PKW Series Stainless Steel Prox

PKW Series M18 (18mm) DC Stainless Steel Inductive Proximity Sensors

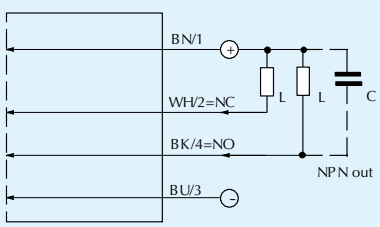
- Low cost/high performance
- IP67 protection degree
- LED status indicators are visible at a wide angle
- Triple distance models sense all metals virtually the same distance,have one piece stainless design, and are fully submersible up to 290 Psi. Axial models have IP68 protection degree.

PKW Series DC Inductive Prox Selection Chart							
Part Number	**Sensing Range**	**Housing**	**Output State***	**Logic**	**Connection**	**Wiring**	**Dimensions**
Standard Distance							
PKW-0N-1H	5mm (0.197in)	Shielded	N.O./N.C	NPN	M12 (12mm) connector	Diagram 1	Figure 1
PKW-0P-1H				PNP	M12 (12mm) connector	Diagram 1	Figure 1
Extended Distance							
PKW-0N-2H	8mm (0.315in)	Unshielded	N.O./N.C	NPN	M12 (12mm) connector	Diagram 1	Figure 1
PKW-0P-2H				PNP	M12 (12mm) connector	Diagram 1	Figure 1
Triple Distance							
PKW-AN-5A	10mm (0.394in)	Shielded	N.O	NPN	2m (6.5') axial cable	Diagram 2	Figure 2
PKW-AP-5A				PNP	2m (6.5') axial cable	Diagram 2	Figure 2
PKW-AN-5H				NPN	M12 (12mm) connector	Diagram 2	Figure 3
PKW-AP-5H				PNP	M12 (12mm) connector	Diagram 2	Figure 3

Wiring Diagrams

Diagram 1

NPN Output



PNP Output

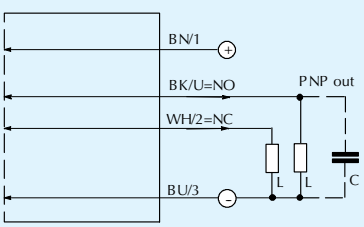
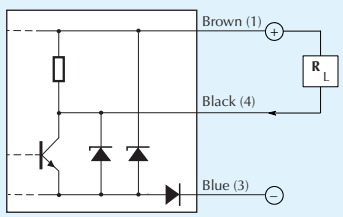
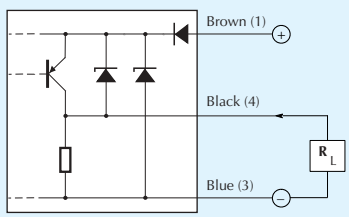


Diagram 2

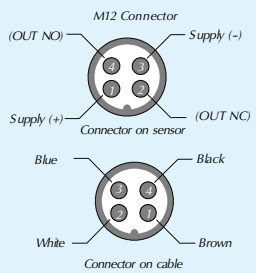
NPN Output



PNP Output



Connectors



PKW Series Stainless Steel Prox

Specifications	Standard Distance Models	Extended Distance Models	Triple Distance Models
Type	Shielded	Unshielded	Shielded
(Sn) Nominal Sensing Distance	5mm (0.197in)[1]	8mm (0.315in)[1]	10mm (0.394in)
Material Correction Factors	Table 1		Table 3
Differential Travel	2 to 10%		≤15%
Repeat Accuracy	≤5%		
Operating Voltage	10-30VDC		
Ripple	≤10%		≤20%
Load Current	≤400mA		≤200mA
Voltage Drop	≤0.8V		≤2.0V
Output Type	NPN or PNP and N.O./N.C. complementary		NPN or PNP, N.O. only
Leakage Current	≤10mA		≤100µA
Switching Frequency	1KHz		200Hz
(tv) Time Delay Before Availability	100ms		≤10ms
Temperature Range / Temperature Drift	-25° to +70° C (-13° to 158° F) / 10%Sr		
Protection Degree (DIN 40 050)	IEC IP67/68[2]		IEC IP67[3](connector/IP68[3] (cable)
LED Indicators	Yellow (NO output energized)		
Housing Material	Stainless steel		Stainless steel
Sensing Face Material	PSU		Stainless steel
Tightening Torque	40Nm (29lb-ft)		50Nm (37lb-ft)
Weight	70g (2.47oz)		114g (4.02oz)/50g (1.76oz)

