

# PTW Series Inductive Proximity Sensors



## M30 (30 mm) Stainless Steel - DC

- Metal sensing face for extreme environments
- LED status indicators are visible at a wide angle.
- One-piece stainless design
- Axial cable or M12 quick-disconnect models
- Purchase cable separately (for quick-disconnect models).
- Lifetime warranty



### PTW Series M30 DC SS Inductive Proximity Selection Chart

| Part Number                      | Price    | Sensing Range    | Mounting | Output State | Logic | Connection              | Wiring    | Dimensions |
|----------------------------------|----------|------------------|----------|--------------|-------|-------------------------|-----------|------------|
| <b>Triple Distance</b>           |          |                  |          |              |       |                         |           |            |
| <a href="#"><u>PTW-AN-5A</u></a> | \$132.00 | 20 mm [0.787 in] | Flush    | N.O.         | NPN   | 2m [6.5 ft] axial cable | Diagram 1 | Figure 1   |
| <a href="#"><u>PTW-AP-5A</u></a> | \$132.00 |                  |          |              | PNP   | 2m [6.5 ft] axial cable | Diagram 2 | Figure 1   |
| <a href="#"><u>PTW-AN-5H</u></a> | \$132.00 |                  |          |              | NPN   | M12 [12mm] connector    | Diagram 1 | Figure 2   |
| <a href="#"><u>PTW-AP-5H</u></a> | \$132.00 |                  |          |              | PNP   | M12 [12mm] connector    | Diagram 2 | Figure 2   |

## Wiring Diagrams

Diagram 1

NPN Output

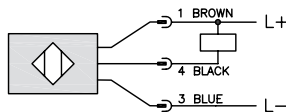
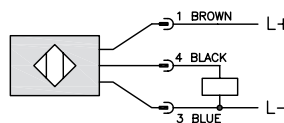


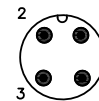
Diagram 2

PNP Output



Connector

M12 connector



**Note: Pin 2 is not present on some models.**

# PTW Series Inductive Proximity Sensors

## PTW Series M30 DC SS Inductive Proximity Specifications

| Models                                      | PTW-A*-2H                                        | PTW-A*-5*                                                   |
|---------------------------------------------|--------------------------------------------------|-------------------------------------------------------------|
| Mounting Type                               | Non-flush                                        | Flush                                                       |
| Nominal Distance                            | 25mm [0.984 in]                                  | 20mm [0.787 in]                                             |
| Operating Distance                          | 0 to 24.3 mm [0.96 in]                           | NA                                                          |
| Material Correction Factors                 | See the <a href="#">Material influence table</a> |                                                             |
| Output Type                                 | NPN or PNP, N.O. only                            |                                                             |
| Operating Voltage                           | 10 to 36 VDC                                     | 10 to 30 VDC                                                |
| No-load Supply Current                      | 25mA                                             | 10mA                                                        |
| Operating (Load) Current                    | 100mA                                            | ≤ 200mA                                                     |
| Off-state (Leakage) Current                 | < 1mA                                            | ≤ 100μA                                                     |
| Voltage Drop                                | ≤ 2.5V                                           | ≤ 2.0V                                                      |
| Switching Frequency                         | 250Hz                                            | 100Hz                                                       |
| Differential Travel (% of Nominal Distance) | ≤ 20%                                            | ≤ 15%                                                       |
| Repeat Accuracy                             | Not available                                    | ≤ 5%                                                        |
| Ripple                                      | Not available                                    | ≤ 20%                                                       |
| Time Delay Before Availability (tv)         | Not available                                    | ≤ 10ms                                                      |
| Reverse Polarity Protection                 | Yes                                              |                                                             |
| Short-circuit Protection                    | Yes [non-latching]                               |                                                             |
| Operating Temperature                       | 0 to 100°C [32 to 212°F]                         | -25 to 70°C [-13 to 158°F]                                  |
| Protection Degree (DIN 40050)               | IEC IP65/67/68/69K                               | IEC IP67 <sup>1</sup> [connector] IP68 <sup>1</sup> [cable] |
| Indication/Switch Status                    | Yellow [4 x 90°]                                 | Yellow [N.O. output energized]                              |
| Housing Material                            | Stainless steel                                  | Stainless steel                                             |
| Sensing Face Material                       | Stainless steel                                  | Stainless steel                                             |
| Shock Resistance / Vibration Resistance     | See <a href="#">Proximity Sensor Terminology</a> |                                                             |
| Tightening Torque                           | 80Nm [50 lb-in]                                  | 15Nm [111 lb-in]                                            |
| Weight                                      | 145g [5.11 oz]                                   | 114g [4.02 oz] / 50g [1.76 oz]                              |
| Connections                                 | M12 connector, 2 lock nuts included              | 2m [6.5'] axial cable or M12 connector                      |
| Agency Approvals                            | cULus, UL file E328811, CE, RoHS                 | UL file E328811, CE, RoHS                                   |

