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

NEED CABLES?

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	$4n47:	1.5 mm [0.06 in]	Flush	N.O.	PNP	Cable, 3 pole, 2m [6.5 ft]	Diagram 1	PDF
PBE6-AP-1F	$4n4d:	1.5 mm [0.06 in]	Flush	N.O.	PNP	3-pin M8 connector	Diagram 3	PDF
PBE6-CP-1A	$-4n4j:	1.5 mm [0.06 in]	Flush	N.C.	PNP	Cable, 3 pole, 2m [6.5 ft]	Diagram 1	PDF
PBE6-CP-1F	$4n4q:	1.5 mm [0.06 in]	Flush	N.C.	PNP	3-pin M8 connector	Diagram 3	PDF
PBE6-AN-1A	$4n4y:	1.5 mm [0.06 in]	Flush	N.O.	NPN	Cable, 3 pole, 2m [6.5 ft]	Diagram 2	PDF
PBE6-AN-1F	$4n42:	1.5 mm [0.06 in]	Flush	N.O.	NPN	3-pin M8 connector	Diagram 4	PDF
PBE6-AP-2A	$4n43:	2mm [0.08 in]	Non-flush	N.O.	PNP	Cable, 3 pole, 2m [6.5 ft]	Diagram 1	PDF
PBE6-AP-2F	$4n44:	2mm [0.08 in]	Non-flush	N.O.	PNP	3-pin M8 connector	Diagram 3	PDF
PBE6-CP-2A	$4n45:	2mm [0.08 in]	Non-flush	N.C.	PNP	Cable, 3 pole, 2m [6.5 ft]	Diagram 1	PDF
PBE6-CP-2F	$4n46:	2mm [0.08 in]	Non-flush	N.C.	PNP	3-pin M8 connector	Diagram 3	PDF
PBE6-AN-2A	$4n48:	2mm [0.08 in]	Non-flush	N.O.	NPN	Cable, 3 pole, 2m [6.5 ft]	Diagram 2	PDF
PBE6-AN-2F	$4n49:	2mm [0.08 in]	Non-flush	N.O.	NPN	3-pin M8 connector	Diagram 4	PDF

Wiring Diagrams

Diagram 1

PNP Cable Version

BROWN — L+
BLACK
BLUE — L-
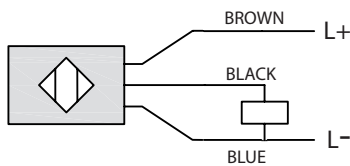
Diagram 2

NPN Cable Version

BROWN — L+
BLACK
BLUE — L-

Connector

M8 connector

4
1   3
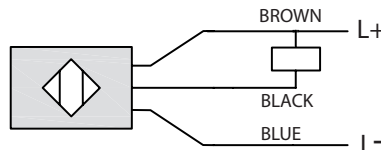
Diagram 3

PNP M8 Connector

1 BROWN — L+
4 BLACK
3 BLUE — L−
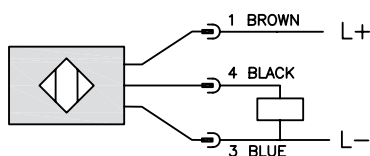
Diagram 4

NPN M8 Connector

1 BROWN — L+
4 BLACK
3 BLUE — L−
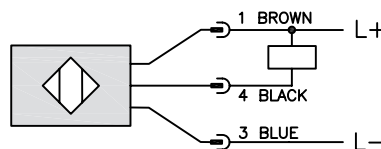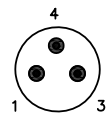
ProSense Basic M8 Inductive Proximity Sensors

| 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 Material influence table	
Output Type	NPN or PNP/N.O. or N.C./3-wire	
Operating Voltage	10 to 30 VDC	
No-load Supply Current	≤ 10mA	
Operating (Load) Current	200mA	
Off-state (Leakage) Current	≤ 10mA	
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	Yes (auto-reset)	
Operating Temperature	-25° to 70°C [-13° to 158°F]	
Protection Degree (DIN 40050)	IP67	
Indication/Switch Status	Yellow, on when detecting	
Housing Material	Nickel-plated brass	
Sensing Face Material	LCP (Liquid Crystal Polymer)	
Shock/Vibration	See Proximity Sensor 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]
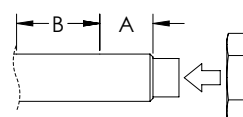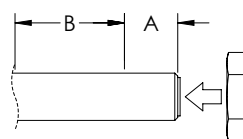
Flush Mounting
Flush models can be installed with their sensing faces flush to the metal. The distance from opposing metal surfaces must be ≥3sn (where sn=nominal switching distance), and the distance between two proximity switches (side by side) must be ≥2D.
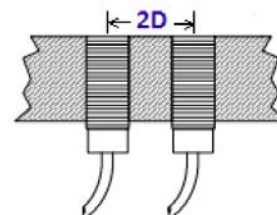
Non-Flush Mounting
Non-flush models can be identified by their "caps," since they have no metal housing surrounding the area of the sensing face. The sensing face must extend ≥2sn (where sn=nominal switching distance) from the metallic installation medium. The distance from opposing metal surfaces must be ≥3sn, and the distance between two adjacent proximity switches must be ≥3D. The metal body leaves uncovered part of the sensing area, resulting in an increased sensing distance.
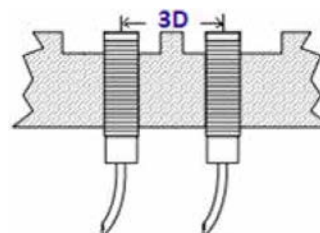
Accessories for 8mm Sensors

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	$;10#t:	Micro Detectors mounting bracket, axial, zinc plated steel. For use with 8mm sensors.	PDF	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]
ST08C	$10#u:	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]
OPT2101	$-1nlp:	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]
OPT2112	$-1nlz:	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	PDF	0.14
OPT2113	$;-1nl]:	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	PDF	0.26

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

OPT2112 & OPT2113

Mounting Rods and Brackets

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	Drawing Link	Weight lb (g)
OPT2109	$1nn9:	Wenglor mounting rod, 12mm diameter, 200mm length, 304 stainless steel.	PDF	0.41 [185.97]
OPT2110	$1nna:	Wenglor mounting rod, 12mm diameter, 300mm length, 304 stainless steel.	PDF	0.60 [272.16]
OPT2111	$1nnb:	Wenglor mounting rod, 12mm diameter, 500mm length, 304 stainless steel.	PDF	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 lb [g]
OPT2108	$-1nly:	Wenglor mounting bracket, right-angle, nickel-plated brass. For use with 12mm mounting rods OPT2109, OPT2110 & OPT2111.	PDF	0.07 [31.8]