PKW Series Inductive Proximity Sensors



M18 (18mm) stainless steel - DC

- Nine 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 Seri	es M18 DC	Inductive Pr	oximity	Selection Char	t	
Part Number	Price	Sensing Range	Mounting	Output State	Logic	Connection	Wiring	Dimensions
Standard Distance								
PKW-0N-1H		F.m. [0 107 in]	Flush	N 0 /N 0	NPN	M12 [12mm] connector	Diagram 3	Figure 1
PKW-0P-1H		5mm [0.197 in]	Flusii	N.O./N.C.	PNP	M12 [12mm] connector	Diagram 4	Figure 1
<u>PKW-0N-2H</u>		8mm [0.315 in]	Non-flush	N.O./N.C.	NPN	M12 [12mm] connector	Diagram 3	Figure 1
PKW-0P-2H		0111111 [0.313111]	Non-nusn	N.O./N.C.	PNP	M12 [12mm] connector	Diagram 4	Figure 1
Extended Distance								
PKW-AN-2H		12mm [0.472 in]	Non-flush	N.O.	NPN	M12 [12mm] connector	Diagram 1	Figure 4
Triple Distance								
PKW-AN-5A					NPN	2m [6.5 ft] axial cable	Diagram 1	Figure 2
PKW-AP-5A		10mm [0 204 in]	Flush	N.O.	PNP	2m [6.5 ft] axial cable	Diagram 2	Figure 2
PKW-AN-5H		10mm [0.394 in]			NPN	M12 [12mm] connector	Diagram 1	Figure 3
PKW-AP-5H					PNP	M12 [12mm] connector	Diagram 2	Figure 3

Wiring diagrams

Diagram 1 NPN Output

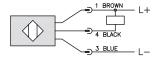


Diagram 3 NPN Output

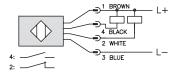


Diagram 2 PNP Output

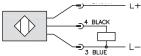
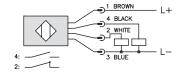


Diagram 4 PNP Output



Connector M12 connector



Note: Pin 2 is not present on some models.

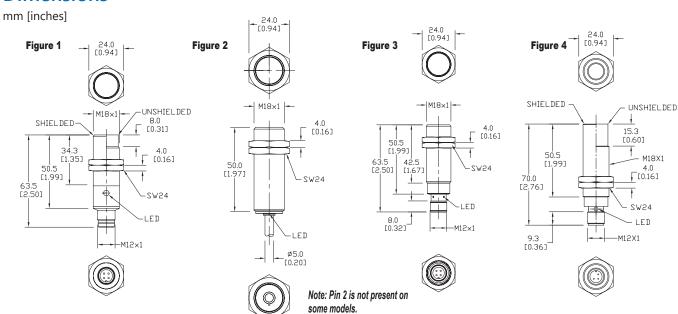
PKW Series Inductive Proximity Sensors

PKW Series	M18 DC Ind	luctive Proxi	mity Specificati	ons		
Models	Standard Distance	Extended Distance	Triple Distance	PKW-A-1H	PKW-A*-2H	
Mounting Type	Flush	Non-flush	Flush	Flush	Non-flush	
Nominal Sensing Distance	5 mm [0.197 in] ¹	8 mm [0.315 in] ¹	10 mm [0.394 in]	5 mm [0.197 in]	12 mm (0.472 in)	
Operating Distance		NA		0 to 4 mm	0 to 9.7 mm (0.38in)	
Material Correction Factors		See the Material influence table				
Output Type	NPN or PNP complete	and N.O./N.C. mentary	NPN or PNP, N.O. only	NPN or PNP, N.O. only		
Operating Voltage		10 to 30 VDC		10 to 36 VDC	10 to 30 VDC	
No-load Supply Current	15	mA	10mA	20mA	25mA	
Operating (Load) Current	≤ 40	0 mA	≤ 200 mA	100) mA	
Off-state (Leakage) Current	≤ 1	0μΑ	≤ 100µA	<0.	1 mA	
Voltage Drop	≤ 0	.8 V	≤ 2.0 V	< 2	2.5 V	
Switching Frequency	1k	Hz	200Hz	100Hz	500Hz	
Differential Travel (% of Nominal Distance)	2 to	10%	≤ 15%	≤ 2	20%	
Repeat Accuracy	≤	5%	NA	1	NA .	
Ripple	≤ 1	0%	≤ 20%	1	NA .	
Time Delay Before Availability (tv)	100ms		≤ 10ms	negligible		
Reverse Polarity Protection	Not available			Yes		
Short-circuit Protection	Not available			Yes [non-latching]		
Operating Temperature		-25 to 70°C	[-13 to 158°F]		0 to 100°C (32 to 212°F)	
Protection Degree (DIN 40050)	IEC IF	P67/68	IEC IP67 ² [connector] IP68 ² [cable]	IEC IP67, IP68	IEC IP65/67/68/69K	
Indication/Switch Status	Yellow [N.O. output energized]					
Housing Material			Stainless steel			
Sensing Face Material	Polyphonylene	Sulfide [PPS]	Stainless steel	Stainless steel	Stainless steel	
Shock Resistance / Vibration Resistance		See	Proximity Sensor Termino	logy		
Tightening Torque	40Nm [29 lb-ft]	50Nm [37 lb-ft]	50Nm	[37 lb-ft]	
Weight	70g [2	.47 oz]	114g [4.02 oz] 50g [1.76 oz]	56g [1	.98 oz]	
Connection	M12 co	nnector	2 m (6.5') axial cable or M12 connector	M12 connector. 2	lock nuts included	
Agency Approvals		Α	UL file E328811, RoHS	cULus file E32	8811, CE, RoHS	

