

UT1 Series Ultrasonic Sensors

M30 (30 mm) plastic – Discrete or analog output

- 12-30 VDC, 15 to 30 VDC (0 to 10 VDC)
- Discrete models available with adjustable sensitivity
- Analog output models available
- Models available with analog and discrete switching outputs
- Complete overload protection
- IP67 rated
- LED status indicators
- Mounting hex nuts included
- Purchase cable for M12 plug separately
- Lifetime warranty



UT1B-E4-0E



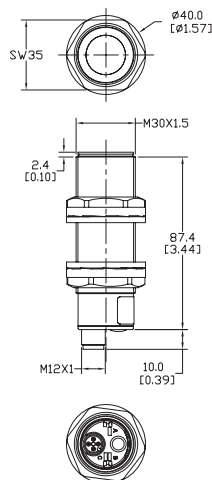
UT1B-E4-0A

UT 1B Series Ultrasonic Discrete or Analog Output Sensor Selection Chart

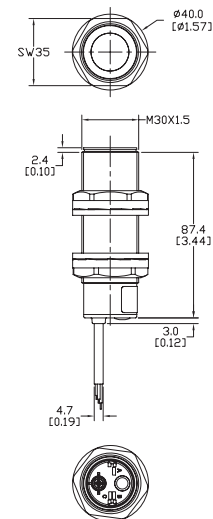
Part Number	Price	Sensing Range	Output State	Connection	Wiring	Function
UT1B-E4-0E		250 to 3500 mm (9.84 to 137.8 in)	4 to 20 mA analog output, NPN, NO/NC selectable	M12 quick disconnect	Diagram 1	1
UT1B-E4-0A			4 to 20 mA analog output, NPN, NO/NC selectable	2 m output cable	Diagram 1	1
UT1B-E6-0E			4 to 20 mA analog output, PNP, NO/NC selectable	M12 quick disconnect	Diagram 2	1
UT1B-E6-0A			4 to 20 mA analog output, PNP, NO/NC selectable	2 m output cable	Diagram 2	1
UT1B-E7-0E			0 to 10 VDC analog output, PNP, NO/NC selectable	M12 quick disconnect	Diagram 2	1
UT1B-E7-0A			0 to 10 VDC analog output, PNP, NO/NC selectable	2 m output cable	Diagram 2	1
UT1B-E9-0E			0 to 10 VDC analog output, NPN, NO/NC selectable	M12 quick disconnect	Diagram 1	1
UT1B-E9-0A			0 to 10 VDC analog output, NPN, NO/NC selectable	2 m output cable	Diagram 1	1
UT1B-EM-0E			NPN, 2 outputs, hysteresis + window functions	M12 quick disconnect	Diagram 3	2
UT1B-EM-0A			NPN, 2 outputs, hysteresis + window functions	2 m output cable	Diagram 3	2
UT1B-EW-0E			PNP, 2 outputs, hysteresis + window functions	M12 quick disconnect	Diagram 4	2
UT1B-EW-0A			PNP, 2 outputs, hysteresis + window functions	2 m output cable	Diagram 4	2

Dimensions

mm [inches]



UT1 Series M12 Quick Disconnect



UT1 Series 2m Cable

UT1 Series Ultrasonic Sensors

Specifications	
Model	UT1B
Nominal Sensing Distance	250 mm – 3500 mm (9.84 in – 137.80 in)
Operating Distance (Sensing Range)	250 mm – 3500 mm (9.84 in – 137.80 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	Voltage: minimum load is 3 kΩ / Current: maximum load is 500Ω at 24 VDC supply
Analog Output	Voltage: minimum load is 3 kΩ / Current: maximum load is 500Ω at 24 VDC supply
Voltage Drop	2.2 V max@ 100mA
Switching Frequency	2 Hz
Repeat Accuracy	0.2%
Time Delay Before Availability (tv)	≤300 ms; <900 ms for UT1B-EM/W-0*
Reverse Polarity Protection	Yes
Short-Circuit Protection	Yes
Linearity Error	0.5%
Ultrasonic Frequency	112 kHz
Ultrasonic Beam Angle	12° ± 2°
Max. Response Time (digital output)	250 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	90 g (3.17 oz) (plug exit) 160 g (5.64 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

