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
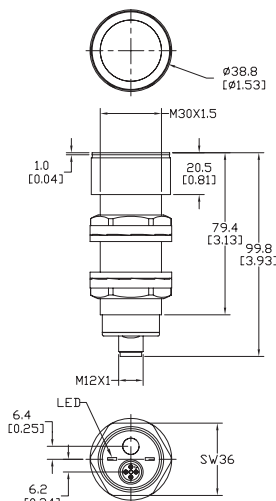- Lifetime warranty

NEED CABLES?

M12 Quick Disconnect   **2m Output Cable**

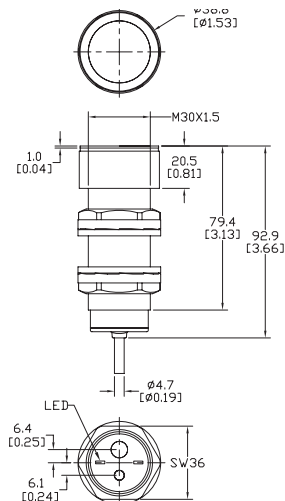| UT 2F Series Ultrasonic Discrete or Analog Output Sensor Selection Chart						
Part Number	*Price*	*Sensing Range*	*Output State*	*Connection*	*Wiring*	*Function*
UT2F-E7-0E			0–10 VDC analog output, PNP, N.O./N.C. selectable	M12 quick-disconnect	Diagram 1	1
UT2F-E7-0A			0–10 VDC analog output, PNP, N.O./N.C selectable	2m output cable	Diagram 1	1
UT2F-E9-0E			0–10 VDC analog output, NPN, N.O./N.C selectable	M12 quick-disconnect	Diagram 2	1
UT2F-E9-0A			0–10 VDC analog output, NPN, N.O./N.C selectable	2m output cable	Diagram 2	1
UT2F-E6-0E		350–6000 mm (13.8 in–236.22 in)	4-20mA analog output, PNP, N.O./N.C selectable	M12 quick-disconnect	Diagram 1	1
UT2F-E6-0A			4-20mA analog output, PNP, N.O./N.C selectable	2m output cable	Diagram 1	1
UT2F-E4-0E			4-20mA analog output, NPN, N.O./N.C selectable	M12 quick-disconnect	Diagram 2	1
UT2F-E4-0A			4-20mA analog output, NPN, N.O./N.C selectable	2m output cable	Diagram 2	1
UT2F-EW-0E			PNP, 2 outputs, hysteresis + window functions	M12 quick-disconnect	Diagram 3	2
UT2F-EW-0A			PNP, 2 outputs, hysteresis + window functions	2m output cable	Diagram 3	2
UT2F-EM-0E			NPN, 2 outputs, hysteresis + window functions	M12 quick-disconnect	Diagram 4	2
UT2F-EM-0A			NPN, 2 outputs, hysteresis + window functions	2m output cable	Diagram 4	2

Dimensions

mm [inches]

UT2 Series M12 Quick Disconnect

ø38.8 [ø1.53]
M30X1.5
1.0 [0.04]
20.5 [0.81]
79.4 [3.13]
99.8 [3.93]
M12X1
LED
6.4 [0.25]
6.2 [0.24]
SW36

UT2 Series 2m Cable

ø38.8 [ø1.53]
M30X1.5
1.0 [0.04]
20.5 [0.81]
79.4 [3.13]
92.9 [3.66]
ø4.7 [ø0.19]
LED
6.4 [0.25]
6.1 [0.24]
SW36

UT2 Series Ultrasonic Sensors

| 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 Proximity Sensor Terminology
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 prewired output cable
Agency Approvals	CE, cULus file E187310, RoHS

