

# 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

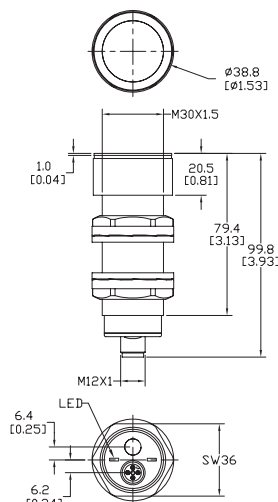
### UT2F Series Ultrasonic Discrete or Analog Output Sensor Selection Chart

Part Number	Price	Sensing Range	Output State	Connection	Wiring	Function
<a href="#">UT2F-E7-0E</a>	Retired	350–6000 mm [13.8 in–236.22 in]	0–10 VDC analog output, PNP, N.O./N.C. selectable	M12 quick-disconnect	Diagram 1	1
<a href="#">UT2F-E7-0A</a>	Retired		0–10 VDC analog output, PNP, N.O./N.C. selectable	2m [6.5 ft] output cable	Diagram 1	1
<a href="#">UT2F-E9-0E</a>	Retired		0–10 VDC analog output, NPN, N.O./N.C. selectable	M12 quick-disconnect	Diagram 2	1
<a href="#">UT2F-E9-0A</a>	Retired		0–10 VDC analog output, NPN, N.O./N.C. selectable	2m [6.5 ft] output cable	Diagram 2	1
<a href="#">UT2F-E6-0A</a>	Retired		4–20mA analog output, PNP, N.O./N.C. selectable	2m [6.5 ft] output cable	Diagram 1	1
<a href="#">UT2F-E4-0E</a>	Retired		4–20mA analog output, NPN, N.O./N.C. selectable	M12 quick-disconnect	Diagram 2	1
<a href="#">UT2F-E4-0A</a>	Retired		4–20mA analog output, NPN, N.O./N.C. selectable	2m [6.5 ft] output cable	Diagram 2	1
<a href="#">UT2F-EW-0E</a>	Retired		PNP, 2 outputs, hysteresis + window functions	M12 quick-disconnect	Diagram 3	2
<a href="#">UT2F-EM-0E</a>	Retired		NPN, 2 outputs, hysteresis + window functions	M12 quick-disconnect	Diagram 4	2
<a href="#">UT2F-EM-0A</a>	Retired		NPN, 2 outputs, hysteresis + window functions	2m [6.5 ft] output cable	Diagram 4	2

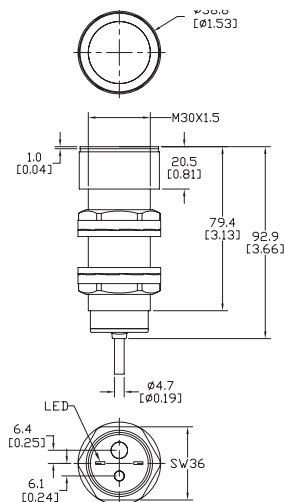
## Dimensions

mm [inches]

UT2 Series M12 Quick Disconnect



UT2 Series 2m Cable



# UT2 Series Ultrasonic Sensors

## UT2F Series Ultrasonic Discrete or Analog Output Sensor Specifications

Model	UT2F
Nominal Sensing Distance	350mm – 6000mm [13.78 in – 236.22 in]
Operating Distance (Sensing Range)	350mm – 6000mm [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	< 10μA (VDC max)
Analog Output	Voltage: minimum load is 3kΩ / Current: maximum load is 500Ω at 2VDC supply
Voltage Drop	2.2 V max @ 100mA
Switching Frequency	1Hz
Repeat Accuracy	0.5%
Time Delay Before Availability (tv)	≤ 300; ≤ 900ms for UT2F-EW-0*, UT2F-EM-0*
Reverse Polarity Protection	Yes
Short-Circuit Protection	Yes
Linearity Error	1%
Ultrasonic Frequency	75kHz
Ultrasonic Beam Angle	15° ± 2°
Max. Response Time (digital output)	500ms
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 <a href="#">Proximity Sensor Terminology</a>
Tightening Torque	1 Nm [0.737 lb-ft]
Weight	130g [4.59 oz] (plug exit) 199g [7.02 oz] (cable exit)
Connection	M12 [12mm] connector or 2m [6.5 ft] prewired output cable
Agency Approvals	CE, cULus file E187310, RoHS

