TU Series Ultrasonic Sensors



M30 (30 mm) Plastic - PNP or Analog Output

- High resolution
- PNP output model with adjustable sensitivity
- Complete overload protection
- IP67 rated
- LED status indicator on PNP models
- Purchase cable separately
- · Lifetime warranty



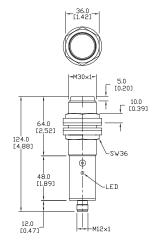
TU Series Ultrasonic PNP Output Sensor Selection Chart							
Part Number Price Sensing Range 0				Logic	Connection	Wiring	
TU1-C0-0E	\$371.00	300 to 2500 mm [11.81-98.43 in]	N.O.	PNP	M12 [12 mm] connector	Diagram 1	

TU Series Ultrasonic Analog Output Sensor Selection Chart						
Part Number Price Sensing Range Output Connection Win					Wiring	
TU1-C1-0E	\$371.00	300 to 2500 mm [11.81-98.43 in]	0 to 10 VDC	M12 [12 mm] connector	Diagram 2	

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		1113	IU	113

mm [inches]

	Specifications			
Mounting Type	TU1-C0-0E	TU1-C1-0E		
Nominal Sensing Distance	300 to 2500 mm [11.81-98.43 in]	300 to 2500 mm [11.81-98.43 in]		
Operating Distance	NA	NA		
Output Type	PNP / N.O.	0 to 10 VDC		
Operating Voltage	19 to 3) VDC		
No-load Supply Current	≤ 35	mA		
Operating (Load) Current	≤ 500 mA	≤ 5 mA		
Off-state (Leakage) Current	≤ 10	μA		
Voltage Drop	≤2.5 volts	NA		
Switching Frequency	1Hz	NA		
Differential Travel	±2.0%	NA		
Repeat Accuracy	0.2%	±2 mm		
Linearity Error	-	≤ 0.3%		
Ultrasonic Frequency	130kHz			
Ultrasonic Beam Angle	8:			
Max. Response Time	- 100 ms			
Time Delay Before Availability (tv)	≤200 ms	≤1s		
Control Input	Hold /	Sync		
Sensitivity Adjustment	Yes	-		
Reverse Polarity Protection	Ye	S		
Short-Circuit Protection	Yes (switch auto-resets after overload is removed)			
Operating Temperature	-25 to +70°C [-13 to 158°F]			
Temperature Compensation	Ye	S		
Protection Degree	IEC I	P67		
Indication/Switch Status	Yellow (output energized)	NA		
Housing Material	Polybutylene Tere	ephthalate [PBT]		
Tightening Torque	3 Nm [2.	21 lb-ft]		
Weight (connector)	124g [4	.37 oz]		
Connection	M12 [12mm] connector		
Agency Approvals	CE, UL listed	file E187310		



Wiring Diagrams

Diagram 1*

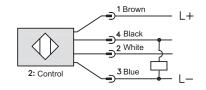
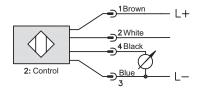


Diagram 2*



*Note: Control wire can be used to inhibit sensor or to synchronize with another sensor.

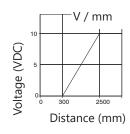
Connector

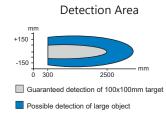
M12 connector



Must be used with 2M or 7M cable

Characteristic Curves (analog)





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Accessories for 30mm Sensors

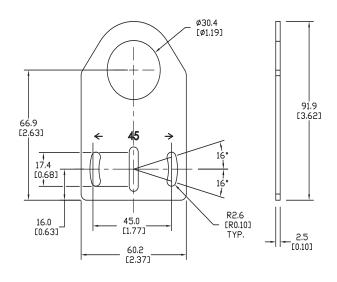
Axial Mounting Bracket

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]		
<u>ST30A</u>	\$2.25	Micro Detectors mounting bracket, axial, zinc plated steel. For use with 30mm sensors.	0.18 [81.7]		

Dimensions

mm [inches]





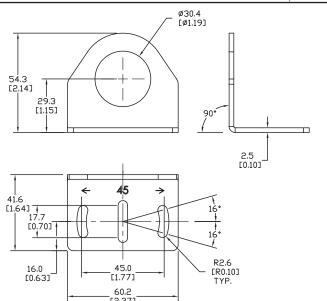
Right-angle Mounting Bracket

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	\$2.25	Micro Detectors mounting bracket, right-angle, zinc plated steel. For use with 30mm sensors.	0.18 [81.7]			

Dimensions

mm [inches]



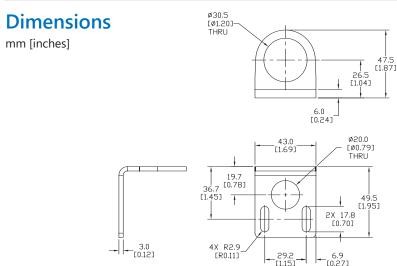


Accessories for 30mm Sensors

Right-angle Mounting Bracket

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

Accessories for FW Series Sensors					
Part Number	Part Number Price Description				
<u>ST30C6W</u>	\$5.50	AutomationDirect mounting bracket, right-angle, 304 stainless steel. For use with 30mm sensors.	0.15 (68.0)		





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 Ib [g]				
<u>OPT2118</u>	\$11.50	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	<u>PDF</u>	0.18 [81.7]				
<u>OPT2119</u>	\$21.00	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	<u>PDF</u>	0.18 [81.7]				

Note: 304 Stainless steel mounting rods sold separately: <u>OPT2109</u> (200mm [7.87 in] length), <u>OPT2110</u> (300mm [11.81 in] length), and <u>OPT2111</u> (500mm [19.69 in] length).



OPT2118, OPT2119

Mounting Rods and Brackets

Mounting Rods

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

M	Mounting Rods for OPT2112-2127 Swivel Mounting Brackets							
Part Number	Price	Description	Drawing Link	Weight lb (g)				
<u>OPT2109</u>	\$13.00	Wenglor mounting rod, 12mm diameter, 200mm length, 304 stainless steel.	PDF	0.41 [185.97]				
<u>OPT2110</u>	\$16.00	Wenglor mounting rod, 12mm diameter, 300mm length, 304 stainless steel.	PDF	0.60 [272.16]				
<u>OPT2111</u>	\$21.00	Wenglor mounting rod, 12mm diameter, 500mm length, 304 stainless steel.	<u>PDF</u>	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]			
<u>OPT2108</u>	\$16.00	Wenglor mounting bracket, right-angle, nickel-plated brass. For use with 12mm mounting rods OPT2109, OPT2110 & OPT2111.	<u>PDF</u>	0.07 [31.8]		



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