

# AE1/AE6 Series Inductive Proximity Sensors



## M8 (8 mm) metal – DC

- 24 standard length models available
- 8 short body length models available
- Compact metal housing
- Axial cable, M8 or M12 quick-disconnect models
- Complete overload protection
- IP67 rated
- LED status indicators are visible 360° around the cylinder
- Lifetime warranty



AE1 Series Standard Length M8 DC Inductive Prox Selection Chart								
Part Number	Price	Sensing Range	Housing	Output State	Logic	Connection	Wiring	Dimensions
<b>Standard Distance</b>								
AE1-AN-1A	\$21.00	0 to 1.5 mm (0-0.06 in)	Shielded	NO	NPN	2 m (6.5') axial cable	Diagram 1	Figure 1
AE1-AP-1A	\$21.00				PNP	2 m (6.5') axial cable	Diagram 2	Figure 1
AE1-AN-1H	\$21.00				NPN	M12 (12 mm) connector	Diagram 3	Figure 2
AE1-AP-1H	\$21.00				PNP	M12 (12 mm) connector	Diagram 4	Figure 2
AE1-AN-1F	\$21.00				NPN	M8 (8 mm) connector	Diagram 3	Figure 3
AE1-AP-1F	\$21.00				PNP	M8 (8 mm) connector	Diagram 4	Figure 3
AE1-AN-2A	\$21.00	0 to 2.5 mm (0-0.098 in)	Unshielded	NO	NPN	2 m (6.5') axial cable	Diagram 1	Figure 1
AE1-AP-2A	\$21.00				PNP	2 m (6.5') axial cable	Diagram 2	Figure 1
AE1-AN-2H	\$21.00				NPN	M12 (12 mm) connector	Diagram 3	Figure 2
AE1-AP-2H	\$21.00				PNP	M12 (12 mm) connector	Diagram 4	Figure 2
AE1-AN-2F	\$21.00				NPN	M8 (8 mm) connector	Diagram 3	Figure 3
AE1-AP-2F	\$21.00				PNP	M8 (8 mm) connector	Diagram 4	Figure 3
<b>Extended Distance</b>								
AE1-AN-3A	\$26.50	0 to 2 mm (0-0.08 in)	Shielded	NO	NPN	2 m (6.5') axial cable	Diagram 1	Figure 1
AE1-AP-3A	\$26.50				PNP	2 m (6.5') axial cable	Diagram 2	Figure 1
AE1-AN-3F	\$26.50				NPN	M8 (8 mm) connector	Diagram 3	Figure 3
AE1-AP-3F	\$26.50				PNP	M8 (8 mm) connector	Diagram 4	Figure 3
AE1-AN-4A	\$26.50	0 to 4 mm (0-0.157 in)	Unshielded	NO	NPN	2 m (6.5') axial cable	Diagram 1	Figure 1
AE1-AP-4A	\$26.50				PNP	2 m (6.5') axial cable	Diagram 2	Figure 1
AE1-AN-4F	\$26.50				NPN	M8 (8 mm) connector	Diagram 3	Figure 3
AE1-AP-4F	\$26.50				PNP	M8 (8 mm) connector	Diagram 4	Figure 3
<b>Triple Distance</b>								
AE1-AN-5A	\$58.00	0 to 3 mm (0-0.118 in)	Shielded	NO	NPN	2 m (6.5') axial cable	Diagram 1	Figure 1
AE1-AP-5A	\$58.00				PNP	2 m (6.5') axial cable	Diagram 2	Figure 1
AE1-AN-5F	\$58.00				NPN	M8 (8 mm) connector	Diagram 3	Figure 4
AE1-AP-5F	\$58.00				PNP	M8 (8 mm) connector	Diagram 4	Figure 4