Note: <sup>1</sup> Fully submersible to 290 psi (20 bar).

To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page.

## Dimensions

mm [inches]

Figure 1

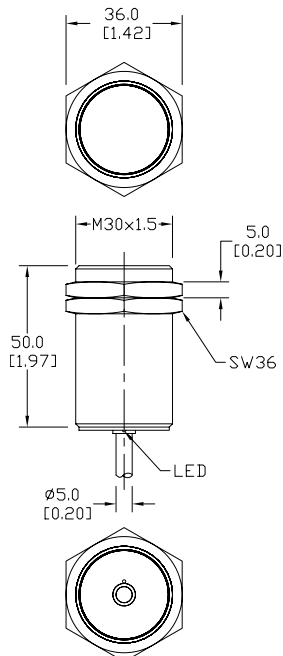
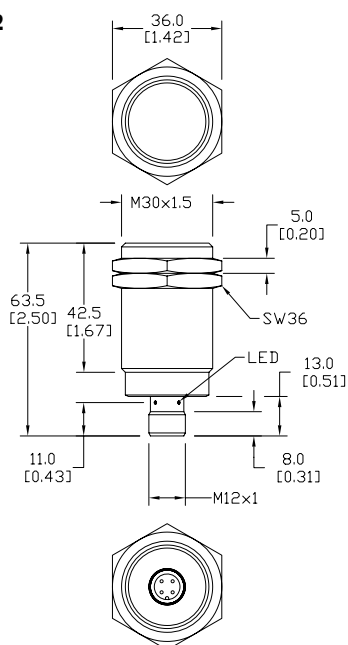


Figure 2



Note: Pin 2 is not present on some models.

# Accessories for 30mm Sensors

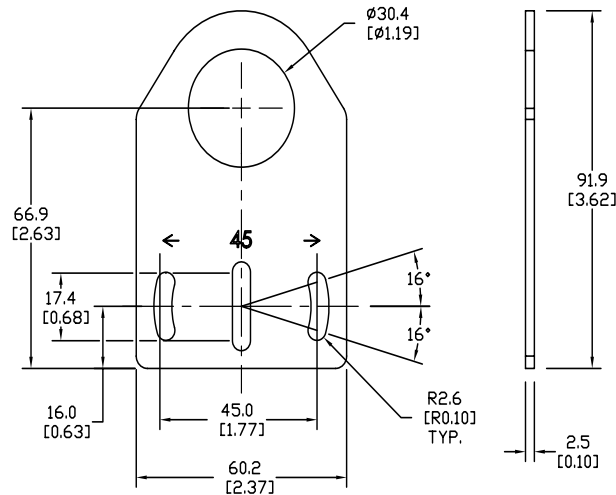
## Axial Mounting Bracket

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>                 | \$2.25 | Micro Detectors mounting bracket, axial, zinc plated steel. For use with 30mm sensors. | 0.18 [81.7]   |

