

ProSense Basic M18 Inductive Proximity Sensors



Basic Series Inductive Proxies M18 (18mm)

- Operating distance 5 to 8mm
- Nickel-plated brass housing
- LCP (Liquid Crystal Polymer) active face
- Normal range operating distance
- Cable or M12 connector
- PNP or NPN, N.O. or N.C.
- IP67 protection



Basic M18 Inductive Proximity Sensor Selection Chart

Part Number	Price	Sensing Range	Mounting	Output State	Logic	Connection	Wiring	Drawing Link
Standard Distance								
PBK6-AP-1A	\$12.00	5mm [0.20 in]	Flush	N.O.	PNP	Cable, 3 pole, 2m [6.5 ft]	Diagram 1	PDF
PBK6-AP-1H	\$13.00	5mm [0.20 in]	Flush	N.O.	PNP	4-pin M12 connector	Diagram 3	PDF
PBK6-CP-1H	\$13.00	5mm [0.20 in]	Flush	N.C.	PNP	4-pin M12 connector	Diagram 3	PDF
PBK6-AN-1H	\$13.00	5mm [0.20 in]	Flush	N.O.	NPN	4-pin M12 connector	Diagram 4	PDF
PBK6-AP-2A	\$12.00	8mm [0.31 in]	Non-flush	N.O.	PNP	Cable, 3 pole, 2m [6.5 ft]	Diagram 1	PDF
PBK6-AP-2H	\$13.00	8mm [0.31 in]	Non-flush	N.O.	PNP	4-pin M12 connector	Diagram 3	PDF
PBK6-CP-2H	\$13.00	8mm [0.31 in]	Non-flush	N.C.	PNP	4-pin M12 connector	Diagram 3	PDF
PBK6-AN-2H	\$13.00	8mm [0.31 in]	Non-flush	N.O.	NPN	4-pin M12 connector	Diagram 4	PDF

Wiring Diagrams

Diagram 1

PNP Cable Version

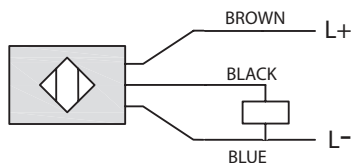
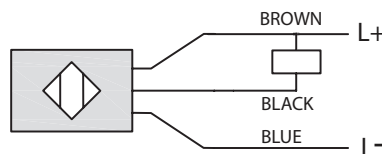


Diagram 2

NPN Cable Version



Connector

M12 connector

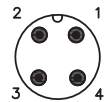


Diagram 3

PNP M12 Connector

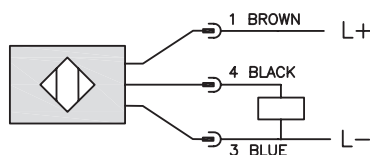
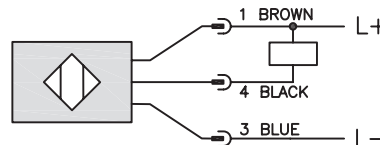


Diagram 4

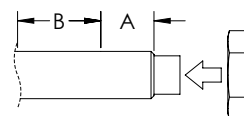
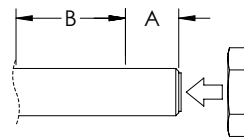
NPN M12 Connector



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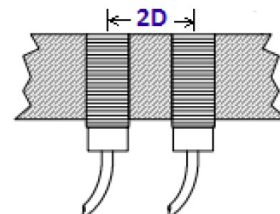
Basic M18 Inductive Proximity Sensor Specifications		
Mounting Type	Flush	Non-flush
Nominal Sensing Distance	5mm [0.20 in]	8mm [0.31 in]
Material Correction Factors	See the Material influence table	
Output Type	NPN or PNP/N.O. or N.C./3-wire	
Operating Voltage	10 to 30 VDC	
No-load Supply Current	≤ 10mA	
Operating (Load) Current	200mA	
Off-state (Leakage) Current	≤ 10mA	
Voltage Drop	≤ 1.8 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	145g [5.11 oz] (cable version) – 95g [3.35 oz] (M12 connector)	
Connection	2m [6.5 ft] PUR Cable, 3 pole, 26AWG or M12 Connector	
Agency Approvals	CE cULus E328811	

Installation Tightening Torque	
Mounting	Flush, non-flush mountable
Housing Material	Nickel plated brass
Diameter	18mm [0.71 in]
Tightening Torque for A (A = 11mm [0.43 in])	20 N•m [14.75 lb•ft]
Tightening Torque for B	30 N•m [22.13 lb•ft]



