ProSense Basic M30 Inductive Proximity Sensors

Basic Series Inductive Proxes M30 (30mm)

- Operating distance 10 to 15mm
- 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

NEED CABLES?

Basic M30 Inductive Proximity Sensor Selection Chart								
Part Number	*Price*	*Sensing Range*	*Mounting*	*Output State*	*Logic*	*Connection*	*Wiring*	*Drawing Link*
Standard Distance								
PBT6-AP-1A	$16.00	10mm [0.39 in]	Flush	N.O.	PNP	Cable, 3 pole, 2m [6.5 ft]	Diagram 1	PDF
PBT6-AP-1H	$18.50	10mm [0.39 in]	Flush	N.O.	PNP	4-pin M12 connector	Diagram 3	PDF
PBT6-CP-1H	$18.50	10mm [0.39 in]	Flush	N.C.	PNP	4-pin M12 connector	Diagram 3	PDF
PBT6-AN-1H	$18.50	10mm [0.39 in]	Flush	N.O.	NPN	4-pin M12 connector	Diagram 4	PDF
PBT6-AP-2A	$16.00	15mm [0.59 in]	Non-flush	N.O.	PNP	Cable, 3 pole, 2m [6.5 ft]	Diagram 1	PDF
PBT6-AP-2H	$18.50	15mm [0.59 in]	Non-flush	N.O.	PNP	4-pin M12 connector	Diagram 3	PDF
PBT6-CP-2H	$18.50	15mm [0.59 in]	Non-flush	N.C.	PNP	4-pin M12 connector	Diagram 3	PDF
PBT6-AN-2H	$18.50	15mm [0.59 in]	Non-flush	N.O.	NPN	4-pin M12 connector	Diagram 4	PDF

Wiring Diagrams

Diagram 1

PNP Cable Version

BROWN — L+
BLACK
BLUE — L-
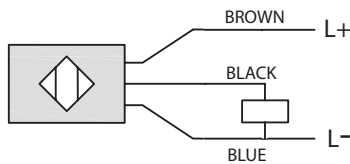
Diagram 2

NPN Cable Version

BROWN — L+
BLACK
BLUE — L-
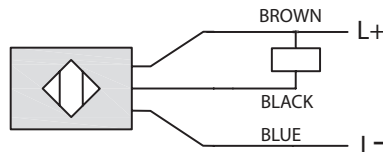
Connector

M12 connector

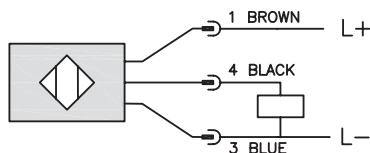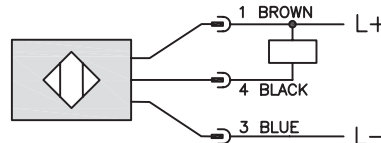2 1
3 4
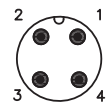
Diagram 3

PNP M12 Connector

1 BROWN — L+
4 BLACK
3 BLUE — L−

Diagram 4

NPN M12 Connector

1 BROWN — L+
4 BLACK
3 BLUE — L−

Prosense Basic M30 Inductive Proximity Sensors

Basic M30 Inductive Proximity Sensor Specifications		
Mounting Type	Flush	Non-flush
Nominal Sensing Distance	10mm [0.39 in]	15mm [0.59 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	300Hz	
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 60°C [-13 to 140°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	210g [7.41 oz] (cable version) – 170g [6.00 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	30mm [1.18 in]
Tightening Torque for A (A = 11mm [0.43 in])	40 N•m [29.50 lb•ft]
Tightening Torque for B	60 N•m [44.25 lb•ft]
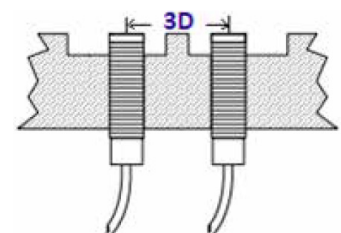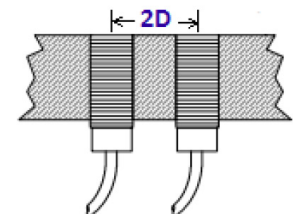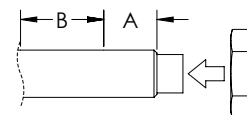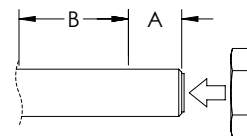
Flush Mounting
Flush models can be installed with their sensing faces flush to the metal. The distance from opposing metal surfaces must be ≥3sn (where sn=nominal switching distance), and the distance between two proximity switches (side by side) must be ≥2D.

