

# ProSense Basic M30 Inductive Proximity Sensors



## ProSense 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

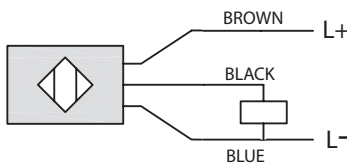


| Prosense Basic M30 Inductive Proximity Sensor Selection Chart |       |                |           |              |       |                             |           |              |
|---|-------|----------------|-----------|--------------|-------|-----------------------------|-----------|--------------|
| Part Number   | Price | Sensing Range  | Mounting  | Output State | Logic | Connection                  | Wiring    | Drawing Link |
| <b>Standard Distance</b>                                      |       |                |           |              |       |                             |           |              |
| <b>PBT6-AP-1A</b>   |       | 10mm [0.39 in] | Flush     | N.O.         | PNP   | Cable, 3 pole, 2m [6.56 ft] | Diagram 1 | PDF          |
| <b>PBT6-AP-1H</b>   |       | 10mm [0.39 in] | Flush     | N.O.         | PNP   | 4-pin M12 connector         | Diagram 3 | PDF          |
| <b>PBT6-CP-1H</b>   |       | 10mm [0.39 in] | Flush     | N.C.         | PNP   | 4-pin M12 connector         | Diagram 3 | PDF          |
| <b>PBT6-AN-1H</b>   |       | 10mm [0.39 in] | Flush     | N.O.         | NPN   | 4-pin M12 connector         | Diagram 4 | PDF          |
| <b>PBT6-AP-2A</b>   |       | 15mm [0.59 in] | Non-flush | N.O.         | PNP   | Cable, 3 pole, 2m [6.56 ft] | Diagram 1 | PDF          |
| <b>PBT6-AP-2H</b>   |       | 15mm [0.59 in] | Non-flush | N.O.         | PNP   | 4-pin M12 connector         | Diagram 3 | PDF          |
| <b>PBT6-CP-2H</b>   |       | 15mm [0.59 in] | Non-flush | N.C.         | PNP   | 4-pin M12 connector         | Diagram 3 | PDF          |
| <b>PBT6-AN-2H</b>   |       | 15mm [0.59 in] | Non-flush | N.O.         | NPN   | 4-pin M12 connector         | Diagram 4 | PDF          |