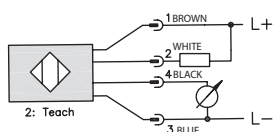


Diagram 2

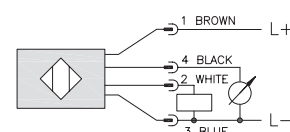


Diagram 3

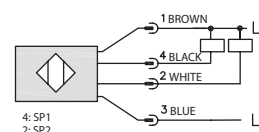
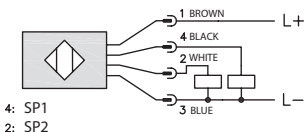


Diagram 4



Connector

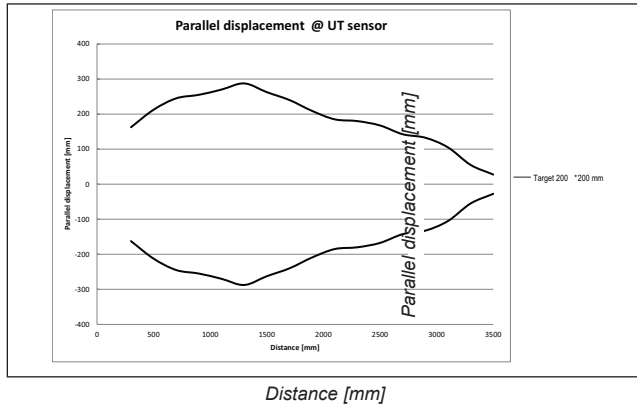
M12 connector



UT1 Series Ultrasonic Sensors

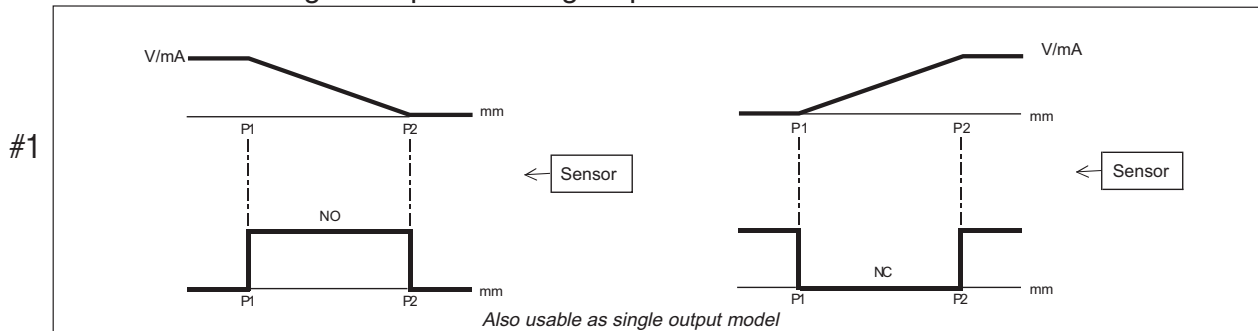
Characteristic Curves

UT1B models



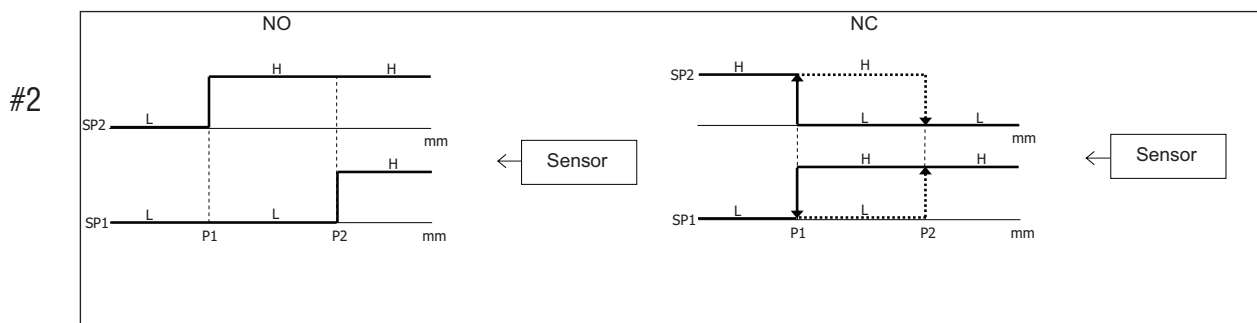
Functions

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

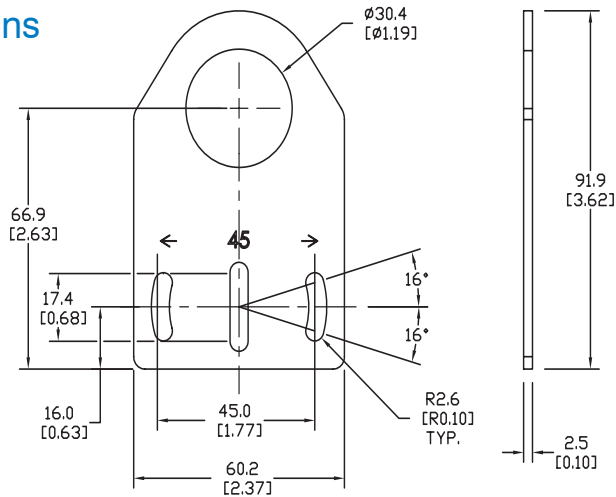
Axial Mounting Bracket

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 (g)
ST30A		Mounting bracket, axial, zinc-plated steel. For use with 30mm sensors. 1/pk.	0.18 (81.7 g)