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 30mm Sensors

Axial Mounting Bracket

Mounting bracket, axial, zinc-plated steel. For use with 30mm sensors. Has two mounting holes (use 5mm screws) and allows the rotation of an optical axis for right-beam-angle-adapter sensors. Hexagonal nuts not included.

Accessories for 30mm Sensors			
Part Number	Price	Description	Weight lb [g]
ST30A	$2.25	Micro Detectors mounting bracket, axial, zinc plated steel. For use with 30mm sensors.	0.18 [81.7]

Dimensions

mm [inches]

ST30A

Right-angle Mounting Bracket

Mounting bracket, right-angle, zinc-plated steel. For use with 30mm sensors. Has two mounting holes (use 5mm screws) and allows the rotation of an optical axis for axial sensors. Hexagonal nuts not included.

Accessories for 30mm Sensors			
Part Number	Price	Description	Weight lb [g]
ST30C	$2.25	Micro Detectors mounting bracket, right-angle, zinc plated steel. For use with 30mm sensors.	0.18 [81.7]

Dimensions

mm [inches]

ST30C

Accessories for 30mm Sensors

Right-angle Mounting Bracket

Mounting bracket, right-angle, 304 stainless steel. For use with 30mm sensors.

Accessories for FW Series Sensors			
Part Number	**Price**	**Description**	**Weight lb [g]**
ST30C6W	$5.50	AutomationDirect mounting bracket, right-angle, 304 stainless steel. For use with 30mm sensors.	0.15 (68.0)

Dimensions

mm [inches]
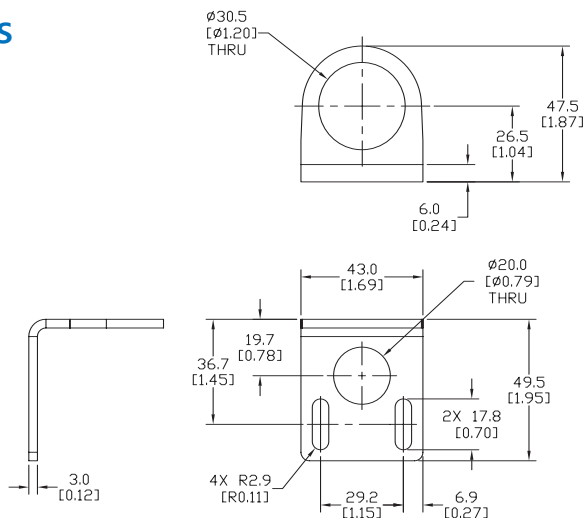
ST30C6W

Right-angle Swivel Mounting Systems

Mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment, 12mm rod mount. For use with 30mm sensors. Available in all 304 stainless steel or with an aluminum head with a 304 stainless steel mounting plate.

Accessories for 30mm Sensors						
Part Number	**Price**	**Description**	**Mounting Head**	**Mounting Plate**	**Drawing Link**	**Weight lb [g]**
OPT2118	$11.50	Wenglor mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment, aluminum, 12mm rod mount. For use with 30mm sensors.	Aluminum	304 Stainless steel	PDF	0.18 [81.7]
OPT2119	$21.00	Wenglor mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment, 304 stainless steel, 12mm rod mount. For use with 30mm sensors.	304 Stainless Steel	304 Stainless steel	PDF	0.18 [81.7]

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).

OPT2118, OPT2119

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]