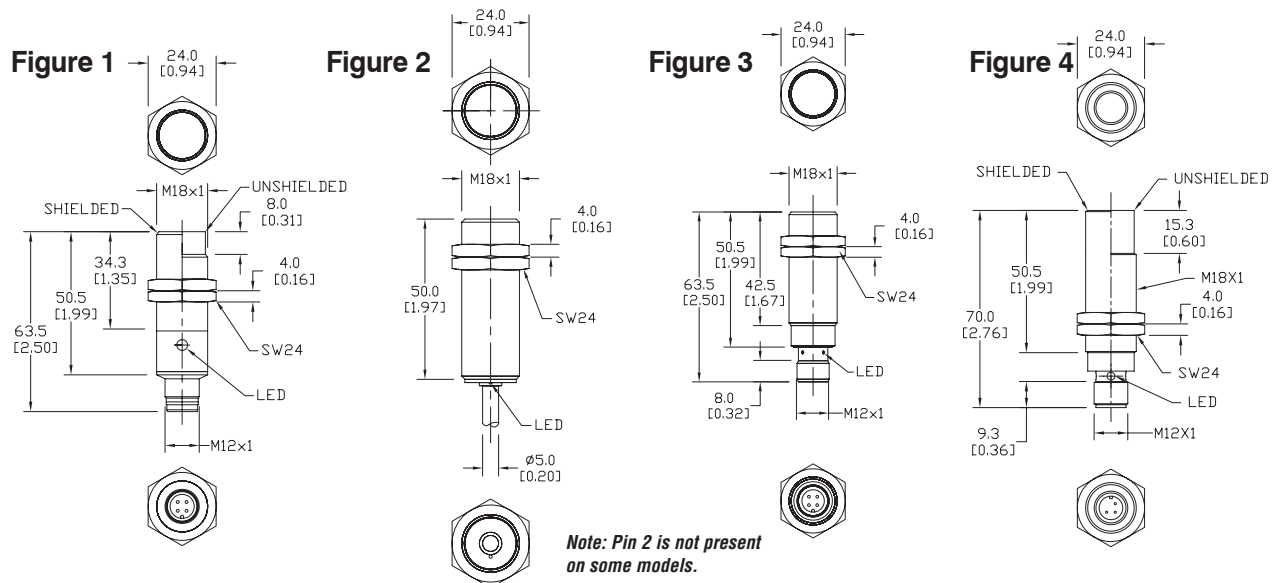
# PKW Series Inductive Proximity Sensors

Specifications	Standard Distance Models	Extended Distance Models	Triple Distance Models	PKW-A*-1H	PKW-A*-2H
<b>Mounting Type</b>	Shielded	Unshielded	Shielded	Shielded	Unshielded
<b>Nominal Sensing Distance</b>	5 mm (0.197 in) <sup>1</sup>	8 mm (0.315 in) <sup>1</sup>	10 mm (0.394 in)	5 mm (0.197 in)	12 mm (0.472 in)
<b>Operating Distance</b>	NA			0 to 4 mm	0 to 9.7 mm (0.38in)
<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	10 to 30 VDC
<b>No-load Supply Current</b>	15 mA		10 mA	20 mA	25 mA
<b>Operating (Load) Current</b>	≤400 mA		≤200 mA	100 mA	
<b>Off-state (Leakage) Current</b>	≤10µA		≤100µA	<0.1 mA	
<b>Voltage Drop</b>	≤0.8 V		≤2.0 V	<2.5 V	
<b>Switching Frequency</b>	1 kHz		200 Hz	100 Hz	500 Hz
<b>Differential Travel (% of Nominal Distance)</b>	2 to 10%		≤15%	≤20%	
<b>Repeat Accuracy</b>	≤5%		NA	NA	
<b>Ripple</b>	≤10%		≤20%	NA	
<b>Time Delay Before Availability (tv)</b>	100 ms		≤10 ms	negligible	
<b>Reverse Polarity Protection</b>	Not available			Yes	
<b>Short-circuit Protection</b>	Not available			Yes (non-latching)	
<b>Operating Temperature</b>	-25° to 70°C (-13° to 158°F)				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, IP68	IEC IP65/67/68/69K
<b>Indication/Switch Status</b>	Yellow (NO output energized)				
<b>Housing Material</b>	Stainless steel				
<b>Sensing Face Material</b>	Polyphenylene Sulfide (PPS)		Stainless steel	Stainless steel	Stainless steel
<b>Shock Resistance / Vibration Resistance</b>	See <a href="#">Proximity Sensor Terminology</a>				
<b>Tightening Torque</b>	40 Nm (29 lb-ft)		50 Nm (37 lb-ft)	50 Nm (37 lb-ft)	
<b>Weight</b>	70 g (2.47 oz)		114 g (4.02 oz) /50 g (1.76 oz)	56 g (1.98 oz)	
<b>Connection</b>	M12 connector		2 m (6.5') axial cable or M12 connector	M12 connector. 2 lock nuts included	
<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]



