

UT2 Series Ultrasonic Sensors

M30 (30 mm) plastic – Discrete or analog output

- 12 to 30 VDC or 15 to 30 VDC powered (model dependent)
- Discrete models available with adjustable sensitivity
- Analog output models available
- Models available with analog or discrete switching outputs
- Sensing distances up to 6m
- Complete overload protection
- IP67 rated
- LED status indicators
- Mounting hex nuts included
- Purchase cable for M12 plug separately
- Lifetime warranty



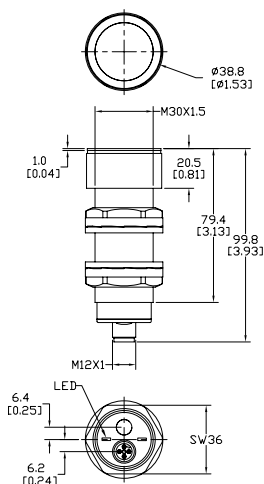
M12 Quick Disconnect

2m Output Cable

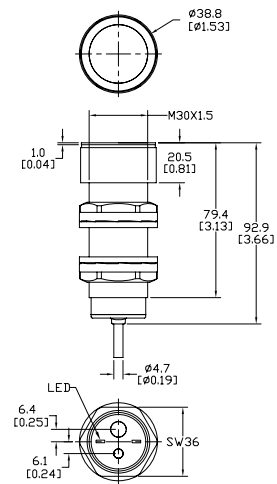
| UT 2F Series Ultrasonic Discrete or Analog Output Sensor Selection Chart | | | | | | |
|--|----------|------------------------------------|---|----------------------|-----------|----------|
| Part Number | Price | Sensing Range | Output State | Connection | Wiring | Function |
| UT2F-E7-0E | \$270.00 | 350–6000 mm (13.8 in–236.22 in) | 0–10 VDC analog output, PNP, NO/NC selectable | M12 quick disconnect | Diagram 1 | 1 |
| UT2F-E7-0A | \$270.00 | | 0–10 VDC analog output, PNP, NO/NC selectable | 2 m output cable | Diagram 1 | 1 |
| UT2F-E9-0E | \$270.00 | | 0–10 VDC analog output, NPN, NO/NC selectable | M12 quick disconnect | Diagram 2 | 1 |
| UT2F-E9-0A | \$270.00 | | 0–10 VDC analog output, NPN, NO/NC selectable | 2 m output cable | Diagram 2 | 1 |
| UT2F-E6-0E | \$270.00 | | 4–20 mA analog output, PNP, NO/NC selectable | M12 quick disconnect | Diagram 1 | 1 |
| UT2F-E6-0A | \$270.00 | | 4–20 mA analog output, PNP, NO/NC selectable | 2 m output cable | Diagram 1 | 1 |
| UT2F-E4-0E | \$270.00 | | 4–20 mA analog output, NPN, NO/NC selectable | M12 quick disconnect | Diagram 2 | 1 |
| UT2F-E4-0A | \$270.00 | | 4–20 mA analog output, NPN, NO/NC selectable | 2 m output cable | Diagram 2 | 1 |
| UT2F-EW-0E | \$270.00 | | PNP, 2 outputs, hysteresis + window functions | M12 quick disconnect | Diagram 3 | 2 |
| UT2F-EW-0A | \$270.00 | | PNP, 2 outputs, hysteresis + window functions | 2 m output cable | Diagram 3 | 2 |
| UT2F-EM-0E | \$270.00 | | NPN, 2 outputs, hysteresis + window functions | M12 quick disconnect | Diagram 4 | 2 |
| UT2F-EM-0A | \$270.00 | | NPN, 2 outputs, hysteresis + window functions | 2 m output cable | Diagram 4 | 2 |

Dimensions

mm [inches]



