# **ProSense Basic M8 Inductive Proximity Sensors**



## **Basic Series Inductive Proxes M8 (8mm)**

- Operating range 1.5 to 2mm
- Nickel-plated brass housing
- LCP (Liquid Crystal Polymer) active face
- Normal range operating distance
- Cable or M8 connector
- PNP or NPN, N.O. or N.C.
- IP67 protection

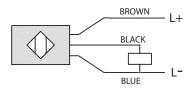


	Basic M8 Inductive Proximity Sensor Selection Chart								
Part Number	Price	Sensing Range	Mounting	Output State	Logic	Connection	Wiring	Drawing Link	
Standard Distance									
PBE6-AP-1A	\$12.50	1.5 mm [0.06 in]	Flush	N.O.	PNP	Cable, 3 pole, 2m [6.5 ft]	Diagram 1	<u>PDF</u>	
PBE6-AP-1F	\$13.50	1.5 mm [0.06 in]	Flush	N.O.	PNP	3-pin M8 connector	Diagram 3	<u>PDF</u>	
PBE6-CP-1A	\$12.50	1.5 mm [0.06 in]	Flush	N.C.	PNP	Cable, 3 pole, 2m [6.5 ft]	Diagram 1	<u>PDF</u>	
PBE6-CP-1F	\$13.50	1.5 mm [0.06 in]	Flush	N.C.	PNP	3-pin M8 connector	Diagram 3	<u>PDF</u>	
PBE6-AN-1A	\$12.50	1.5 mm [0.06 in]	Flush	N.O.	NPN	Cable, 3 pole, 2m [6.5 ft]	Diagram 2	<u>PDF</u>	
PBE6-AN-1F	\$13.50	1.5 mm [0.06 in]	Flush	N.O.	NPN	3-pin M8 connector	Diagram 4	<u>PDF</u>	
PBE6-AP-2A	\$12.50	2mm [0.08 in]	Non-flush	N.O.	PNP	Cable, 3 pole, 2m [6.5 ft]	Diagram 1	PDF	
PBE6-AP-2F	\$13.50	2mm [0.08 in]	Non-flush	N.O.	PNP	3-pin M8 connector	Diagram 3	<u>PDF</u>	
PBE6-CP-2A	\$12.50	2mm [0.08 in]	Non-flush	N.C.	PNP	Cable, 3 pole, 2m [6.5 ft]	Diagram 1	<u>PDF</u>	
PBE6-CP-2F	\$13.50	2mm [0.08 in]	Non-flush	N.C.	PNP	3-pin M8 connector	Diagram 3	<u>PDF</u>	
PBE6-AN-2A	\$12.50	2mm [0.08 in]	Non-flush	N.O.	NPN	Cable, 3 pole, 2m [6.5 ft]	Diagram 2	<u>PDF</u>	
PBE6-AN-2F	\$13.50	2mm [0.08 in]	Non-flush	N.O.	NPN	3-pin M8 connector	Diagram 4	<u>PDF</u>	

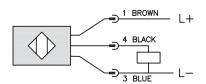
## **Wiring Diagrams**

#### Diagram 1

#### **PNP Cable Version**

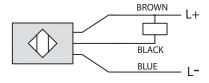


# Diagram 3 PNP M8 Connector

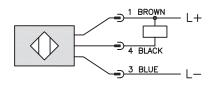


#### Diagram 2

#### NPN Cable Version



# Diagram 4 NPN M8 Connector



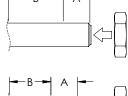
# Connector M8 connector

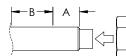


# **ProSense Basic M8 Inductive Proximity Sensors**

Basic M8 Inductive Proximity Sensor Specifications					
Mounting Type	Flush	Non-flush			
Nominal Sensing Distance	1.5 mm [0.06 in]	2mm [0.078 in]			
Material Correction Factors	See the Materia	l influence table			
Output Type	NPN or PNP/N.O. or N.C./3-wire				
Operating Voltage	10 to 3	0 VDC			
No-load Supply Current	≤ 10	DmA			
Operating (Load) Current	200	)mA			
Off-state (Leakage) Current	≤ 10	DmA			
Voltage Drop	≤ 1.2 V (I	=100mA)			
Switching Frequency 1000Hz					
Hysteresis	< 10%				
Repeat Accuracy	< 3%				
Ripple	< 10%				
Time Delay Before Availability (tv)	< 50 ms				
Reverse Polarity Protection	Yes				
Short-Circuit Protection	prt-Circuit Protection Yes (auto-reset)				
Operating Temperature	-25° to 70°C [	-13° to 158°F]			
Protection Degree (DIN 40050)	IP	67			
Indication/Switch Status	Yellow, on when detecting				
Housing Material	Nickel-plated brass				
Sensing Face Material	LCP (Liquid Cr	rystal Polymer)			
Shock/Vibration	See Proximity Se	nsor Terminology			
Tightening Torque	See Torque	Table below			
Weight	80g [2.82 oz] (cable version) – 35g [1.23 oz] (M8 connector)				
Connection	2m [6.5 ft] PUR Cable, 3 pole, 26AWG or M8 Connector				
Agency Approvals	CE cULus	E187310			

