

# PTW Series Inductive Proximity Sensors



## M30 (30 mm) stainless steel - DC



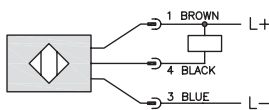
- Eight low cost, high performance models available
- Metal sensing face for extreme environments
- LED status indicators are visible at a wide angle.
- One-piece stainless design
- Axial cable or M12 quick-disconnect models
- Purchase cable separately (for quick-disconnect models).
- Lifetime warranty

| PTW Series M30 DC SS Inductive Prox Selection Chart |          |                  |            |              |       |                        |           |            |
|---|----------|------------------|------------|--------------|-------|------------------------|-----------|------------|
| Part Number   | Price    | Sensing Range    | Housing    | Output State | Logic | Connection             | Wiring    | Dimensions |
| <b>Standard Distance</b>                            |          |                  |            |              |       |                        |           |            |
| PTW-AN-1H   | \$37.25  | 10 mm (0.394 in) | Shielded   | N.O          | NPN   | M12 (12 mm) connector  | Diagram 1 | Figure 1   |
| PTW-AP-1H   | \$49.00  |                  |            |              | PNP   | M12 (12 mm) connector  | Diagram 2 | Figure 1   |
| <b>Extended Distance</b>                            |          |                  |            |              |       |                        |           |            |
| PTW-AN-2H   | \$45.50  | 25 mm (0.984 in) | Unshielded | N.O          | NPN   | M12 (12 mm) connector  | Diagram 1 | Figure 1   |
| PTW-AP-2H   | \$45.00  |                  |            |              | PNP   | M12 (12 mm) connector  | Diagram 2 | Figure 1   |
| <b>Triple Distance</b>                              |          |                  |            |              |       |                        |           |            |
| PTW-AN-5A   | \$101.00 | 20 mm (0.787 in) | Shielded   | N.O          | NPN   | 2 m (6.5') axial cable | Diagram 1 | Figure 2   |
| PTW-AP-5A   | \$101.00 |                  |            |              | PNP   | 2 m (6.5') axial cable | Diagram 2 | Figure 2   |
| PTW-AN-5H   | \$101.00 |                  |            |              | NPN   | M12 (12 mm) connector  | Diagram 1 | Figure 3   |
| PTW-AP-5H   | \$101.00 |                  |            |              | PNP   | M12 (12 mm) connector  | Diagram 2 | Figure 3   |