AE6 Series Short Body M8 DC Inductive Prox Selection Chart								
Part Number	Price	Sensing Range	Housing	Output State	Logic	Connection	Wiring	Dimensions
<b>Extended Distance</b>								
AE6-AN-3A	\$31.00	0 to 2 mm (0-0.08 in)	Shielded	NO	NPN	2 m (6.5') axial cable	Diagram 1	Figure 5
AE6-AP-3A	\$31.00				PNP	2 m (6.5') axial cable	Diagram 2	Figure 5
AE6-AN-3F	\$31.00				NPN	M8 (8 mm) connector	Diagram 3	Figure 6
AE6-AP-3F	\$31.00				PNP	M8 (8 mm) connector	Diagram 4	Figure 6
AE6-AN-4A	\$31.00	0 to 4 mm (0-0.157 in)	Unshielded	NO	NPN	2 m (6.5') axial cable	Diagram 1	Figure 5
AE6-AP-4A	\$31.00				PNP	2 m (6.5') axial cable	Diagram 2	Figure 5
AE6-AN-4F	\$31.00				NPN	M8 (8 mm) connector	Diagram 3	Figure 6
AE6-AP-4F	\$31.00				PNP	M8 (8 mm) connector	Diagram 4	Figure 6

# AE1/AE6 Series Inductive Proximity Sensors

AE Series Specifications					
	Standard Distance Models		Extended Distance Models		Triple Distance Models
<b>Mounting Type</b>	Shielded	Unshielded	Shielded	Unshielded	Shielded
<b>Nominal Sensing Distance</b>	1.5mm (0.06in)	2.5mm (0.098in)	2mm (0.08in)	4mm (0.157in)	3mm (0.118in)
<b>Operating Distance</b>	NA				
<b>Material Correction Factors</b>	See the <a href="#">Material influence table</a>				
<b>Output Type</b>	NPN or PNP/NO only/3-wire				
<b>Operating Voltage</b>	10 to 30 VDC				
<b>No-load Supply Current</b>	≤20mA		≤10mA		
<b>Operating (Load) Current</b>	≤200mA				
<b>Off-state (Leakage) Current</b>	≤10µA		≤120µA		
<b>Voltage Drop</b>	≤1.2 V				≤2.0 V
<b>Switching Frequency</b>	3 kHz	2.5 kHz	3 kHz	1 kHz	
<b>Differential Travel (% of Nominal Distance)</b>	2 to 10%		1 to 20%		≤10%
<b>Repeat Accuracy</b>	≤2%		≤5%		
<b>Ripple</b>	≤10%				≤20%
<b>Time Delay Before Availability (tv)</b>	100 ms (5 ms for AE6 short body models)				50 ms
<b>Reverse Polarity Protection</b>	Yes				
<b>Short-Circuit Protection</b>	Yes (switch auto-resets after overload is removed)				
<b>Operating Temperature</b>	-25° to +70°C (-13° to 158°F)				
<b>Protection Degree (DIN 40050)</b>	IEC IP67				
<b>Indication/Switch Status</b>	Yellow (output energized)				
<b>Housing Material</b>	Nickel-plated brass			Chrome-plated brass	
<b>Sensing Face Material</b>	Polybutylene Terephthalate (PBT)				
<b>Shock/Vibration</b>	See <a href="#">Proximity Sensor Terminology</a>				
<b>Tightening Torque</b>	4 Nm (2.95 lb-ft)				
<b>Weight (cable/M8 connector/M12 connector)</b>	43 g (1.52 oz)/16 g (0.56 oz)/20 g (0.71 oz)			54 g (1.90 oz)/26 g (0.92 oz)/(NA)	
<b>Connection</b>	2 meter PVC axial cable / M8 connector / M12 connector				
<b>Agency Approvals</b>	NA			UL file E328811	

## Wiring diagrams

Diagram 1

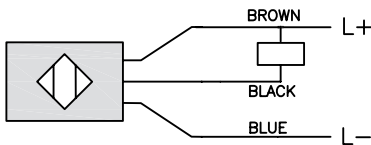
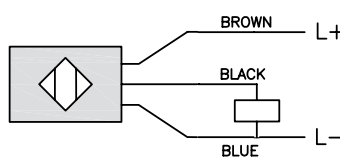