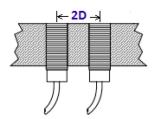
Installation Tightening Torque				
Mounting	Flush, non-flush mountable			
Housing Material	Nickel plated brass			
Diameter	8mm [0.31 in]			
Tightening Torque for A (A = 11mm [0.43 in])	2 N•m [1.48 lb•ft]			
Tightening Torque for B	4 N•m [2.95 lb•ft]			





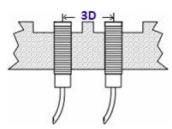
#### Flush Mounting

Flush models can be installed with their sensing faces flush to the metal. The distance from opposing metal surfaces must be  $\geq 3$ sn (where sn=nominal switching distance), and the distance between two proximity switches (side by side) must be  $\geq 2D$ .



#### **Non-Flush Mounting**

Non-flush models can be identified by their "caps," since they have no metal housing surrounding the area of the sensing face. The sensing face must extend  $\geq 2$ sn (where sn=nominal switching distance) from the metallic installation medium. The distance from opposing metal surfaces must be  $\geq 3$ sn, and the distance between two adjacent proximity switches must be  $\geq 3$ D. The metal body leaves uncovered part of the sensing area, resulting in an increased sensing distance.



**Proximity Sensors** 

# **Accessories for 8mm Sensors**

## **Axial Mounting Bracket**

Mounting bracket, axial, zinc-plated steel. For use with 8mm sensors. Has two mounting holes (use 3 mm screws) and allows the rotation of an optical axis for axial sensors. Hexagonal nuts not included.

Accessories for 8mm Sensors							
Part Number	Price	Description	Drawing Link	Weight [lb]			
ST08A	\$2.00	Micro Detectors mounting bracket, axial, zinc plated steel. For use with 8mm sensors.	<u>PDF</u>	0.04			



ST08A

## **Right-angle Mounting Bracket**

Mounting bracket, right-angle, zinc-plated steel. For use with 8mm sensors. Has two mounting holes (use 3mm screws) and allows the rotation of an optical axis for right-beam-angle-adapter sensors. Hexagonal nuts not included.

Accessories for 8mm Sensors						
Part Number	Price	Description	Drawing Link	Weight [lb]		
<u>ST08C</u>	\$2.00	Micro Detectors mounting bracket, right-angle, zinc plated steel. For use with 8mm sensors.	PDF	0.04		



ST08C

# **Accessories for 8mm Sensors**

# **Right-angle Mounting Bracket**

Mounting bracket, right-angle, plastic. For use with 8mm sensors.

Accessories for 8mm Sensors						
Part Number Price		Description	Drawing Link	Weight [lb]		
<u>OPT2101</u>	\$8.00	Wenglor mounting bracket, right-angle, plastic. For use with 8mm sensors.	PDF	0.02		



**OPT2101** 

### **Right-angle Swivel Mounting Systems**

Mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment. For use with 8mm sensors. Available in all stainless steel or with an aluminum head and stainless steel mounting plate.

	Accessories for 8mm Sensors									
Part Number	Price	Description	Mounting Head	Mounting Plate	Drawing Link	Weight [lb]				
<u>OPT2112</u>	\$11.50	Wenglor mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment, aluminum, 12mm rod mount. For use with 8mm sensors.	Aluminum	304 Stainless Steel	<u>PDF</u>	0.14				
<u>OPT2113</u>	\$21.00	Wenglor mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment, 304 stainless steel, 12mm rod mount. For use with 8mm sensors.	304 Stainless Steel	304 Stainless Steel	<u>PDF</u>	0.26				



OPT2112 & OPT2113

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

# **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	Price	Description	Drawing Link	Weight lb (g)			
<u>OPT2109</u>	\$13.00	Wenglor mounting rod, 12mm diameter, 200mm length, 304 stainless steel.	PDF	0.41 [185.97]			
<u>OPT2110</u>	\$16.00	Wenglor mounting rod, 12mm diameter, 300mm length, 304 stainless steel.	PDF	0.60 [272.16]			
<u>OPT2111</u>	\$21.00	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>	\$16.00	Wenglor mounting bracket, right-angle, nickel-plated brass. For use with 12mm mounting rods OPT2109, OPT2110 & OPT2111.	<u>PDF</u>	0.07 [31.8]		



www.automationdirect.com