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

## Wiring Diagrams

Diagram 1

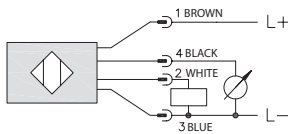


Diagram 2

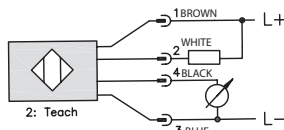


Diagram 3

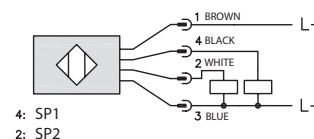
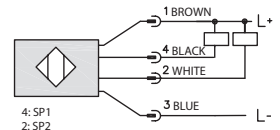


Diagram 4



### Connector

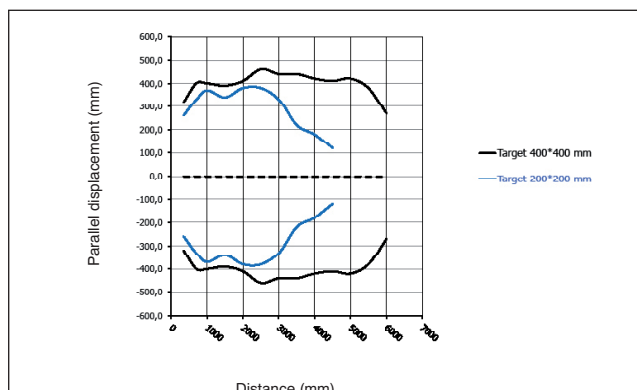
M12 connector



# UT2 Series Ultrasonic Sensors

## Characteristic Curves

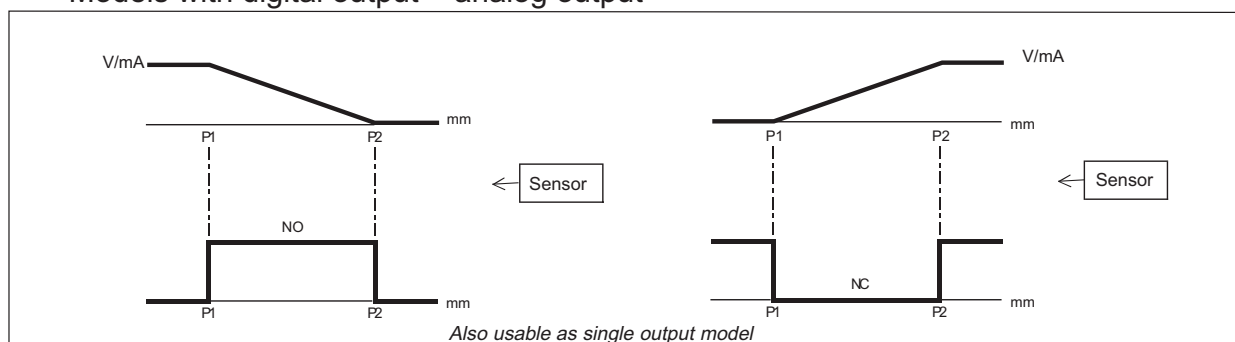
UT2F models



## Functions

Models with digital output + analog output

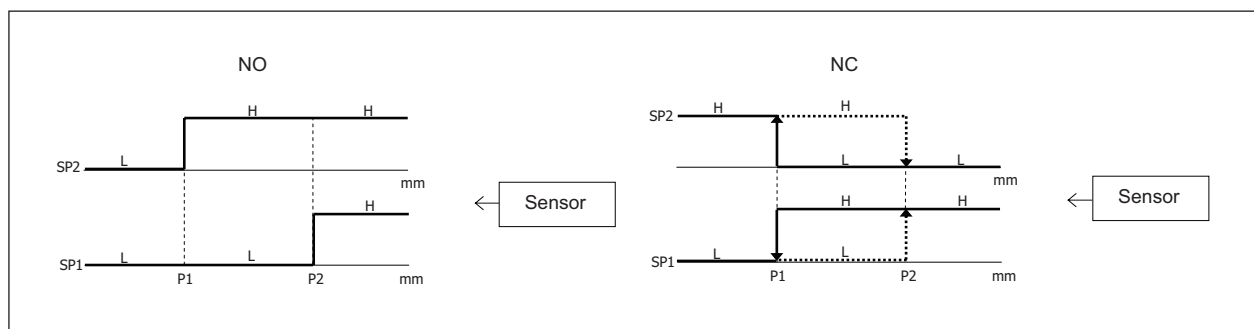
#1



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

#2



