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

NEED CABLES?

TU Series Ultrasonic PNP Output Sensor Selection Chart

Part Number	Price	Sensing Range	Output State	Logic	Connection	Wiring
TU1-C0-0E	$408.00	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	Wiring
TU1-C1-0E	$408.00	300 to 2500 mm [11.81-98.43 in]	0 to 10 VDC	M12 [12 mm] connector	Diagram 2

Dimensions

mm [inches]
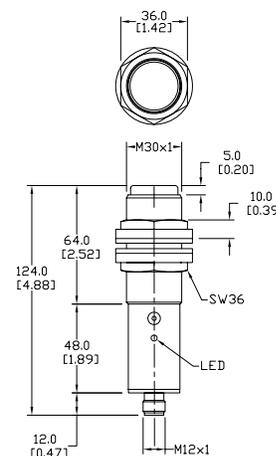
Specifications

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 30 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	≤ 1 s
Control Input	Hold / Sync	
Sensitivity Adjustment	Yes	-
Reverse Polarity Protection	Yes	
Short-Circuit Protection	Yes (switch auto-resets after overload is removed)	
Operating Temperature	-25 to +70°C [-13 to 158°F]	
Temperature Compensation	Yes	
Protection Degree	IEC IP67	
Indication/Switch Status	Yellow (output energized)	NA
Housing Material	Polybutylene Terephthalate [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*

1 Brown L+
4 Black
2 White
3 Blue L−
2: Control

Diagram 2*

1 Brown L+
2 White
4 Black
Blue L−
3
2: Control
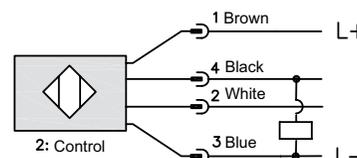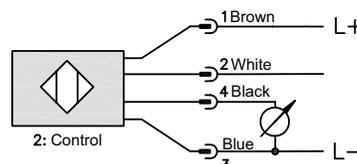
*Note: Control wire can be used to inhibit sensor or to synchronize with another sensor.

Connector

M12 connector

Must be used with 2M or 7M cable

Characteristic Curves (analog)

V / mm

Voltage (VDC)

Distance (mm)

Detection Area

☐ Guaranteed detection of 100x100mm target
🟦 Possible detection of large object

Proximity Sensors tSEN-425
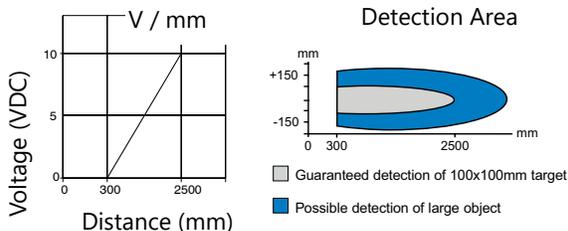
Accessories for 30mm Sensors

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	$2.50	Micro Detectors mounting bracket, axial, zinc plated steel. For use with 30mm sensors.	0.18 [81.7]

Dimensions

mm [inches]
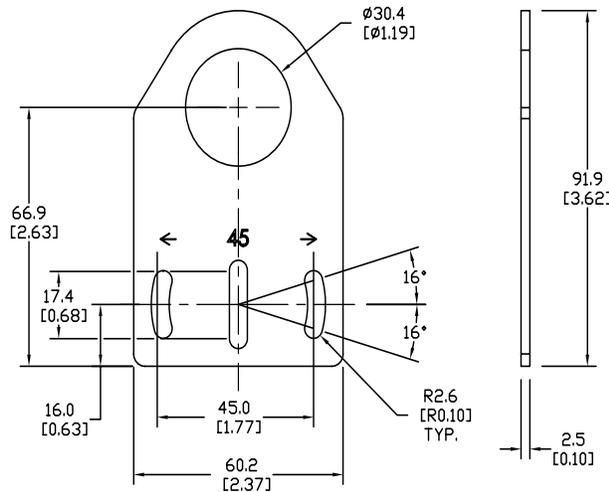
ST30A

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	$2.50	Micro Detectors mounting bracket, right-angle, zinc plated steel. For use with 30mm sensors.	0.18 [81.7]

Dimensions

mm [inches]
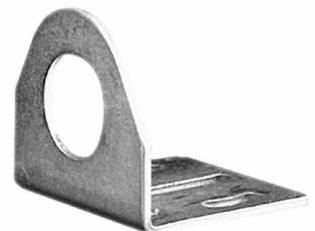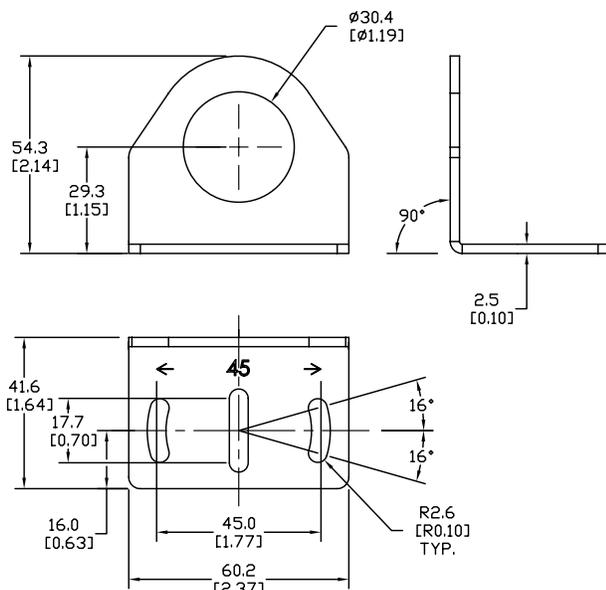
ST30C

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	$6.00	AutomationDirect mounting bracket, right-angle, 304 stainless steel. For use with 30mm sensors.	0.15 (68.0)

Dimensions

mm [inches]
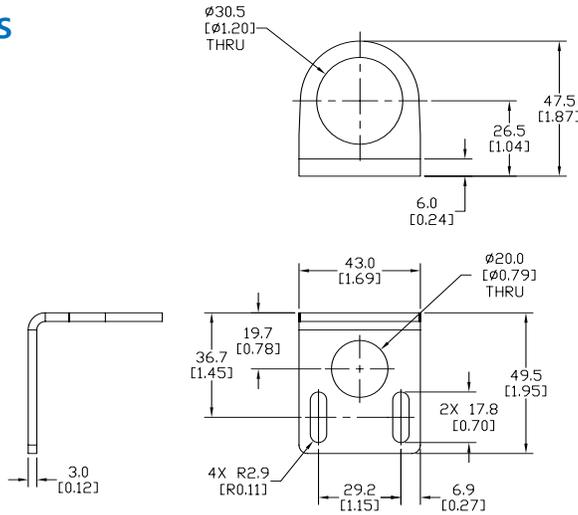
ST30C6W

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	$12.50	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	PDF	0.18 [81.7]
OPT2119	$22.50	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	$14.00	Wenglor mounting rod, 12mm diameter, 200mm length, 304 stainless steel.	PDF	0.41 [185.97]
OPT2110	$17.50	Wenglor mounting rod, 12mm diameter, 300mm length, 304 stainless steel.	PDF	0.60 [272.16]
OPT2111	$22.50	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	$17.50	Wenglor mounting bracket, right-angle, nickel-plated brass. For use with 12mm mounting rods OPT2109, OPT2110 & OPT2111.	PDF	0.07 [31.8]