Diagram 2



Connectors



M12 connector

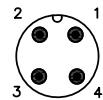


Diagram 3

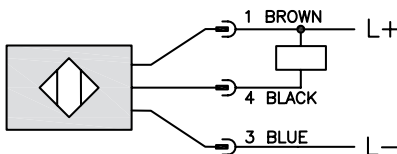
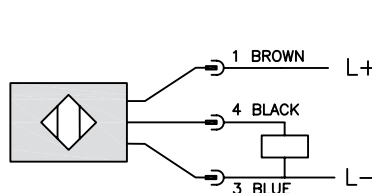


Diagram 4

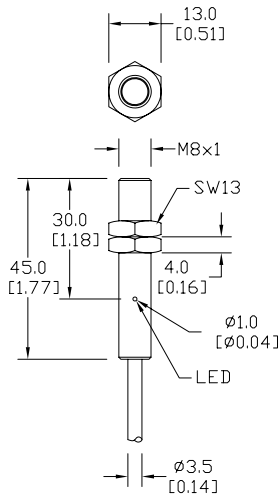


# AE1/AE6 Series Inductive Proximity Sensors

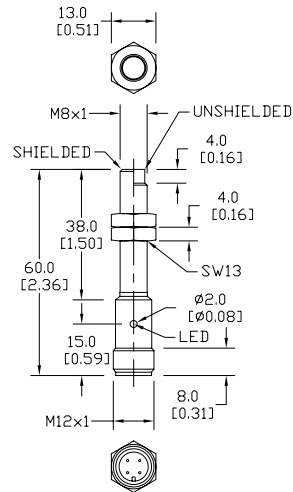
## Dimensions

mm [inches]

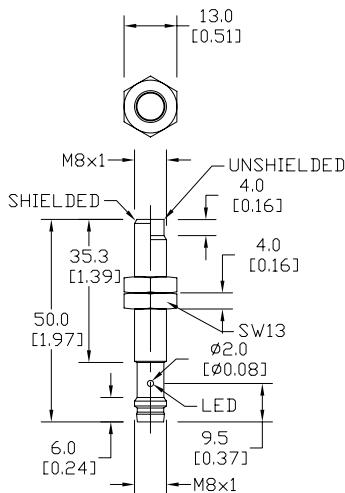
**Figure 1**



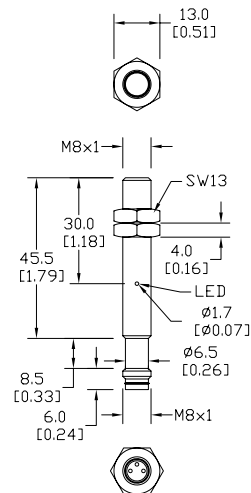
**Figure 2**



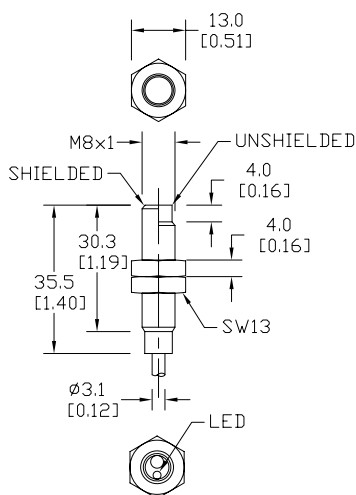
**Figure 3**



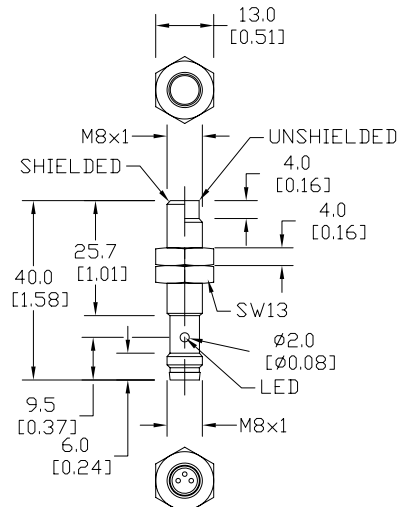
**Figure 4**



**Figure 5**



**Figure 6**



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# Accessories for 8mm Sensors

## Axial Mounting Bracket

Mounting bracket, axial, zinc-plated steel. For use with 8mm sensors. Has two mounting holes (use 3 mm screws) and allows the rotation of an optical axis for axial sensors. Hexagonal nuts not included.