## Wiring diagrams

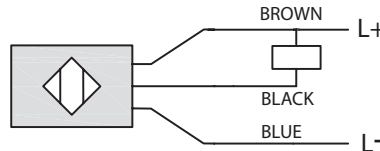
### Diagram 1

#### PNP Cable Version



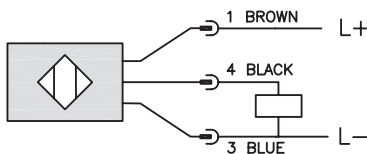
### Diagram 2

#### NPN Cable Version



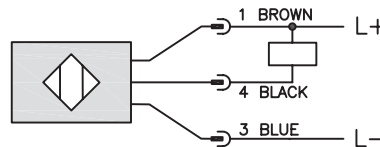
### Diagram 3

#### PNP M12 Connector



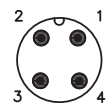
### Diagram 4

#### NPN M12 Connector



### Connector

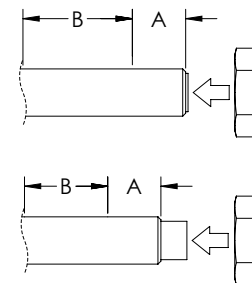
M12 connector



# Prosense Basic M30 Inductive Proximity Sensors

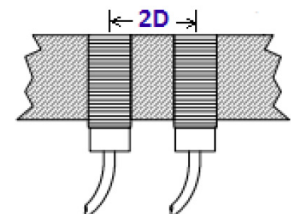
| Prosense Basic M30 Inductive Proximity Sensor Specifications |   |                |
|--|---|----------------|
| <b>Mounting Type</b>   | Flush   | Non-flush      |
| <b>Nominal Sensing Distance</b>                              | 10mm [0.39 in]  | 15mm [0.59 in] |
| <b>Material Correction Factors</b>                           | See the <a href="#">Material influence table</a>                |                |
| <b>Output Type</b>   | NPN or PNP/N.O. or N.C./3-wire                                  |                |
| <b>Operating Voltage</b>                                     | 10 to 30 VDC  |                |
| <b>No-load Supply Current</b>                                | ≤ 10mA  |                |
| <b>Operating (Load) Current</b>                              | 200mA   |                |
| <b>Off-state (Leakage) Current</b>                           | ≤ 10mA  |                |
| <b>Voltage Drop</b>  | ≤ 1.8 V (I=100mA)   |                |
| <b>Switching Frequency</b>                                   | 300Hz   |                |
| <b>Hysteresis</b>  | < 10%   |                |
| <b>Repeat Accuracy</b>                                       | < 3%  |                |
| <b>Ripple</b>  | < 10%   |                |
| <b>Time Delay Before Availability (tv)</b>                   | < 50 ms   |                |
| <b>Reverse Polarity Protection</b>                           | Yes   |                |
| <b>Short-Circuit Protection</b>                              | Yes (auto-reset)  |                |
| <b>Operating Temperature</b>                                 | -25° to 60°C (-13° to 140°F)                                    |                |
| <b>Protection Degree (DIN 40050)</b>                         | IP67  |                |
| <b>Indication/Switch Status</b>                              | Yellow, on when detecting                                       |                |
| <b>Housing Material</b>                                      | Nickel-plated brass   |                |
| <b>Sensing Face Material</b>                                 | LCP (Liquid Crystal Polymer)                                    |                |
| <b>Shock/Vibration</b>                                       | See <a href="#">Proximity Sensor Terminology</a>                |                |
| <b>Tightening Torque</b>                                     | See Torque Table below  |                |
| <b>Weight</b>  | 210g [7.41 oz] (cable version) – 170g [6.00 oz] (M12 connector) |                |
| <b>Connection</b>  | 2m [6.56 ft] PUR Cable, 3 pole, 26AWG or M12 Connector          |                |
| <b>Agency Approvals</b>                                      | CE cULus E328811  |                |

| Installation Tightening Torque                      |                            |
|---|----------------------------|
| <b>Mounting</b>                                     | Flush, non-flush mountable |
| <b>Housing Material</b>                             | Nickel plated brass        |
| <b>Diameter</b>                                     | 30mm [1.18 in]             |
| <b>Tightening Torque for A (A = 11mm [0.43 in])</b> | 40 N•m [29.50 lb•ft]       |
| <b>Tightening Torque for B</b>                      | 60 N•m [44.25 lb•ft]       |



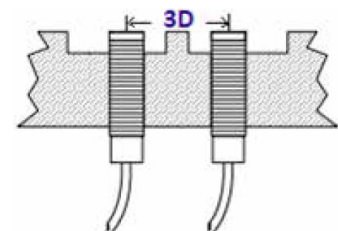
## Flush Mounting

Flush models can be installed with their sensing faces flush to the metal. The distance from opposing metal surfaces must be  $\geq 3sn$  (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  $\geq 2sn$  (where  $sn$ =nominal switching distance) from the metallic installation medium. The distance from opposing metal surfaces must be  $\geq 3sn$ , 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.



# Accessories for 30mm Sensors

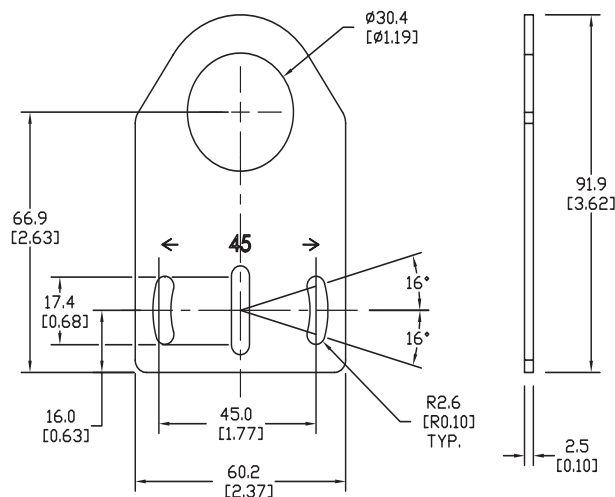
## Axial Mounting Bracket

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-adaptor sensors. Hexagonal nuts not included.

| Accessories for 30mm Sensors |       |  |               |
|------------------------------|-------|--|---------------|
| Part Number                  | Price | Description  | Weight lb [g] |
| <b>ST30A</b>                 |       | Mounting bracket, axial, zinc plated steel. For use with 30mm sensors. | 0.18 (81.7)   |