# Accessories for 30mm Sensors

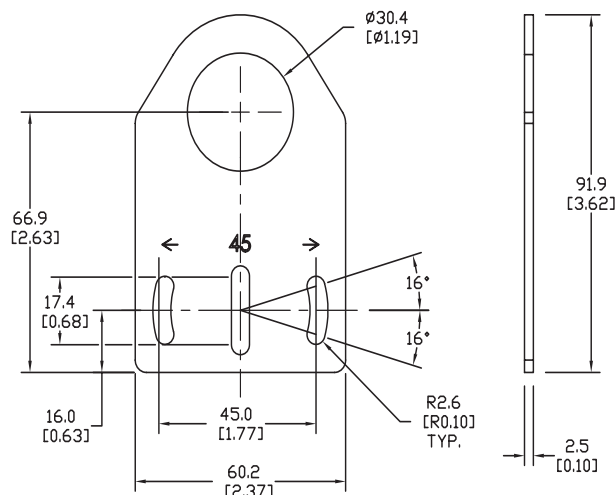
## Axial Mounting Bracket

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

### Dimensions

mm [inches]



**ST30A**

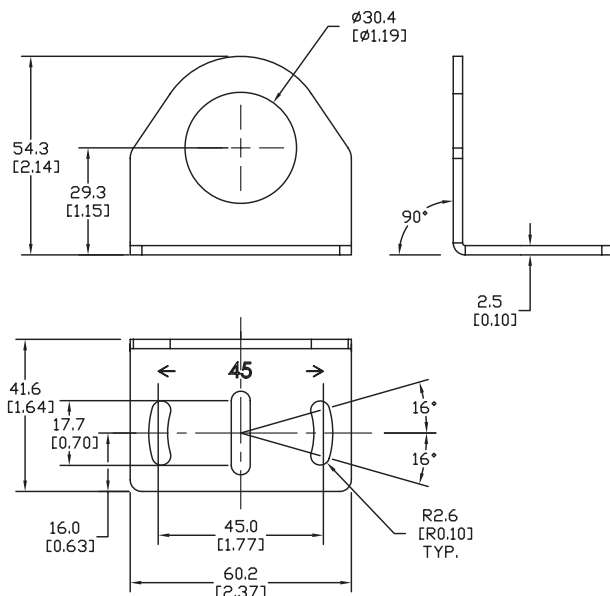
## Right-angle Mounting Bracket

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>		Micro Detectors mounting bracket, right-angle, zinc plated steel. For use with 30mm sensors.	0.18 [81.7]

### Dimensions

mm [inches]



**ST30C**

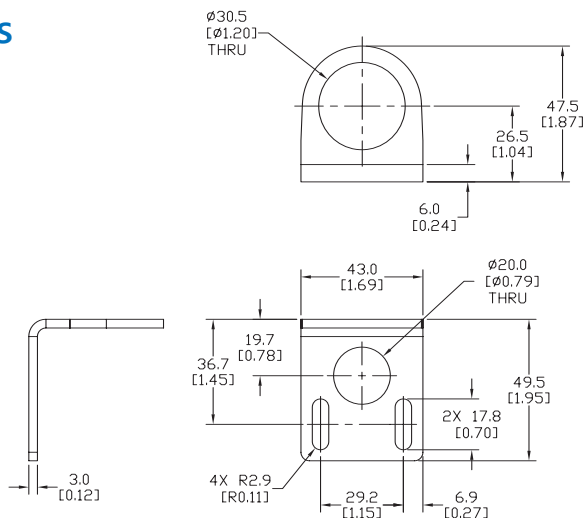
## Right-angle Mounting Bracket

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

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