Wiring Diagrams

Diagram 1
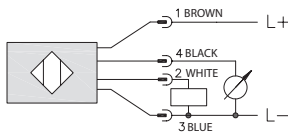
Diagram 2
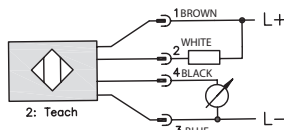
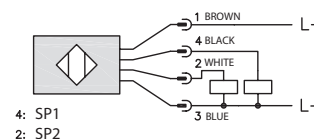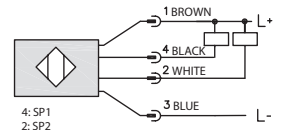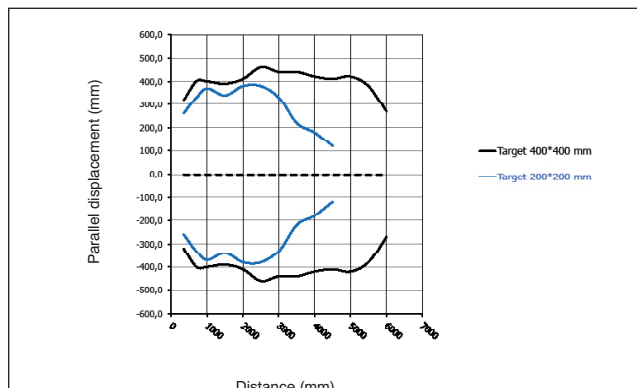**Diagram 3**

Diagram 4

Connector

M12 connector

UT2 Series Ultrasonic Sensors

Characteristic Curves

UT2F models

Functions

Models with digital output + analog output

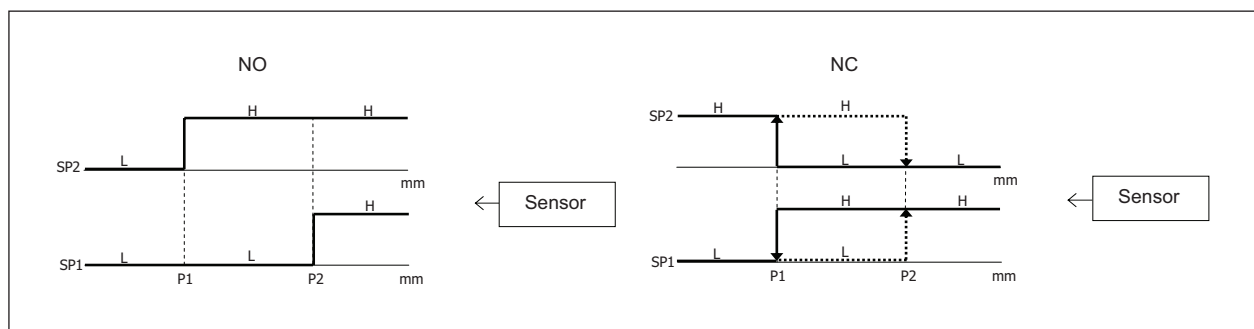
#1

Also usable as single output model
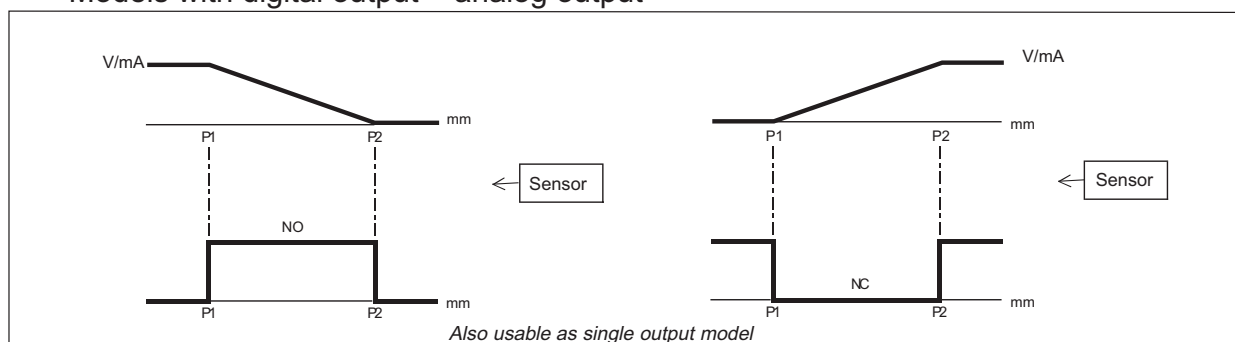
Note: P1   maximum selected working distance and first point to select

