

# SU Series Ultrasonic Sensors



## M18 (18mm) Plastic – PNP or Analog Output

- High resolution
- 2 analog models available
- Complete overload protection
- IP67 rated
- Purchase cable separately (for quick-disconnect model)



### SU Series Ultrasonic Analog Output Sensor Selection Chart

Part Number	Price	Sensing Range	Output	Connection	Wiring
<a href="#">SU1-B1-0E</a>	\$317.00	100 to 600 mm [3.94-23.62 in]	0-10 VDC	M12 [12mm] connector	Diagram 2
<a href="#">SU2-A1-0E</a>	\$346.00	200 to 1500 mm [7.87-59.06 in]	0-10 VDC	M12 [12mm] connector	Diagram 2

### Specifications

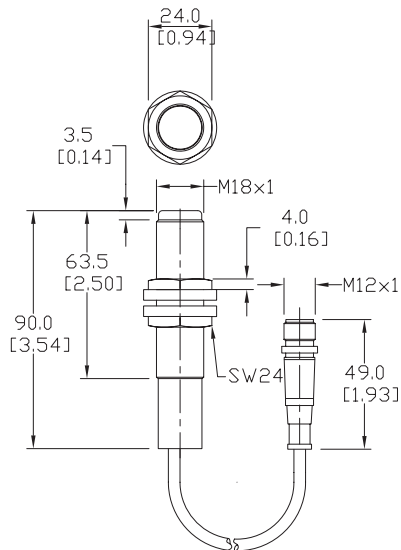
Mounting Type	SU1-B1-0E	SU2-A1-0E
Nominal Sensing Distance	100 to 600 mm [3.94-23.62 in]	200 to 1500 mm [7.87-59.06 in]
Operating Distance	N/A	
Output Type	0-10VDC	
Operating Voltage	18-30VDC	
No-load Supply Current	≤ 35 mA	
Operating (Load) Current	≤ 5 mA	
Off-state (Leakage) Current	≤ 10 μA	
Voltage Drop	-	-
Switching Frequency	NA	
Differential Travel	-	-
Repeat Accuracy	±2 mm	
Time Delay Before Availability (tv)	≤ 500ms	
Reverse Polarity Protection	Yes	
Short-Circuit Protection	Yes (switch auto-resets after overload is removed)	
Linearity Error	≤ 0.3%	
Ultrasonic Frequency	300kHz	180kHz
Ultrasonic Beam Angle	8°	
Max. Response Time	50ms	150ms
Control Input	Hold / Sync	
Sensitivity Adjustment	-	
Input Voltage Transient Protection	Yes, only if transient peak does not exceed 30 VDC	
Operating Temperature	-25 to +70°C [-13 to 158°F]	
Temperature Compensation	Yes	
Protection Degree	IEC IP67	
Indication/Switch Status	-	
Housing Material	Polybutylene Terephthalate [PBT]	
Shock/Vibration	See <a href="#">Proximity Sensor Terminology</a>	
Tightening Torque	3 Nm [2.21 lb-ft]	
Weight	38g [1.34 oz]	
Connection	M12 [12 mm] connector	
Agency Approvals	CE, UL listed file E187310	

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

# SU Series Ultrasonic Sensors

## Dimensions

mm [inches]



## Wiring Diagrams

Diagram 1\*

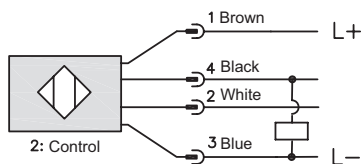
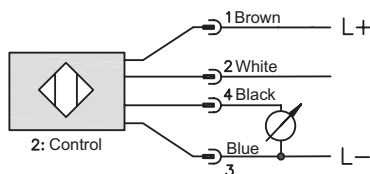


Diagram 2\*



Connector

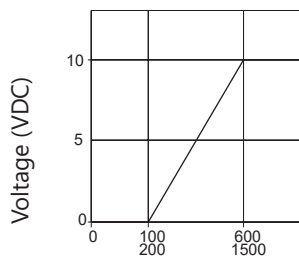


Must be used with 2M or 7M cable (4-wire)

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

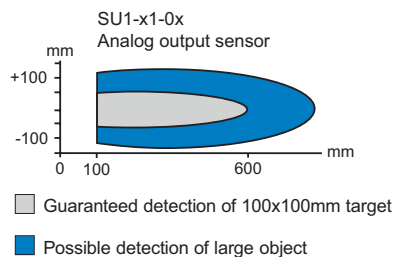
## Characteristic Curves

Analog Output

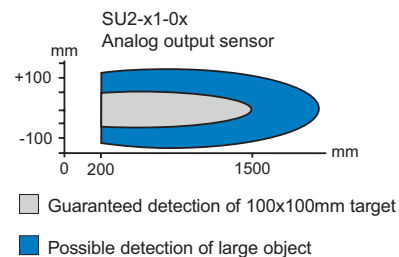


Distance (mm)

Detection Area  
SU1 Analog output



Detection Area  
SU2 Analog output



# Accessories for 18mm Sensors

## Axial Mounting Bracket

Axial mounting bracket available in zinc plated steel or 316L stainless steel. Has two mounting holes (use 4mm screws) and allows for rotation of an optical axis for right-beam-angle-adaptor sensors. Hexagonal nuts not included. For use with 18mm sensors.

