

SU Series Ultrasonic Sensors



M18 (18 mm) plastic –PNP or analog output

- High resolution
- 2 PNP models with adjustable sensitivity
- 3 analog models available
- Complete overload protection
- IP67 rated
- LED status indicator on PNP models
- Purchase cable separately (for quick-disconnect model)
- Lifetime warranty



SU Series Ultrasonic DC Output Sensor Selection Chart

Part Number	Price	Sensing Range	Output State	Logic	Connection	Wiring
SU1-B0-0A	\$282.00	100 to 600 mm (3.94-23.62 in)	NO	PNP	2 m (6.5') axial cable	Diagram 1
SU2-A0-0A	\$228.75	200 to 1500 mm (7.87-59.06 in)		PNP	2 m (6.5') axial cable	

SU Series Ultrasonic Analog Output Sensor Selection Chart

Part Number	Price	Sensing Range	Output	Connection	Wiring
SU1-B1-0A	\$282.00	100 to 600 mm (3.94-23.62 in)	0-10 VDC	2 m (6.5') axial cable	Diagram 2
SU1-B1-0E	\$282.00			M12 (12 mm) connector	
SU2-A1-0E	\$282.00	200 to 1500 mm (7.87-59.06 in)	M12 (12 mm) connector		

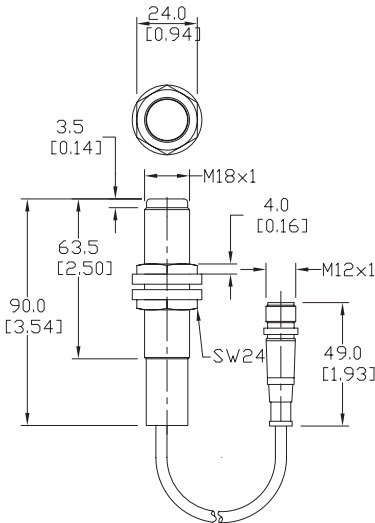
Specifications

Mounting Type	SU1-B0-0A	SU2-A0-0A	SU1-B1-0*	SU2-A1-0E
Nominal Sensing Distance	100 to 600 mm (3.94-23.62 in)	200 to 1500 mm (7.87-59.06 in)	100 to 600 mm (3.94-23.62 in)	200 to 1500 mm (7.87-59.06 in)
Operating Distance	NA			
Output Type	PNP / NO		0-10 VDC	
Operating Voltage	15-30 VDC		18-30 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			
Switching Frequency	25 Hz	8 Hz	NA	
Differential Travel	±2.5%	±2.0%		
Repeat Accuracy	0.2%		±2 mm	
Time Delay Before Availability (tv)	≤200 ms		≤500 ms	
Reverse Polarity Protection	Yes			
Short-Circuit Protection	Yes (switch auto-resets after overload is removed)			
Linearity Error	-		≤0.3%	
Ultrasonic Frequency	300 kHz	180 kHz	300 kHz	180 kHz
Ultrasonic Beam Angle	8°			
Max. Response Time	-		50 ms	150 ms
Control Input	Hold / Sync			
Sensitivity Adjustment	Yes		-	
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	Yellow (output energized)		-	
Housing Material	Polybutylene Terephthalate (PBT)			
Shock/Vibration	See Proximity Sensor Terminology			
Tightening Torque	3 Nm (2.21 lb-ft)			
Weight (cable/connector)	54 g (1.90 oz) / 38 g (1.34 oz.)			
Connection	2 m (6.5') axial cable		2 m (6.5') axial cable or M12 (12 mm) connector	
Agency Approvals	CE, UL listed file E187310			

SU Series Ultrasonic Sensors

Dimensions

mm [inches]



Wiring Diagrams

Diagram 1*

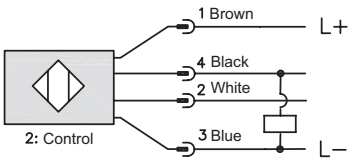
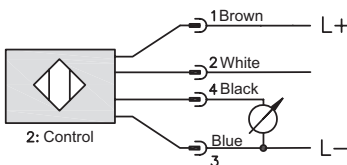


Diagram 2*



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

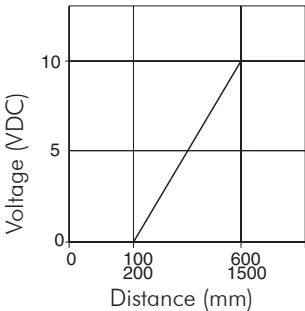
Connector



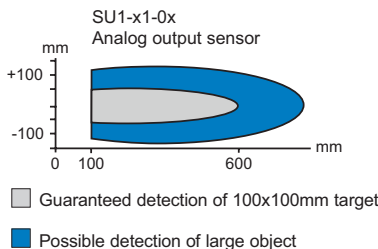
Must be used with 2M or 7M cable (4-wire)