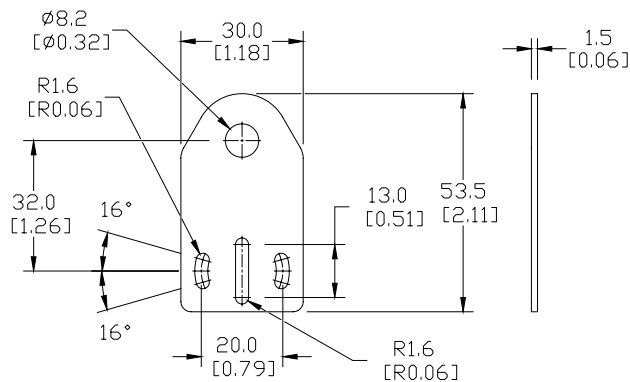


**ST08A**

Accessories for 8mm Sensors			
Part Number	Price	Description	Weight [lb]
<b>ST08A</b>	\$1.00	Mounting bracket, axial, zinc-plated steel. For use with 8mm sensors. 1/pk.	0.04

## Dimensions

mm [inches]



## Right-angle Mounting Bracket

Mounting bracket, right-angle, zinc-plated steel. For use with 8mm sensors. Has two mounting holes (use 3mm screws) and allows the rotation of an optical axis for right-beam-angle-adaptor sensors. Hexagonal nuts not included.

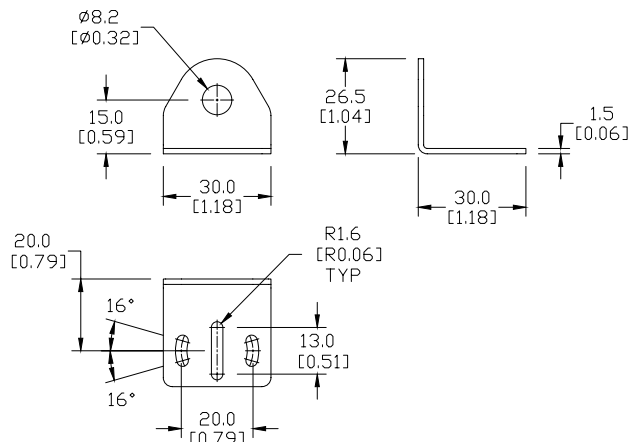


**ST08C**

Accessories for 8mm Sensors			
Part Number	Price	Description	Weight [lb]
<b>ST08C</b>	\$1.00	Mounting bracket, right angle, zinc-plated steel for 8mm sensors. 1/pk.	0.04

## Dimensions

mm [inches]



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# Accessories for 8mm Sensors

## Right-angle Mounting Bracket

Mounting bracket, right-angle, plastic. For use with 8mm sensors.

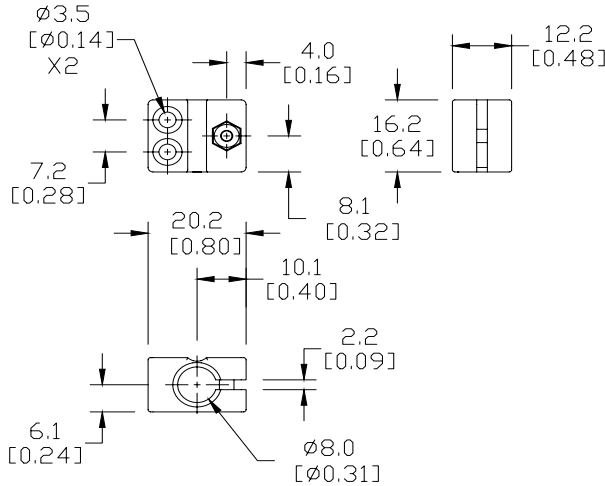
Accessories for 8mm Sensors			
Part Number	Price	Description	Weight [lb]
<b>OPT2101</b>	\$6.00	Mounting bracket, right-angle, plastic. For use with 8mm sensors.	0.02



**OPT2101**

### Dimensions

mm [inches]



## Right-angle Swivel Mounting Systems

Mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment. For use with 8mm sensors. Available in all stainless steel or with an aluminum head and stainless steel mounting plate.