P2   minimum selected working distance and second point to select

Models with double digital output: hysteresis or standard window
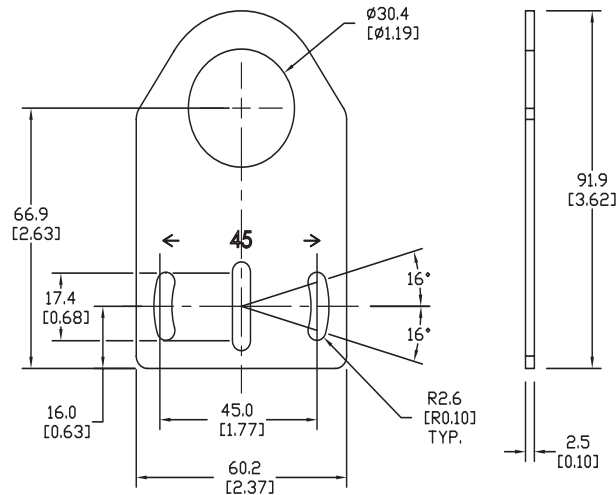
#2

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-adapter sensors. Hexagonal nuts not included.

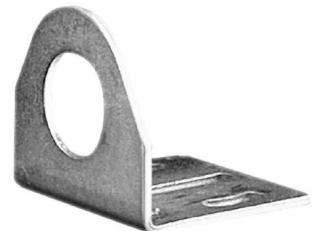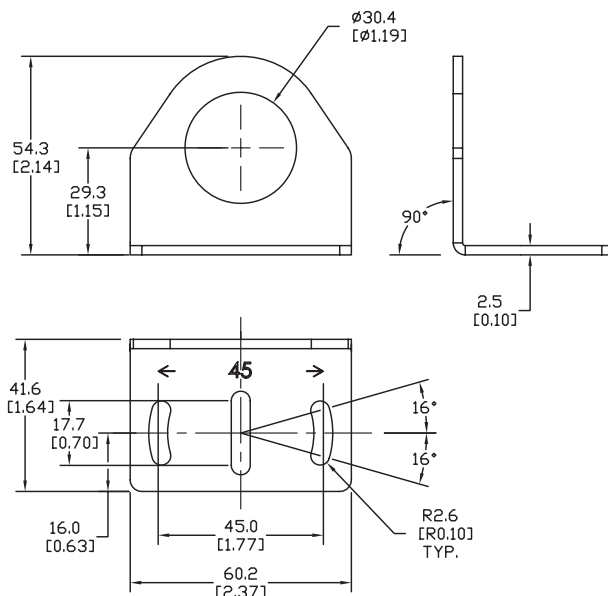| Accessories for 30mm Sensors			
Part Number	Price	Description	Weight lb [g]
ST30A		Micro Detectors mounting bracket, axial, zinc plated steel. For use with 30mm sensors.	0.18 (81.7)

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]
ST30C		Micro Detectors mounting bracket, right-angle, zinc plated steel. For use with 30mm sensors.	0.18 (81.7)

Dimensions

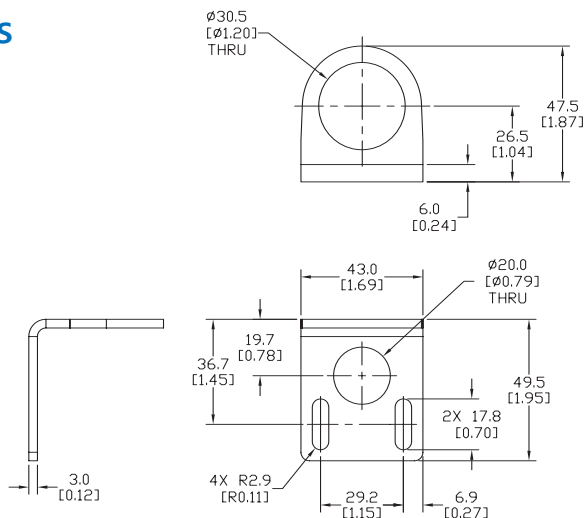mm [inches]

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]
ST30C6W		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]
OPT2118		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	PDF	0.18 (81.7)
OPT2119		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	PDF	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)
OPT2109		Wenglor mounting rod, 12mm diameter, 200mm length, 304 stainless steel.	PDF	0.41 (185.97)
OPT2110		Wenglor mounting rod, 12mm diameter, 300mm length, 304 stainless steel.	PDF	0.60 (272.16)
OPT2111		Wenglor mounting rod, 12mm diameter, 500mm length, 304 stainless steel.	PDF	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)
OPT2108		Wenglor mounting bracket, right-angle, nickel plated brass. For use with 12mm mounting rods OPT2109, OPT2110 & OPT2111.	PDF	0.07 (31.8)