## Wiring diagrams

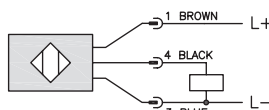
### Diagram 1

NPN Output



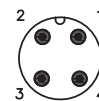
### Diagram 2

PNP Output



### Connector

M12 connector



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

# PTW Series Inductive Proximity Sensors

| Specifications                                     | PTW-A*-1H  | PTW-A*-2H                  | PTW-A*-5*                               |
|--|--|----------------------------|---|
| <b>Mounting Type</b>                               | Shielded   | Unshielded                 | Shielded                                |
| <b>Nominal Distance</b>                            | 10 mm (0.394 in)                                 | 25 mm (0.984 in)           | 20 mm (0.787 in)                        |
| <b>Operating Distance</b>                          | 0 to 8.1 mm (0.32 in)                            | 0 to 24.3 mm (0.96 in)     | NA                                      |
| <b>Material Correction Factors</b>                 | See the <a href="#">Material influence table</a> |                            |   |
| <b>Output Type</b>                                 | NPN or PNP, NO only                              |                            |   |
| <b>Operating Voltage</b>                           | 10 to 36 VDC                                     |                            | 10 to 30 VDC                            |
| <b>No-load Supply Current</b>                      | 20 mA  | 25 mA                      | 10 mA                                   |
| <b>Operating (Load) Current</b>                    | 100 mA   |                            | ≤200 mA                                 |
| <b>Off-state (Leakage) Current</b>                 | <1 mA  |                            | ≤100 μA                                 |
| <b>Voltage Drop</b>                                | <2.5V  |                            | ≤2.0V                                   |
| <b>Switching Frequency</b>                         | 50 Hz  | 250 Hz                     | 100 Hz                                  |
| <b>Differential Travel (% of Nominal Distance)</b> | ≤20%   |                            | ≤15%                                    |
| <b>Repeat Accuracy</b>                             | Not available                                    |                            | ≤5%                                     |
| <b>Ripple</b>                                      | Not available                                    |                            | ≤20%                                    |
| <b>Time Delay Before Availability (tv)</b>         | negligible                                       | Not available              | ≤10 ms                                  |
| <b>Reverse Polarity Protection</b>                 | Yes  |                            |   |
| <b>Short-circuit Protection</b>                    | Yes (non-latching)                               |                            |   |
| <b>Operating Temperature</b>                       | -25° to 70°C (-13° to 158°F)                     | 0° to 100°C (32° to 212°F) | -25° to 70°C (-13° to 158°F)            |
| <b>Protection Degree (DIN 40050)</b>               | IEC IP67, IP68 (coolant)                         | IEC IP65/67/68/69K         | IEC IP67* (connector) IP68* (cable)     |
| <b>Indication/Switch Status</b>                    | Yellow (4 x 90°)                                 |                            | Yellow (NO output energized)            |
| <b>Housing Material</b>                            | Stainless steel                                  |                            | Stainless steel                         |
| <b>Sensing Face Material</b>                       | Stainless steel                                  |                            | Stainless steel                         |
| <b>Shock Resistance / Vibration Resistance</b>     | See <a href="#">Proximity Sensor Terminology</a> |                            |   |
| <b>Tightening Torque</b>                           | 80 Nm (50 lb-in)                                 |                            | 150 Nm (111 lb-in)                      |
| <b>Weight</b>                                      | 145 g (5.11 oz)                                  |                            | 114 g (4.02 oz) / 50 g (1.76 oz)        |
| <b>Connections</b>                                 | M12 connector, 2 lock nuts included              |                            | 2 m (6.5') axial cable or M12 connector |
| <b>Agency Approvals</b>                            | cULus, UL file E328811, CE, RoHS                 |                            | UL file E328811, CE, RoHS               |

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

## Dimensions

mm [inches]

Figure 1

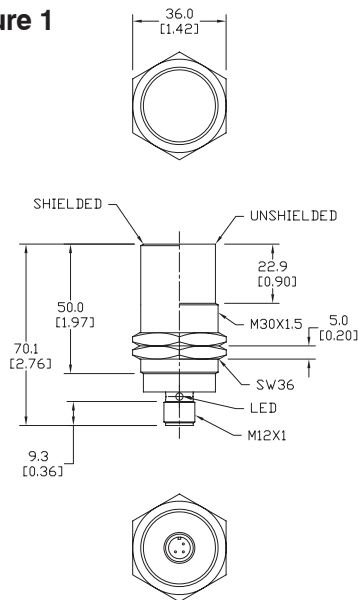


Figure 2

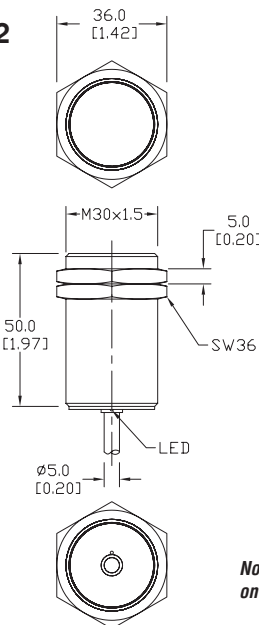
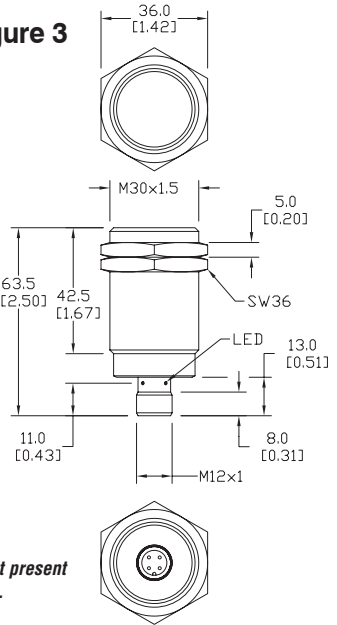