[1]With 12 x 12mm FE360 target [2]Only with M12 connector in fully-tightened position. While this sensor has good resistance to chemicals and oil, it should be tested before using in a harsh environment [3] Fully submersible to 290 PSI.

Dimensions

Figure 1

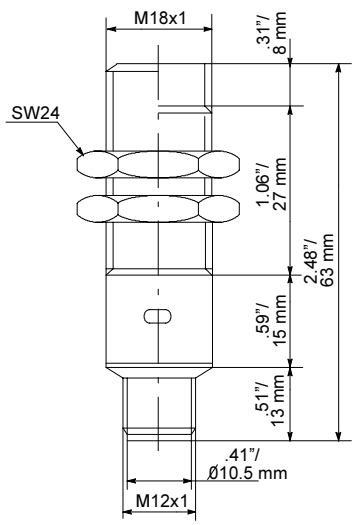


Figure 2

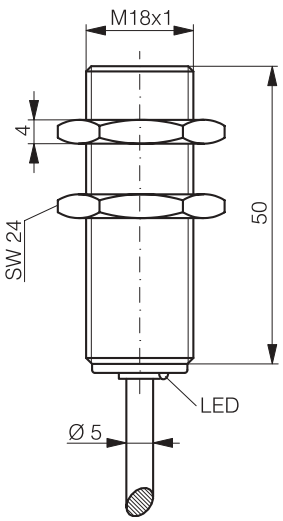
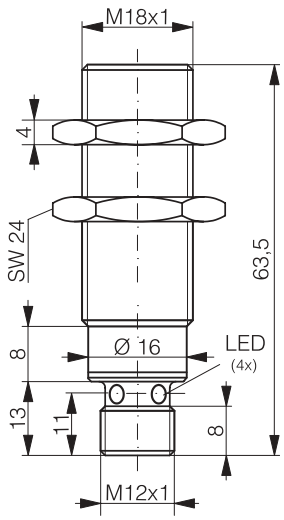


Figure 3



Material Influence

The nominal sensing distance **S(n)** is defined using precisely defined measuring conditions (see **Operating Distance**). Other conditions may result in a reduction of the operating distance. The tables below show the influence different target materials have on the operating distances of the sensors.

Material Influence: Table 1	
Target Material	*Operating distance*
Steel type FE 360	S(n) x 1.00
Brass	S(n) x 0.64
Aluminum	S(n) x 0.55
Copper	S(n) x 0.51
Stainless steel (V2A)	S(n) x 0.85

When using foils, an **increase** in the usable operating distance can be expected.

Material Influence: Table 2	
Target Material	*Operating distance*
Steel type FE 360	S(n) x 1.00
Brass	S(n) x 0.44
Aluminum	S(n) x 0.36
Copper	S(n) x 0.32
Stainless steel (V2A)	S(n) x 0.69

When using foils, an **increase** in the usable operating distance can be expected.

Material Influence: Table 3	
Target Material	*Operating distance*
Steel type FE 360	S(n) x 1.00
Brass	S(n) x 1.00
Aluminum	S(n) x 1.30
Copper	S(n) x 0.89
SS (1mm thick)	S(n) x 0.57
SS (2mm thick)	S(n) x 0.90

When using foils, a **decrease** in the usable operating distance can be expected.