

# 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

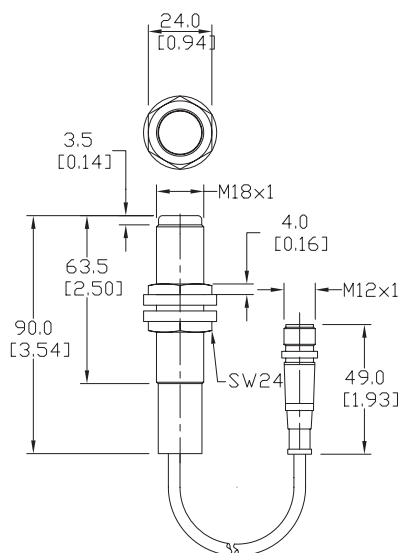
Mounting Type	SU1-B1-0E	SU2-A1-0E
Nominal Sensing Distance	100 to 600 mm [3.94-23.62 in]	200 to 1500 mm [7.87-59.06 in]
Operating Distance	N/A	
Output Type	0-10VDC	
Operating Voltage	18-30VDC	
No-load Supply Current	≤ 35 mA	
Operating (Load) Current	≤ 5 mA	
Off-state (Leakage) Current	≤ 10 μA	
Voltage 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\*

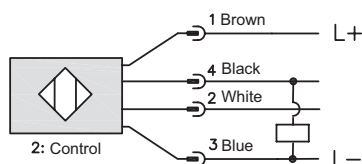
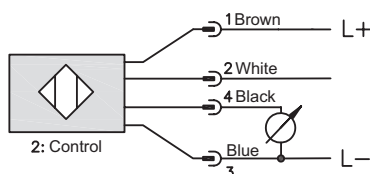


Diagram 2\*



Connector

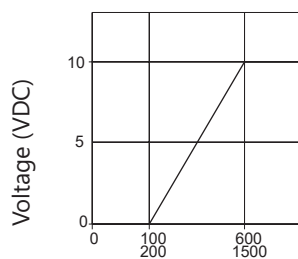


Must be used with 2M or 7M cable (4-wire)

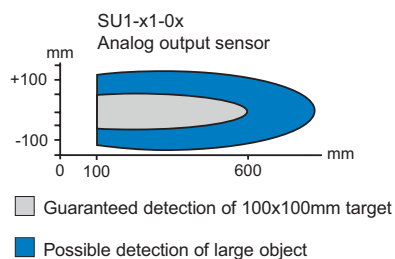
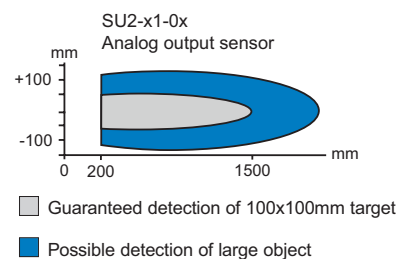
\*Note: Control wire can be used to inhibit sensor or to synchronize with another sensor.

## Characteristic Curves

Analog Output



Distance (mm)


Detection Area  
SU1 Analog outputDetection Area  
SU2 Analog output

## Axial Mounting Bracket

**ST18A**

## Dimensions

## Right-angle Mounting Bracket



**ST18C**

## Dimensions

Technical drawing of a mechanical part, showing three views: front view, side view, and top view. Dimensions are given in millimeters (mm) with tolerances in brackets.

**Front View:**

- Overall height: 36.8 [1.45]
- Height of the central hole: 20.1 [0.79]
- Central hole diameter:  $\varnothing 18.3$  [0.72]

**Side View:**

- Corner angle: 90°
- Thickness: 1.5 [0.06]

**Top View:**

- Overall width: 42.4 [1.67]
- Overall height: 37.2 [1.46]
- Central slot width: 30
- Slot depth: 14.0 [0.55]
- Distance from left edge to slot center: 16.9 [0.66]
- Distance from slot center to right edge: 30.0 [1.18]
- Slot radius: R2.1 [R0.08] TYP.
- Slot angle: 15°

# 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 OPT2109, OPT2110 & OPT2111.	<a href="#">PDF</a>	0.07 [31.8]