# Accessories for 18mm Sensors

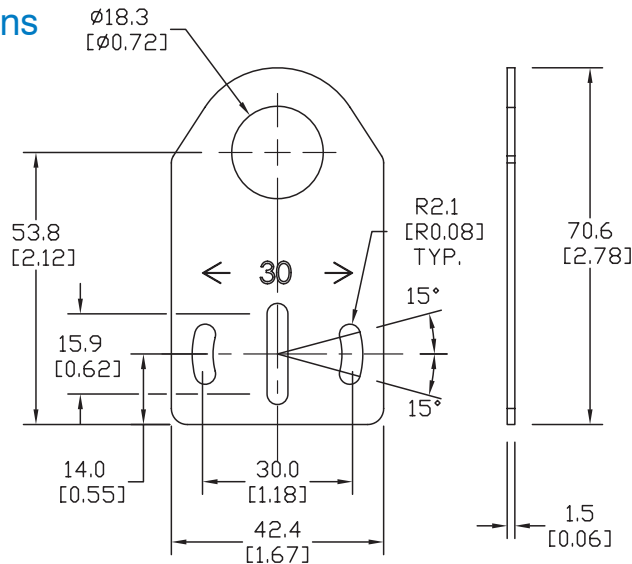
## Axial Mounting Bracket

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

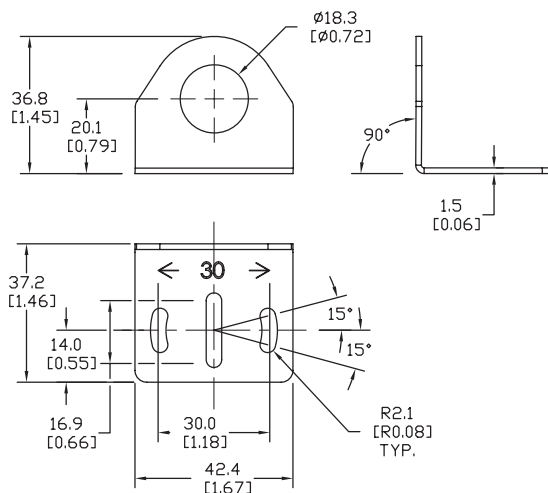
## Right-angle Mounting Bracket

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](http://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.

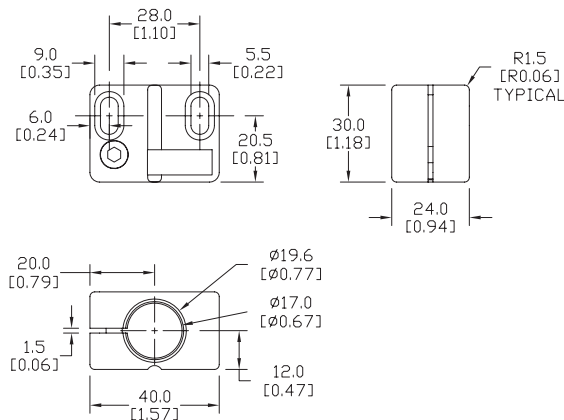
Accessories for 18mm Sensors					
Part Number	Price	Description	Mounting Head	Mounting Plate	Weight [lb]
<b>OPT2104</b>	\$8.00	Mounting bracket, right-angle, fixed insertion stop adjustment, plastic. For use with 18mm sensors.	Aluminum	304 Stainless Steel	0.15
<b>OPT2105</b>	\$8.00	Mounting bracket, right-angle, plastic. For use with 18mm sensors.	304 Stainless Steel	304 Stainless Steel	0.28