Figure 3



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

# Accessories for 30mm Sensors

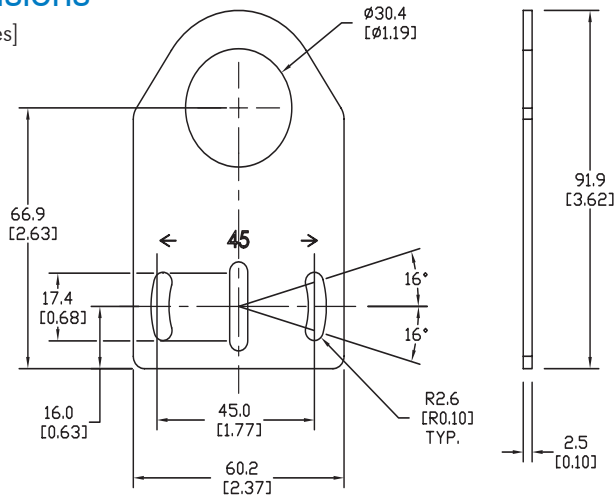
## Axial Mounting Bracket

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] |
| ST30A                        | \$2.25 | Mounting bracket, axial, zinc-plated steel. For use with 30mm sensors. 1/pk. | 0.18        |

### Dimensions

mm [inches]



ST30A

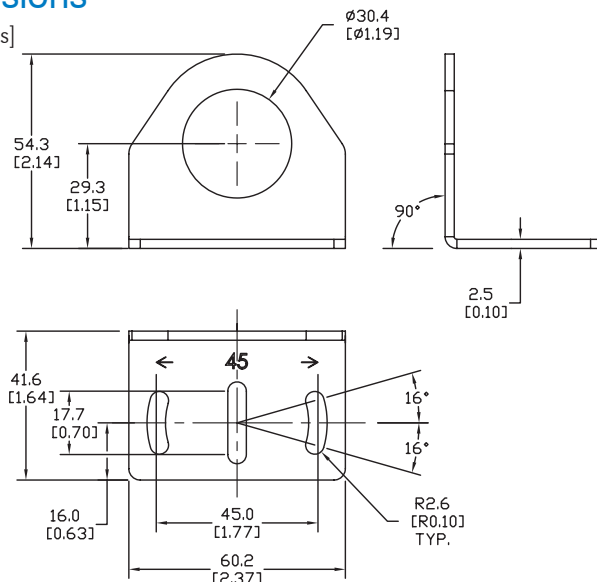
## Right-angle Mounting Bracket

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] |
| ST30C                        | \$2.25 | Mounting bracket, right angle, zinc-plated steel. For use with 30mm sensors. 1/pk. | 0.18        |

### Dimensions

mm [inches]



ST30C

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# Accessories for 30mm Sensors

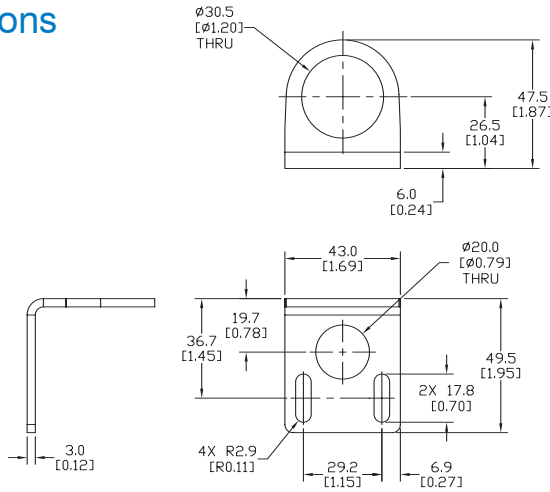
## Right-angle Mounting Bracket

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

| Accessories for FW Series Sensors |        |  |             |
|-----------------------------------|--------|--|-------------|
| Part Number                       | Price  | Description  | Weight [lb] |
| <b>ST30C6W</b>                    | \$2.50 | Mounting bracket, right angle, 304 stainless steel. For use with 30mm sensors. | 0.15        |

### Dimensions

mm [inches]



**ST30C6W**

## Right-angle Swivel Mounting Systems

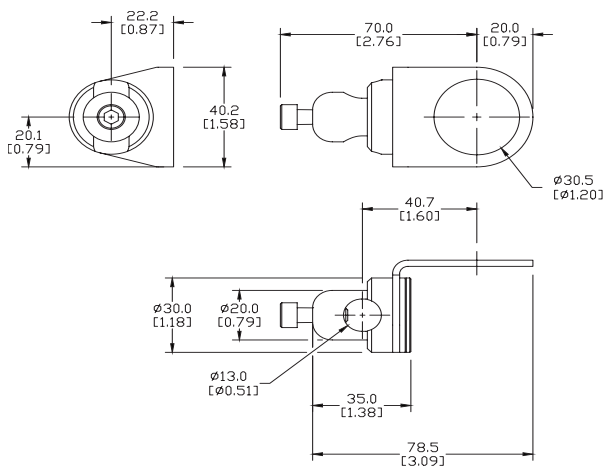
Mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment, 12mm rod mount. For use with 30mm sensors. Available in all 304 stainless steel or with an aluminum head with a 304 stainless steel mounting plate.