UT2 Series M12 Quick Disconnect



UT2 Series 2m Cable

UT2 Series Ultrasonic Sensors

| Specifications | |
|-------------------------------------|---|
| Model | UT2F |
| Nominal Sensing Distance | 350 mm – 6000 mm (13.78 in – 236.22 in) |
| Operating Distance (Sensing Range) | 350 mm – 6000 mm (13.78 in – 236.22 in) |
| Output Type | See "Output State" column in selection chart |
| Operating Voltage | 12 – 30 VDC; 15 – 30 VDC (for 0 – 10 VDC analog models) |
| No-load Supply Current | ≤50 mA |
| Operating (Load) Current | 100 mA |
| Off-state (Leakage) Current | <10 μA (VDC max) |
| Analog Output | Voltage: minimum load is 3 kΩ / Current: maximum load is 500 Ω at 24 VDC supply |
| Voltage Drop | 2.2 V max @ 100 mA |
| Switching Frequency | 1 Hz |
| Repeat Accuracy | 0.5% |
| Time Delay Before Availability (tv) | ≤≤300; ≤≤900 ms for UT2F-EW-0*, UT2F-EM-0* |
| Reverse Polarity Protection | Yes |
| Short-Circuit Protection | Yes |
| Linearity Error | 1% |
| Ultrasonic Frequency | 75 kHz |
| Ultrasonic Beam Angle | 15° ± 2° |
| Max. Response Time (digital output) | 500 ms |
| Sensitivity Adjustment | Yes, via teach-in button |
| Input Voltage Transient Protection | Yes |
| Operating Temperature | -20° to +70°C (-4° to +158°F) |
| Temperature Compensation | Yes |
| Protection Degree | IEC IP67 |
| Indication/Switch Status | Multi-function LED indicator |
| Housing Material | Polybutylene Terephthalate (PBT) |
| Shock/Vibration | See Proximity Sensor Terminology |
| Tightening Torque | 1 Nm (0.737 lb-ft) |
| Weight | 130 g (4.59 oz) (plug exit) 199 g (7.02 oz) (cable exit) |
| Connection | M12 (12 mm) connector or 2 m prewired output cable |
| Agency Approvals | CE, cULus file E187310, RoHS |

Wiring Diagrams

Diagram 1

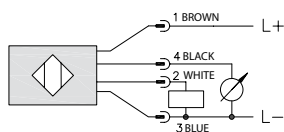


Diagram 2

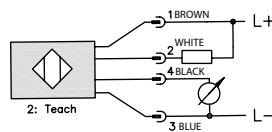


Diagram 3

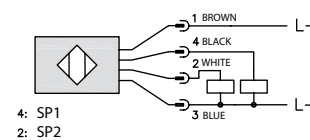
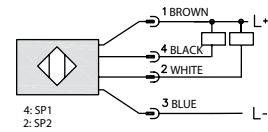