Dimensions

mm [inches]



ST30A

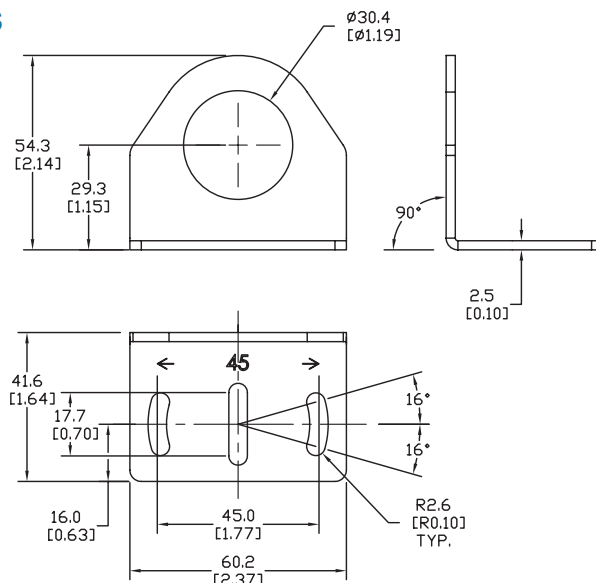
Right-angle Mounting Bracket

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)
ST30C		Mounting bracket, right angle, zinc-plated steel. For use with 30mm sensors. 1/pk.	0.18 (81.7 g)

Dimensions

mm [inches]



ST30C

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Accessories for 30mm Sensors

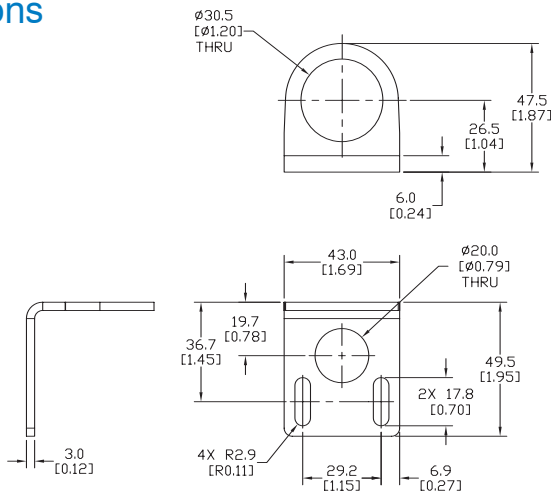
Right-angle Mounting Bracket

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

Accessories for FW Series Sensors			
Part Number	Price	Description	Weight lb (g)
ST30C6W		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