Characteristic Curves

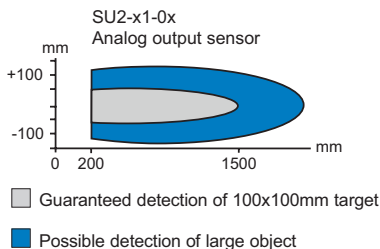
Analog Output



Detection Area
SU1 Analog output



Detection Area
SU2 Analog output



Accessories for 18mm Sensors

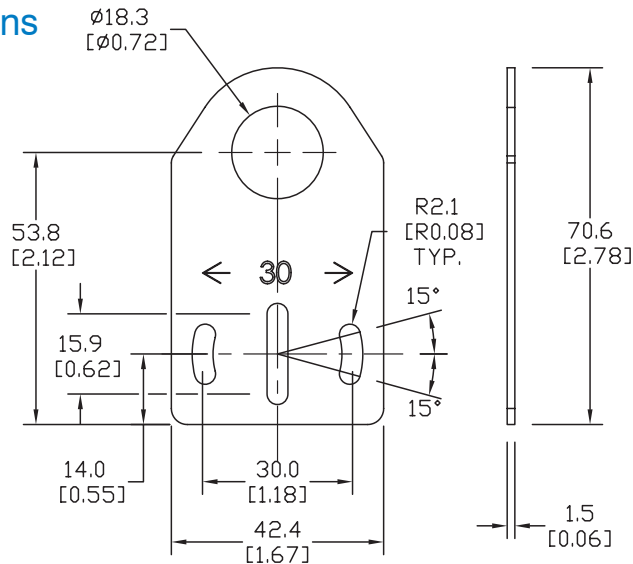
Axial Mounting Bracket

Axial mounting bracket for use with 18mm sensors. 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.

Accessories for 18mm Sensors			
Part Number	Price	Description	Weight [lb]
ST18A	\$1.25	Mounting bracket, axial, zinc-plated steel. For use with 18mm sensors. 1/pk.	0.06
ST18A7W	\$6.00	Mounting bracket, axial, 316L stainless steel. For use with 18mm sensors. 1/pk.	0.06

Dimensions

mm [inches]



ST18A

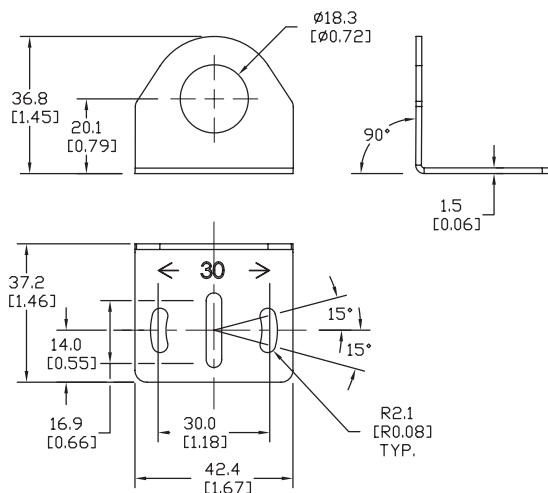
Right-angle Mounting Bracket

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.

Accessories for 18mm Sensors			
Part Number	Price	Description	Weight [lb]
ST18C	\$1.25	Mounting bracket, right angle, zinc-plated steel. For use with 18mm sensors. 1/pk.	0.06
ST18C7W	\$6.00	Mounting bracket, right angle, 316L stainless steel. For use with 18mm sensors. 1/pk.	0.06

Dimensions

mm [inches]



ST18C

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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.

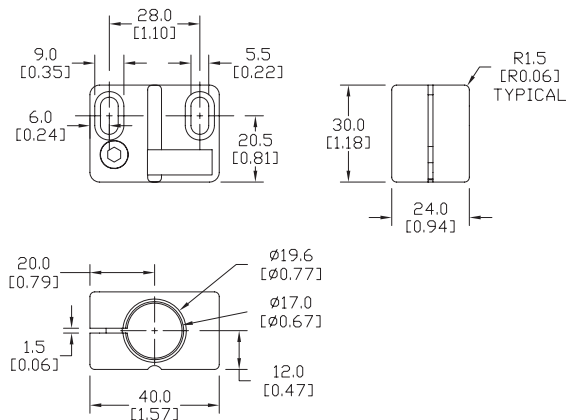
Accessories for 18mm Sensors				
Part Number	Price	Description	Weight [lb]	
OPT2104	\$8.00	Mounting bracket, right-angle, fixed insertion stop adjustment, plastic. For use with 18mm sensors.	0.06	
OPT2105	\$8.00	Mounting bracket, right-angle, plastic. For use with 18mm sensors.	0.06	