Diagram 4



Connector

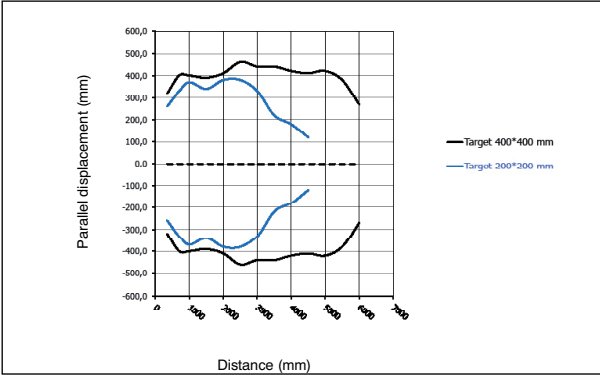
M12 connector



UT2 Series Ultrasonic Sensors

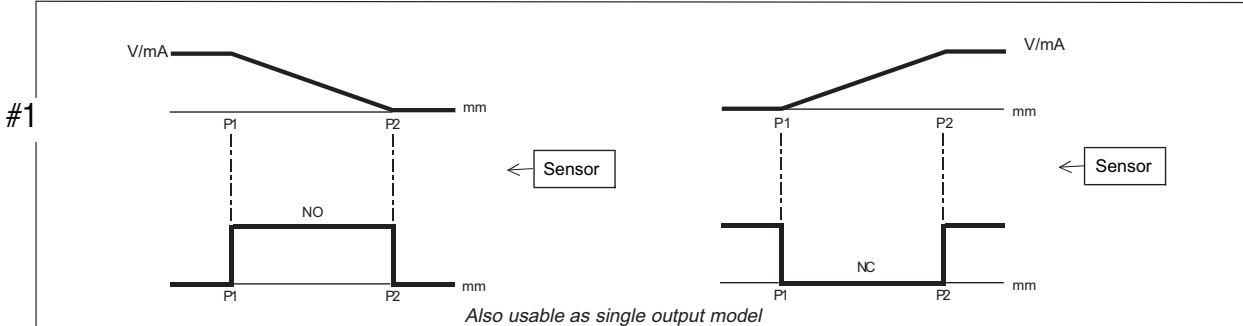
Characteristic Curves

UT2F models



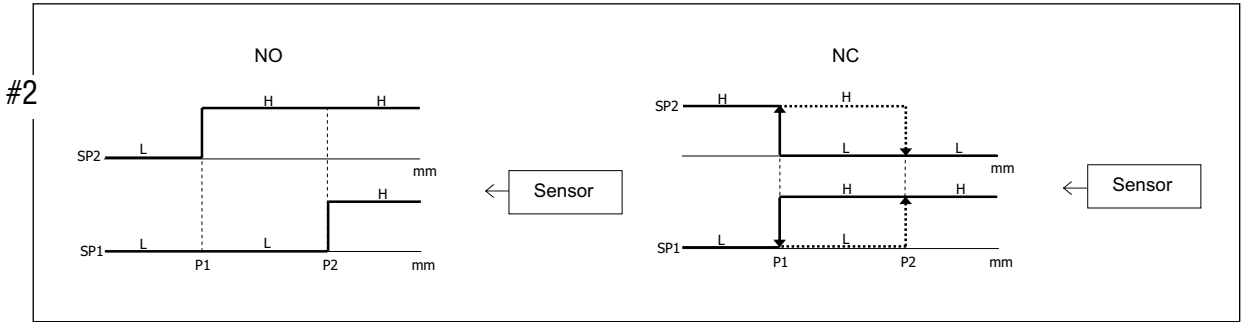
Functions

Models with digital output + analog output



Note: P1 maximum selected working distance and first point to select
 P2 minimum selected working distance and second point to select