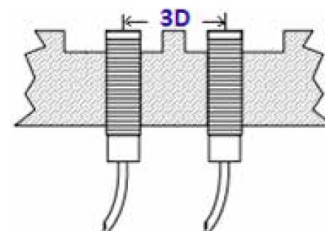
Flush Mounting

Flush models can be installed with their sensing faces flush to the metal. The distance from opposing metal surfaces must be $\geq 3s_n$ (where s_n =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 $\geq 2s_n$ (where s_n =nominal switching distance) from the metallic installation medium. The distance from opposing metal surfaces must be $\geq 3s_n$, and the distance between two adjacent proximity switches must be $\geq 3D$. The metal body leaves uncovered part of the sensing area, resulting in an increased sensing distance.



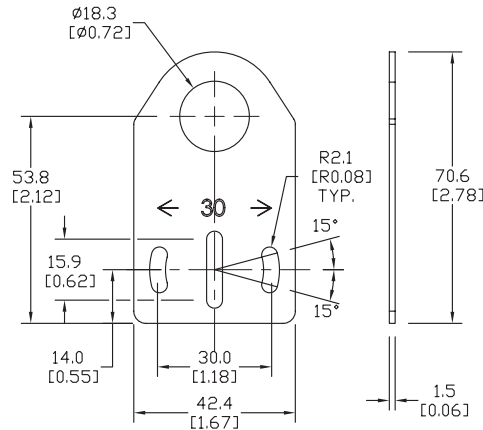
Axial Mounting Bracket



ST18A

Accessories for 18mm Sensors			
Part Number	Price	Description	Weight lb [g]
<u>ST18A</u>	\$2.00	Micro Detectors mounting bracket, axial, zinc plated steel. For use with 18mm sensors.	0.06 [27.2]
<u>ST18A7W</u>	\$7.25	Micro Detectors mounting bracket, axial, 316L stainless steel. For use with 18mm sensors.	0.06 [27.2]

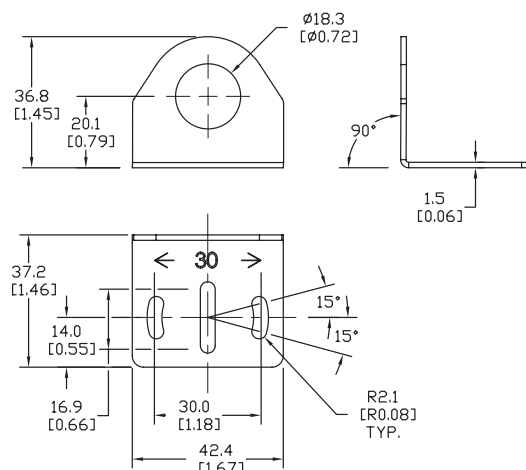
mm [inches]



ST18C

Accessories for 18mm Sensors			
Part Number	Price	Description	Weight lb [g]
<u>ST18C</u>	\$2.00	Micro Detectors mounting bracket, right-angle, zinc plated steel. For use with 18mm sensors.	0.06 [27.2]
<u>ST18C7W</u>	\$7.25	Micro Detectors mounting bracket, right-angle, 316L stainless steel. For use with 18mm sensors.	0.06 [27.2]

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 lb [g]
OPT2104	\$10.50	Wenglor mounting bracket, right-angle, fixed insertion stop adjustment, plastic. For use with 18mm sensors.	PDF	0.06 [27.2]
OPT2105	\$10.50	Wenglor mounting bracket, right-angle, plastic. For use with 18mm sensors.	PDF	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]
OPT2116	\$11.50	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	PDF	0.15 [68.0]
OPT2117	\$21.00	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	PDF	0.28 [127.0]



[OPT2116](#), [OPT2117](#)

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

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	\$13.00	Wenglor mounting rod, 12mm diameter, 200mm length, 304 stainless steel.	PDF	0.41 [185.97]
OPT2110	\$16.00	Wenglor mounting rod, 12mm diameter, 300mm length, 304 stainless steel.	PDF	0.60 [272.16]
OPT2111	\$21.00	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	\$16.00	Wenglor mounting bracket, right-angle, nickel-plated brass. For use with 12mm mounting rods OPT2109, OPT2110 & OPT2111.	PDF	0.07 [31.8]