OPT2104, OPT2105

Dimensions

mm [inches]



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	Weight [lb]
OPT2116	\$9.00	Mounting bracket, right-angle swivel, 360 vertical and horizontal adjustment, aluminum, 12mm rod mount. For use with 18mm sensors.	Aluminum	304 Stainless Steel	0.15
OPT2117	\$16.00	Mounting bracket, right-angle swivel, 360 vertical and horizontal adjustment, 304 stainless steel, 12mm rod mount. For use with 18mm sensors.	304 Stainless Steel	304 Stainless Steel	0.28

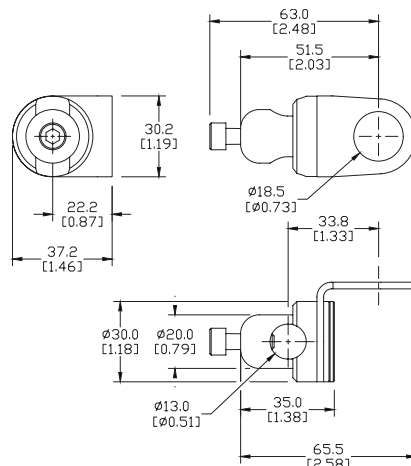
Note: 304 Stainless steel mounting rods sold separately: OPT2109 (200mm length), OPT2110 (300mm length), and OPT2111 (500mm length).



OPT2116, OPT2117

Dimensions

mm [inches]



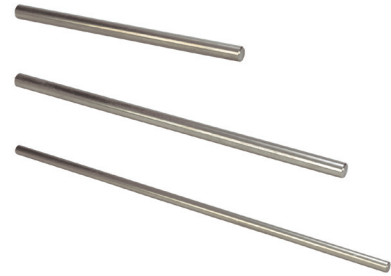
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Mounting Rods

Mounting Rods

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

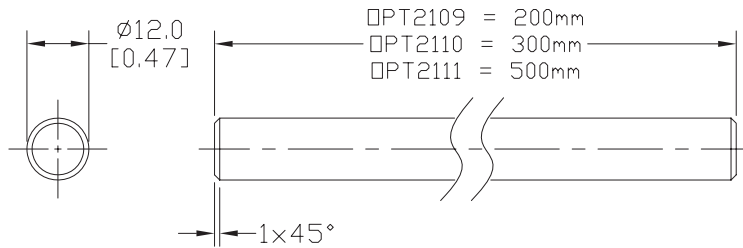
Mounting Rods for OPT2112-2127 Swivel Mounting Brackets			
Part Number	Price	Description	Weight [lb]
OPT2109	\$10.00	Mounting rod, 12mm diameter, 200mm length, 304 stainless steel.	0.41
OPT2110	\$12.00	Mounting rod, 12mm diameter, 300mm length, 304 stainless steel.	0.60
OPT2111	\$16.00	Mounting rod, 12mm diameter, 500mm length, 304 stainless steel.	0.98



OPT2109, OPT2110, OPT2111

Dimensions

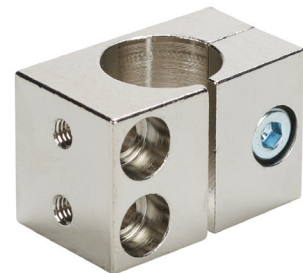
mm [inches]



Right-angle Mounting Bracket

Mounting bracket, right-angle, nickel-plated brass. For use with 12mm mounting rods OPT2109, OPT2110 & OPT2111.

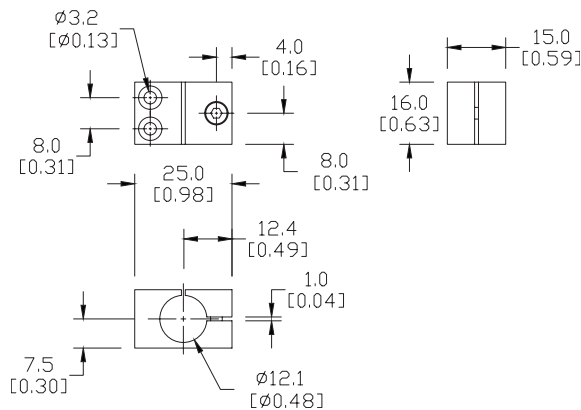
Accessories for 12mm Sensors			
Part Number	Price	Description	Weight [lb]
OPT2108	\$12.00	Mounting bracket, right-angle, nickel-plated brass. For use with 12mm mounting rods OPT2109, OPT2110 & OPT2111.	0.07



OPT2108

Dimensions

mm [inches]



See our website: www.AutomationDirect.com for complete engineering drawings