Models with double digital output: hysteresis or standard window



Accessories for 30mm Sensors

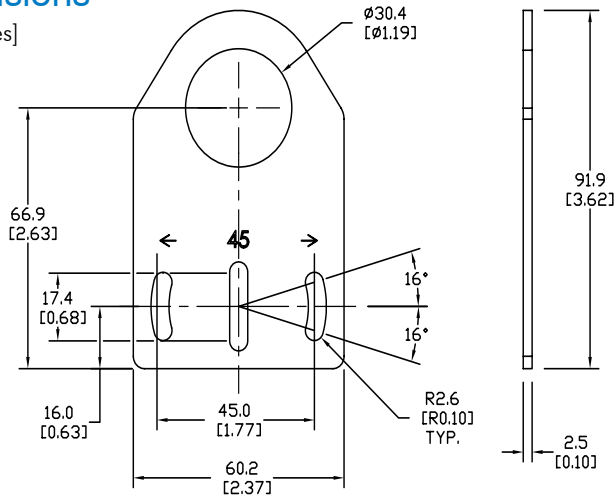
Axial Mounting Bracket

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

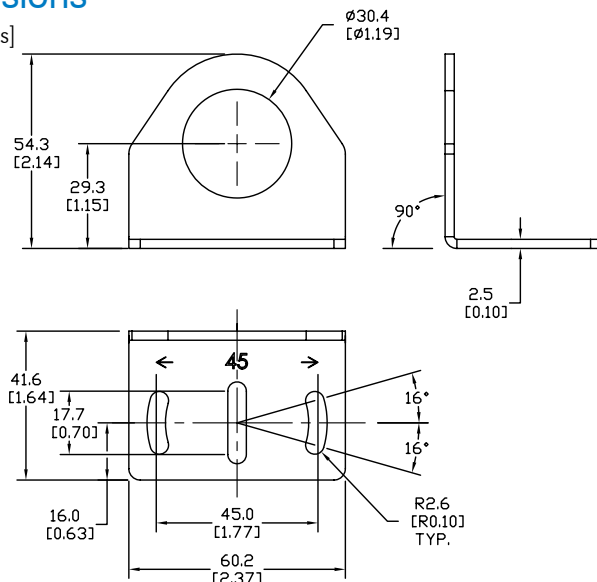
Right-angle Mounting Bracket

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

See our website: www.AutomationDirect.com for complete engineering drawings

Accessories for 30mm Sensors

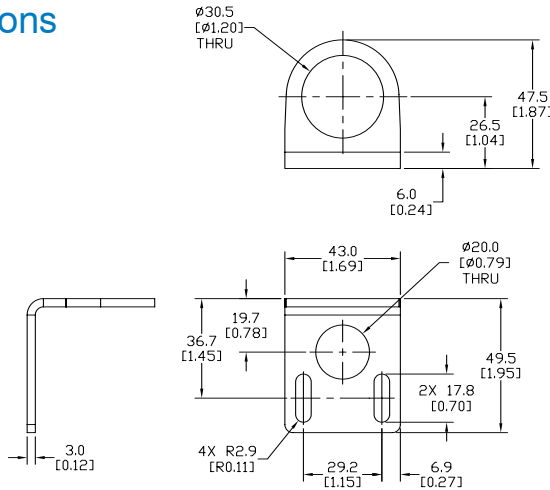
Right-angle Mounting Bracket

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

| Accessories for FW Series Sensors | | | |
|-----------------------------------|--------|--|-------------|
| Part Number | Price | Description | Weight [lb] |
| ST30C6W | \$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

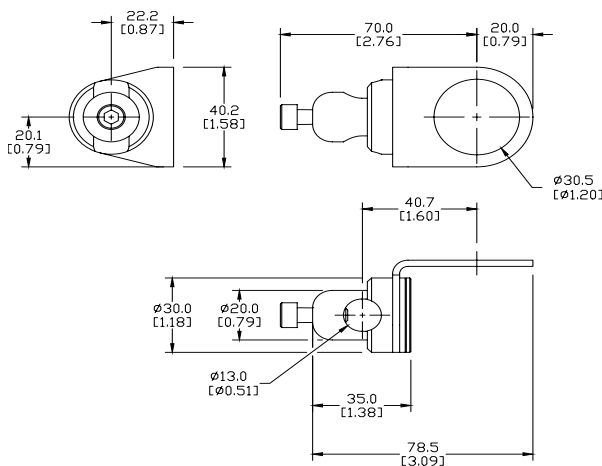
Mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment, 12mm rod mount. For use with 30mm sensors. Available in all 304 stainless steel or with an aluminum head with a 304 stainless steel mounting plate.

| Accessories for 30mm Sensors | | | | | |
|------------------------------|---------|---|---------------------|---------------------|-------------|
| Part Number | Price | Description | Mounting Head | Mounting Plate | Weight [lb] |
| OPT2118 | \$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 |
| OPT2119 | \$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

See our website: www.AutomationDirect.com for complete engineering drawings

Mounting Rods

Mounting Rods

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

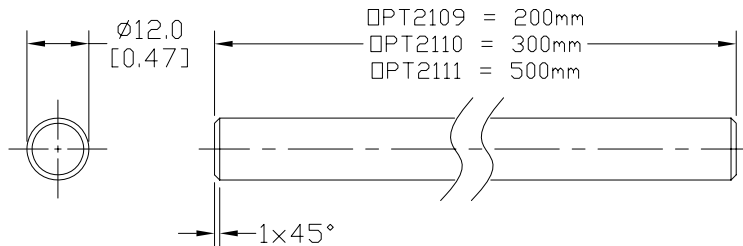
| Mounting Rods for OPT2112-2127 Swivel Mounting Brackets | | | |
|---|---------|---|-------------|
| Part Number | Price | Description | Weight [lb] |
| OPT2109 | \$10.00 | Mounting rod, 12mm diameter, 200mm length, 304 stainless steel. | 0.41 |
| OPT2110 | \$12.00 | Mounting rod, 12mm diameter, 300mm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

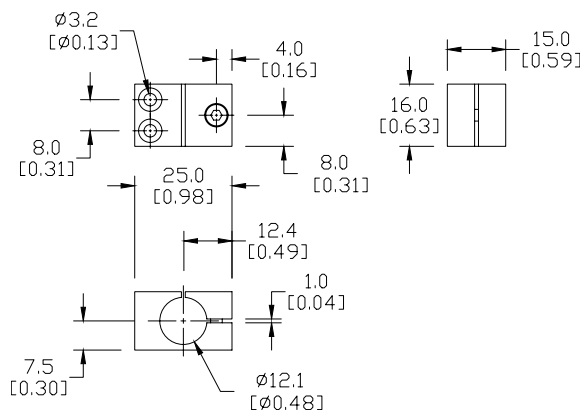
| Accessories for 12mm Sensors | | | |
|------------------------------|---------|---|-------------|
| Part Number | Price | Description | Weight [lb] |
| OPT2108 | \$12.00 | Mounting bracket, right-angle, nickel-plated brass. For use with 12mm mounting rods OPT2109, OPT2110 & OPT2111. | 0.07 |



OPT2108

Dimensions

mm [inches]



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