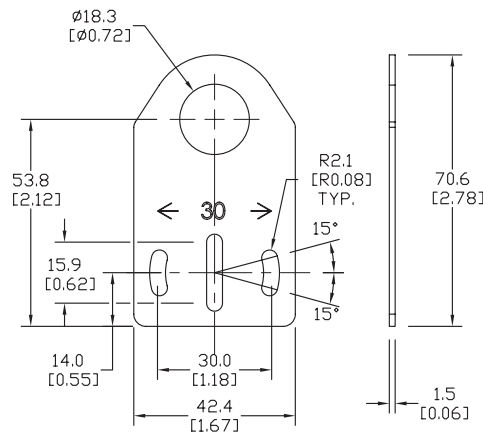


**ST18A**

Accessories for 18mm Sensors			
Part Number	Price	Description	Weight lb [g]
<b>ST18A</b>	\$2.00	Micro Detectors mounting bracket, axial, zinc plated steel. For use with 18mm sensors.	0.06 [27.2]
<b>ST18A7W</b>	\$7.25	Micro Detectors mounting bracket, axial, 316L stainless steel. For use with 18mm sensors.	0.06 [27.2]

## Dimensions

mm [inches]



## Right-angle Mounting Bracket

Right-angle mounting bracket for use with 18mm sensors. Has two mounting holes (use 4mm screws) and allows the rotation of an optical axis for axial sensors. Hexagonal nuts not included.

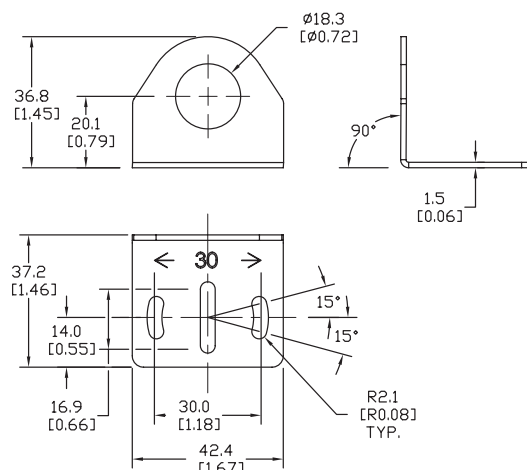


**ST18C**

Accessories for 18mm Sensors			
Part Number	Price	Description	Weight lb [g]
<b>ST18C</b>	\$2.00	Micro Detectors mounting bracket, right-angle, zinc plated steel. For use with 18mm sensors.	0.06 [27.2]
<b>ST18C7W</b>	\$7.25	Micro Detectors mounting bracket, right-angle, 316L stainless steel. For use with 18mm sensors.	0.06 [27.2]

## Dimensions

mm [inches]



# Accessories for 18mm Sensors

## Right-angle Mounting Brackets

Mounting bracket, right-angle, fixed insertion stop adjustment, plastic. For use with 18mm sensors. Available with or without fixed insertion stop.

Accessories for 18mm Sensors				
Part Number	Price	Description	Drawing Link	Weight lb [g]
<a href="#">OPT2104</a>	\$10.50	Wenglor mounting bracket, right-angle, fixed insertion stop adjustment, plastic. For use with 18mm sensors.	<a href="#">PDF</a>	0.06 [27.2]
<a href="#">OPT2105</a>	\$10.50	Wenglor mounting bracket, right-angle, plastic. For use with 18mm sensors.	<a href="#">PDF</a>	0.06 [27.2]



[OPT2104](#), [OPT2105](#)

## Right-angle Swivel Mounting Systems

Mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment, 12mm rod mount. For use with 18mm sensors. Available in all 304 stainless steel or with an aluminum head and a stainless steel mounting plate.

Accessories for 18mm Sensors						
Part Number	Price	Description	Mounting Head	Mounting Plate	Drawing Link	Weight lb [g]
<a href="#">OPT2116</a>	\$11.50	Wenglor mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment, aluminum, 12mm rod mount. For use with 18mm sensors.	Aluminum	304 Stainless steel	<a href="#">PDF</a>	0.15 [68.0]
<a href="#">OPT2117</a>	\$21.00	Wenglor mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment, 304 stainless steel, 12mm rod mount. For use with 18mm sensors.	304 Stainless steel	304 Stainless steel	<a href="#">PDF</a>	0.28 [127.0]



[OPT2116](#), [OPT2117](#)

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).

# 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>	\$13.00	Wenglor mounting rod, 12mm diameter, 200mm length, 304 stainless steel.	<a href="#">PDF</a>	0.41 [185.97]
<a href="#">OPT2110</a>	\$16.00	Wenglor mounting rod, 12mm diameter, 300mm length, 304 stainless steel.	<a href="#">PDF</a>	0.60 [272.16]
<a href="#">OPT2111</a>	\$21.00	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>	\$16.00	Wenglor mounting bracket, right-angle, nickel-plated brass. For use with 12mm mounting rods <a href="#">OPT2109</a> , <a href="#">OPT2110</a> & <a href="#">OPT2111</a> .	<a href="#">PDF</a>	0.07 [31.8]