| Accessories for 30mm Sensors |         |   |                     |                     |             |
|------------------------------|---------|---|---------------------|---------------------|-------------|
| Part Number                  | Price   | Description   | Mounting Head       | Mounting Plate      | Weight [lb] |
| <b>OPT2118</b>               | \$9.00  | Mounting bracket, right-angle swivel, 360 vertical and horizontal adjustment, aluminum, 12mm rod mount. For use with 30mm sensors.            | Aluminum            | 304 Stainless Steel | 0.18        |
| <b>OPT2119</b>               | \$16.00 | Mounting bracket, right-angle swivel, 360 vertical and horizontal adjustment, 304 stainless steel, 12mm rod mount. For use with 30mm sensors. | 304 Stainless Steel | 304 Stainless Steel | 0.30        |

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

### Dimensions

mm [inches]



**OPT2118, OPT2119**

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# Mounting Rods

## Mounting Rods

304 Stainless steel rods for mounting swivel brackets OPT2112 - OPT2127. Available in three lengths: 200mm, 300mm, and 500mm. 12mm diameter.

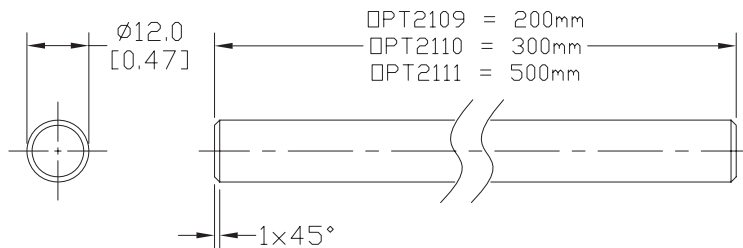
| Mounting Rods for OPT2112-2127 Swivel Mounting Brackets |         |   |             |
|---|---------|---|-------------|
| Part Number   | Price   | Description   | Weight [lb] |
| <b>OPT2109</b>  | \$10.00 | Mounting rod, 12mm diameter, 200mm length, 304 stainless steel. | 0.41        |
| <b>OPT2110</b>  | \$12.00 | Mounting rod, 12mm diameter, 300mm length, 304 stainless steel. | 0.60        |
| <b>OPT2111</b>  | \$16.00 | Mounting rod, 12mm diameter, 500mm length, 304 stainless steel. | 0.98        |



**OPT2109, OPT2110, OPT2111**

## Dimensions

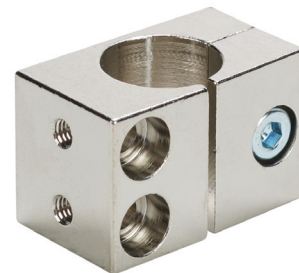
mm [inches]



## Right-angle Mounting Bracket

Mounting bracket, right-angle, nickel-plated brass. For use with 12mm mounting rods OPT2109, OPT2110 & OPT2111.

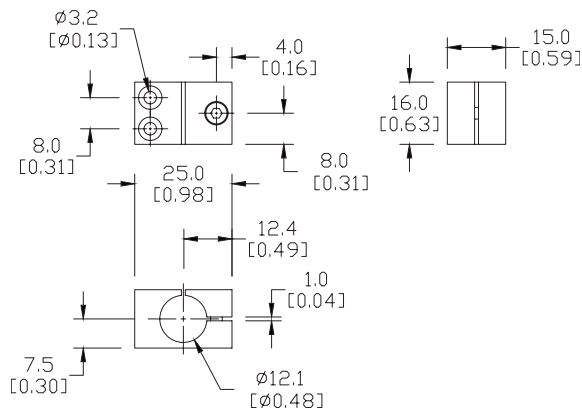
| Accessories for 12mm Sensors |         |   |             |
|------------------------------|---------|---|-------------|
| Part Number                  | Price   | Description   | Weight [lb] |
| <b>OPT2108</b>               | \$12.00 | Mounting bracket, right-angle, nickel-plated brass. For use with 12mm mounting rods OPT2109, OPT2110 & OPT2111. | 0.07        |



**OPT2108**

## Dimensions

mm [inches]



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