**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.

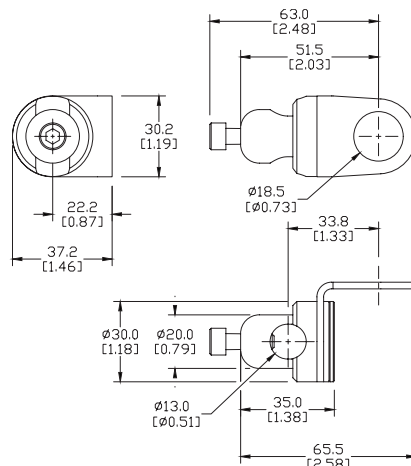
Accessories for 18mm Sensors					
Part Number	Price	Description	Mounting Head	Mounting Plate	Weight [lb]
<b>OPT2116</b>	\$9.00	Mounting bracket, right-angle swivel, 360 vertical and horizontal adjustment, aluminum, 12mm rod mount. For use with 18mm sensors.	Aluminum	304 Stainless Steel	0.15
<b>OPT2117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



**OPT2116, OPT2117**

## Dimensions

mm [inches]



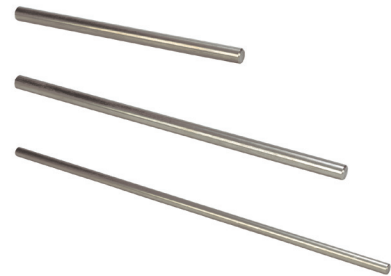
See our website: [www.AutomationDirect.com](http://www.AutomationDirect.com) for complete engineering drawings

# Mounting Rods

## Mounting Rods

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

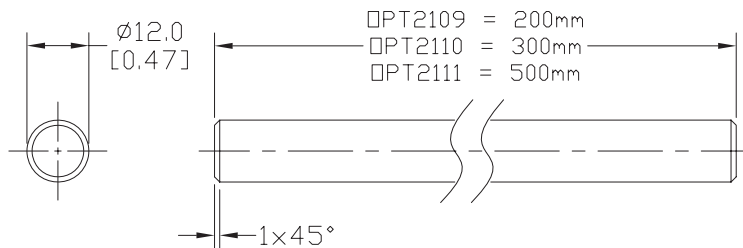
Mounting Rods for OPT2112-2127 Swivel Mounting Brackets			
Part Number	Price	Description	Weight [lb]
<b>OPT2109</b>	\$10.00	Mounting rod, 12mm diameter, 200mm length, 304 stainless steel.	0.41
<b>OPT2110</b>	\$12.00	Mounting rod, 12mm diameter, 300mm length, 304 stainless steel.	0.60
<b>OPT2111</b>	\$16.00	Mounting rod, 12mm diameter, 500mm length, 304 stainless steel.	0.98



**OPT2109, OPT2110, OPT2111**

## Dimensions

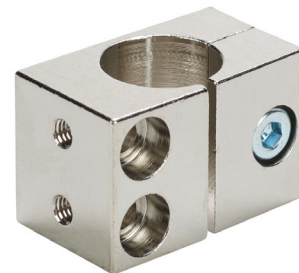
mm [inches]



## Right-angle Mounting Bracket

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

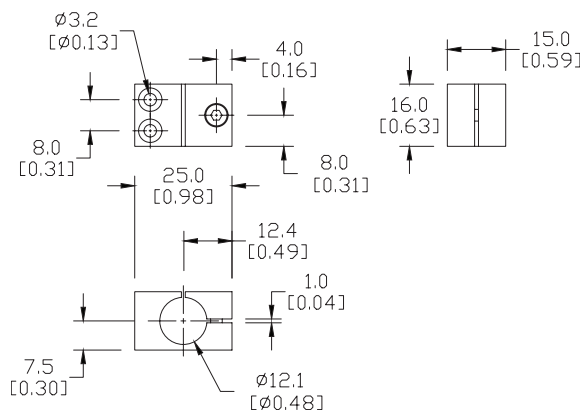
Accessories for 12mm Sensors			
Part Number	Price	Description	Weight [lb]
<b>OPT2108</b>	\$12.00	Mounting bracket, right-angle, nickel-plated brass. For use with 12mm mounting rods OPT2109, OPT2110 & OPT2111.	0.07



**OPT2108**

## Dimensions

mm [inches]



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