### Dimensions

mm [inches]



ST30A

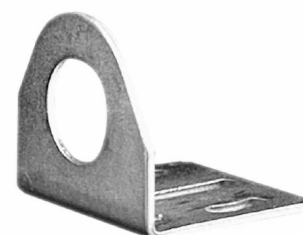
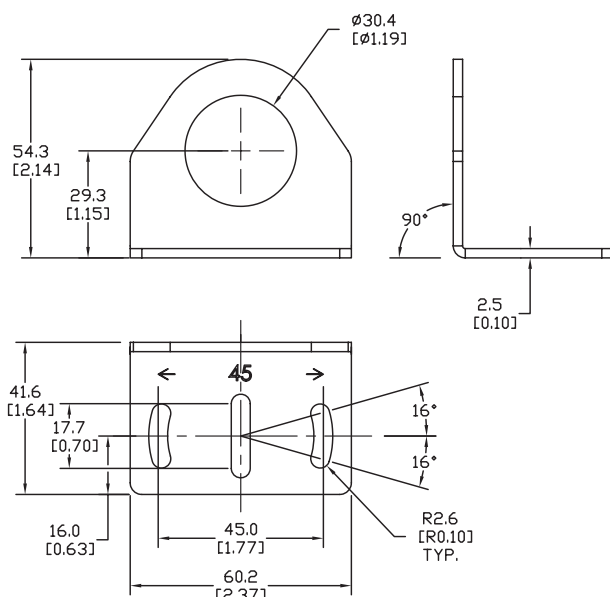
## Right-angle Mounting Bracket

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] |
| <b>ST30C</b>                 |       | Mounting bracket, right-angle, zinc plated steel. For use with 30mm sensors. | 0.18 (81.7)   |

### Dimensions

mm [inches]



ST30C

# Accessories for 30mm Sensors

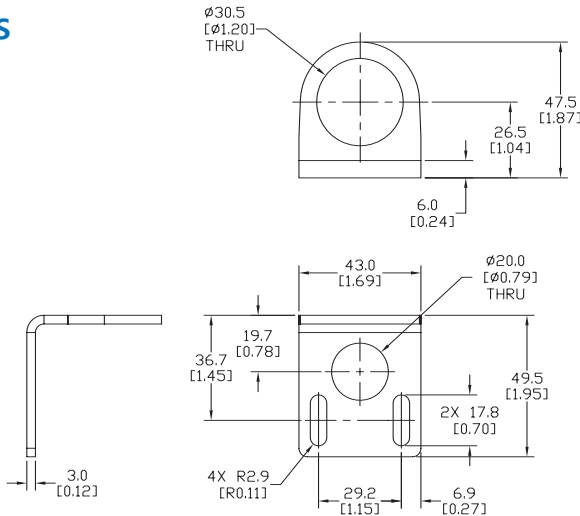
## Right-angle Mounting Bracket

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

| Accessories for FW Series Sensors |       |  |               |
|-----------------------------------|-------|--|---------------|
| Part Number                       | Price | Description  | Weight lb [g] |
| <b>ST30C6W</b>                    |       | 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] |
| <b>OPT2118</b>               |       | 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 | <a href="#">PDF</a> | 0.18 (81.7)   |
| <b>OPT2119</b>               |       | 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 | <a href="#">PDF</a> | 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)    |
| <a href="#">OPT2109</a>                                 |       | Wenglor mounting rod, 12mm diameter, 200mm length, 304 stainless steel. | <a href="#">PDF</a> | 0.41<br>(185.97) |
| <a href="#">OPT2110</a>                                 |       | Wenglor mounting rod, 12mm diameter, 300mm length, 304 stainless steel. | <a href="#">PDF</a> | 0.60<br>(272.16) |
| <a href="#">OPT2111</a>                                 |       | Wenglor mounting rod, 12mm diameter, 500mm length, 304 stainless steel. | <a href="#">PDF</a> | 0.98<br>(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)  |
| <a href="#">OPT2108</a>                        |       | Wenglor mounting bracket, right-angle, nickel plated brass.<br>For use with 12mm mounting rods OPT2109, OPT2110 & OPT2111. | <a href="#">PDF</a> | 0.07<br>(31.8) |