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

To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page.

Dimensions



Accessories for 18mm Sensors

Axial Mounting Bracket

Axial mounting bracket available in zinc plated steel or 316L stainless steel. Has two mounting holes (use 4mm screws) and allows for rotation of an optical axis for right-beam-angle-adapter sensors. Hexagonal nuts not included. For use with 18mm sensors.

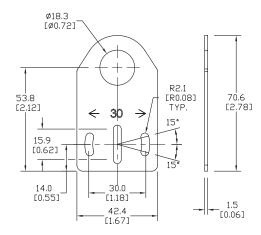
Accessories for 18mm Sensors							
Part Number	Weight Ib (g)						
<u>ST18A</u>		Micro Detectors mounting bracket, axial, zinc plated steel. For use with 18mm sensors.	0.06 (27.2)				
<u>ST18A7W</u>		Micro Detectors mounting bracket, axial, 316L stainless steel. For use with 18mm sensors.	0.06 (27.2)				



ST18A

Dimensions

mm [inches]



Right-angle Mounting Bracket

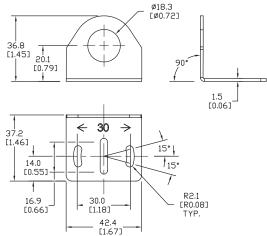
Right-angle mounting bracket for use with 18mm sensors. Has two mounting holes (use 4mm screws) and allows the rotation of an optical axis for axial sensors. Hexagonal nuts not included.

Accessories for 18mm Sensors						
Part Number	Part Number Price Description					
ST18C		Micro Detectors mounting bracket, right-angle, zinc plated steel. For use with 18mm sensors.	0.06 (27.2)			
<u>ST18C7W</u>		Micro Detectors mounting bracket, right-angle, 316L stainless steel. For use with 18mm sensors.	0.06 (27.2)			



Dimensions

mm [inches]



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 Drawing Link		Weight Ib (g)			
<u>OPT2104</u>		Wenglor mounting bracket, right-angle, ixed insertion stop adjustment, plastic. For use with 18mm sensors.	PDF	0.06 (27.2)			
<u>OPT2105</u>		Wenglor mounting bracket, right-angle, plastic. For use with 18mm sensors.	<u>PDF</u>	0.06 (27.2)			



OPT2104, OPT2105

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	Drawing Link	Weight lb (g)				
<u>OPT2116</u>		Wenglor mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment, aluminum, 12mm rod mount. For use with 18mm sensors.	Aluminum	304 Stainless steel	<u>PDF</u>	0.15 (68.0)				
<u>OPT2117</u>		Wenglor mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment, 304 stainless steel, 12mm rod mount. For use with 18mm sensors.	304 Stainless steel	304 Stainless steel	<u>PDF</u>	0.28 (127.0)				



Note: 304 Stainless steel mounting rods sold separately: <u>OPT2109</u> (200mm [7.87 in] length), <u>OPT2110</u> (300mm [11.81 in] length), and <u>OPT2111</u> (500mm [19.69 in] length).

OPT2116, OPT2117

Mounting Rods and Brackets

Mounting Rods

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

Mounting Rods for OPT2112-2127 Swivel Mounting Brackets								
Part Number	Part Number Price Description Drawin Link							
<u>OPT2109</u>		Wenglor mounting rod, 12mm diameter, 200mm length, 304 stainless steel.	PDF	0.41 (185.97)				
<u>OPT2110</u>		Wenglor mounting rod, 12mm diameter, 300mm length, 304 stainless steel.	PDF	0.60 (272.16)				
<u>OPT2111</u>		Wenglor mounting rod, 12mm diameter, 500mm length, 304 stainless steel.	<u>PDF</u>	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 Ib (g)			
<u>OPT2108</u>		Wenglor mounting bracket, right-angle, nickel plated brass. For use with 12mm mounting rods OPT2109, OPT2110 & OPT2111.	<u>PDF</u>	0.07 (31.8)			



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