### Dimensions

mm [inches]



**ST30A**

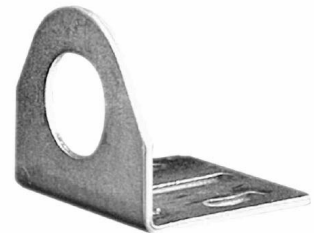
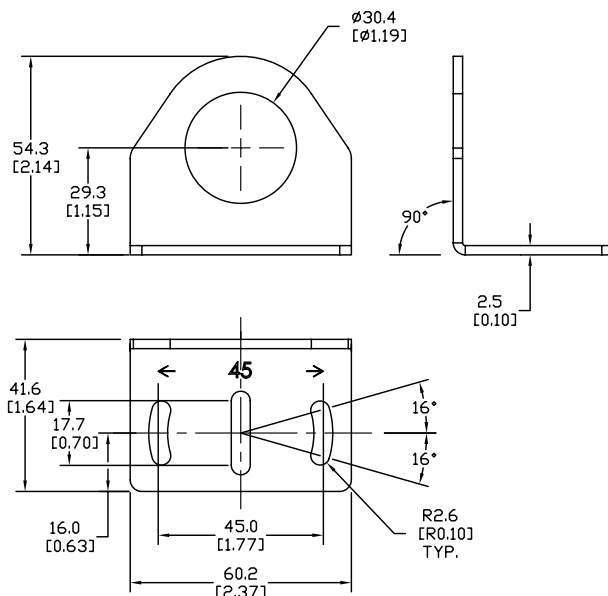
## Right-angle Mounting Bracket

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] |
| <b>ST30C</b>                 | \$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

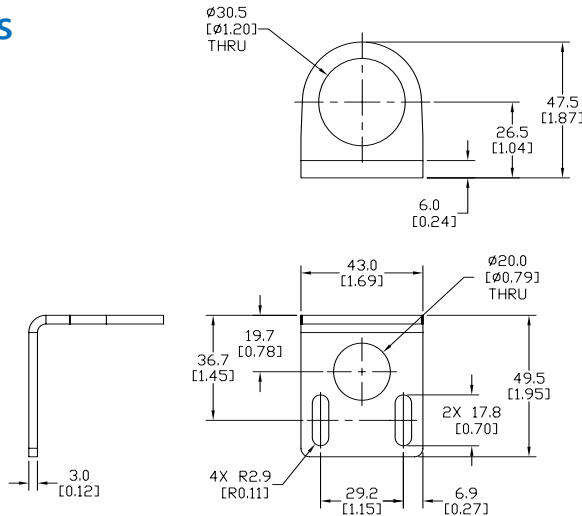
## Right-angle Mounting Bracket

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

| Accessories for FW Series Sensors |        |                                                                                                 |               |
|-----------------------------------|--------|-------------------------------------------------------------------------------------------------|---------------|
| Part Number                       | Price  | Description                                                                                     | Weight lb [g] |
| <b>ST30C6W</b>                    | \$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] |
| <b>OPT2118</b>               | \$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 | <a href="#">PDF</a> | 0.18 [81.7]   |
| <b>OPT2119</b>               | \$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 | <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>                                 | \$13.00 | Wenglor mounting rod, 12mm diameter, 200mm length, 304 stainless steel. | <a href="#">PDF</a> | 0.41<br>[185.97] |
| <a href="#">OPT2110</a>                                 | \$16.00 | Wenglor mounting rod, 12mm diameter, 300mm length, 304 stainless steel. | <a href="#">PDF</a> | 0.60<br>[272.16] |
| <a href="#">OPT2111</a>                                 | \$21.00 | 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>                        | \$16.00 | Wenglor mounting bracket, right-angle, nickel-plated brass. For use with 12mm mounting rods OPT2109, OPT2110 & OPT2111. | <a href="#">PDF</a> | 0.07<br>[31.8] |