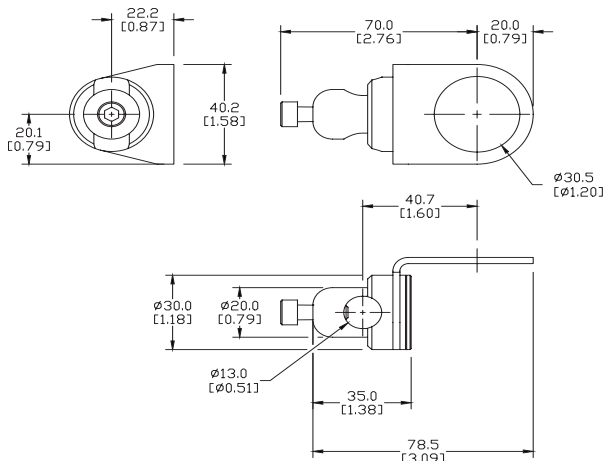
Mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment, 12mm rod mount. For use with 30mm sensors. Available in all 304 stainless steel or with an aluminum head with a 304 stainless steel mounting plate.

Accessories for 30mm Sensors					
Part Number	Price	Description	Mounting Head	Mounting Plate	Weight lb (g)
OPT2118		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		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 [7.87 in] length), OPT2110 (300mm [11.81 in] length), and OPT2111 (500mm [19.69 in] length).

Dimensions

mm [inches]



OPT2118, OPT2119

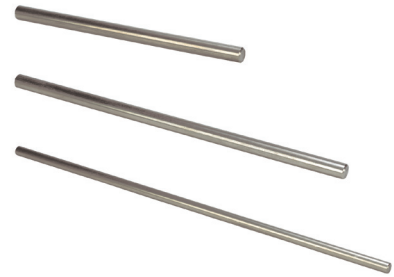
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Mounting Rods

Mounting Rods

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

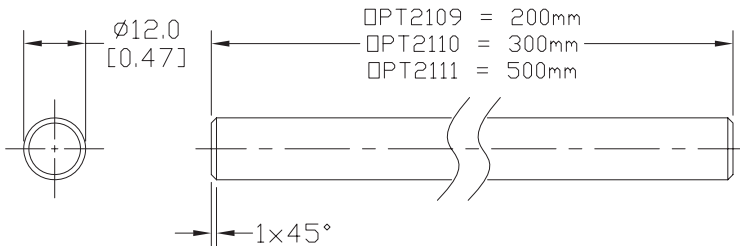
Mounting Rods for OPT2112-2127 Swivel Mounting Brackets			
Part Number	Price	Description	Weight lb (g)
OPT2109		Mounting rod, 12mm diameter, 200mm length, 304 stainless steel.	0.41 (185.97)
OPT2110		Mounting rod, 12mm diameter, 300mm length, 304 stainless steel.	0.60 (272.16)
OPT2111		Mounting rod, 12mm diameter, 500mm length, 304 stainless steel.	0.98 (444.52)



OPT2109, OPT2110, OPT2111

Dimensions

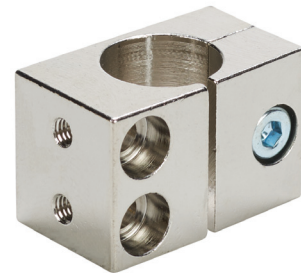
mm [inches]



Right-angle Mounting Bracket

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

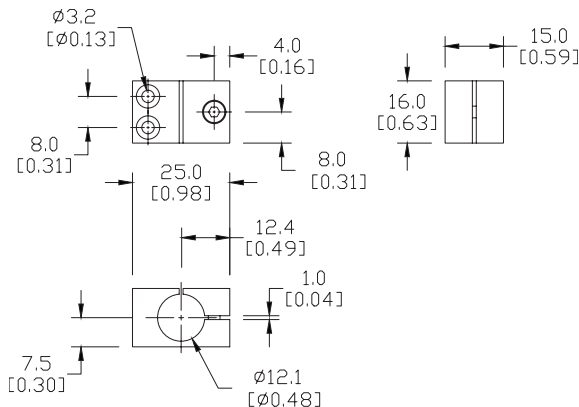
Accessories for 12mm Sensors			
Part Number	Price	Description	Weight lb (g)
OPT2108		Mounting bracket, right-angle, nickel-plated brass. For use with 12mm mounting rods OPT2109, OPT2110 & OPT2111.	0.07 (31.8)



OPT2108

Dimensions

mm [inches]



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