Accessories for 8mm Sensors					
Part Number	Price	Description	Mounting Head	Mounting Plate	Weight [lb]
<b>OPT2112</b>	\$9.00	Mounting bracket, right-angle swivel, 360 vertical and horizontal adjustment, aluminum, 12mm rod mount. For use with 8mm sensors.	Aluminum	304 Stainless Steel	0.14
<b>OPT2113</b>	\$16.00	Mounting bracket, right-angle swivel, 360 vertical and horizontal adjustment, 304 stainless steel, 12mm rod mount. For use with 8mm sensors.	304 Stainless Steel	304 Stainless Steel	0.26

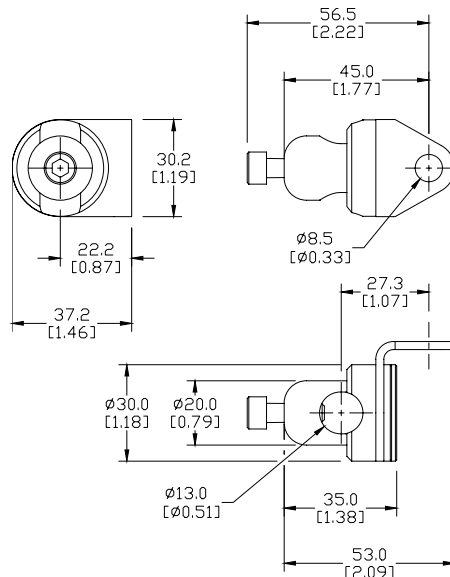
**Note: 304 Stainless steel mounting rods sold separately: OPT2109 (200mm length), OPT2110 (300mm length), and OPT2111 (500mm length).**



**OPT2112 & OPT2113**

### Dimensions

mm [inches]



See our website: [www.AutomationDirect.com](http://www.AutomationDirect.com) for complete engineering drawings

# Mounting Rods

## Mounting Rods

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

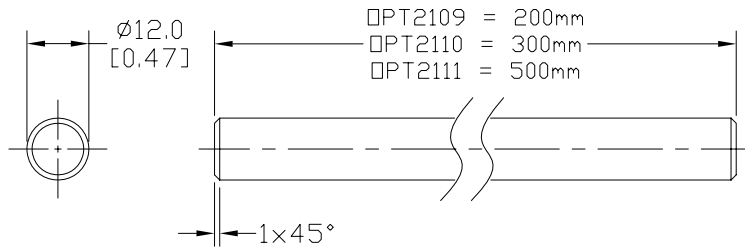
Mounting Rods for OPT2112-2127 Swivel Mounting Brackets			
Part Number	Price	Description	Weight [lb]
<b>OPT2109</b>	\$10.00	Mounting rod, 12mm diameter, 200mm length, 304 stainless steel.	0.41
<b>OPT2110</b>	\$12.00	Mounting rod, 12mm diameter, 300mm length, 304 stainless steel.	0.60
<b>OPT2111</b>	\$16.00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

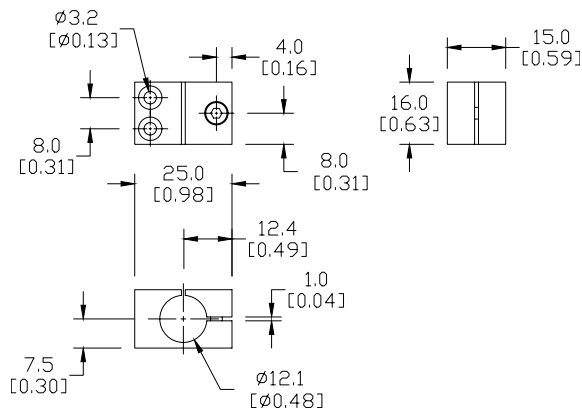
Accessories for 12mm Sensors			
Part Number	Price	Description	Weight [lb]
<b>OPT2108</b>	\$12.00	Mounting bracket, right-angle, nickel-plated brass. For use with 12mm mounting rods OPT2109, OPT2110 & OPT2111.	0.07



**OPT2108**

## Dimensions

mm [inches]



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