# **AE1/AE6 Series Inductive Proximity Sensors**



#### M8 (8mm) Metal – DC

- Compact metal housing
- Axial cable, M8 or M12 quickdisconnect models
- Complete overload protection
- IP67 rated
- LED status indicators are visible 360° around the cylinder
- Lifetime warranty



	A	E1 Series Sta	ndard Length	M8 DC Indu	ctive P	roximity Selection C	hart	
Part Number	Price	Sensing Range	Mounting	Output State	Logic	Connection	Wiring	Dimensions
Standard Distance	)							
<u>AE1-AN-1A</u>	\$18.50		Flush	N.O.	NPN	2m [6.5 ft] axial cable	Diagram 1	Figure 1
<u>AE1-AP-1A</u>	\$18.50		Flush	N.O.	PNP	2m [6.5 ft] axial cable	Diagram 2	Figure 1
<u>AE1-AN-1H</u>	\$18.50	0-1.5 mm	Flush	N.O.	NPN	M12 [12mm] connector	Diagram 3	Figure 2
<u>AE1-AP-1H</u>	\$18.50	[0-0.06 in]	Flush	N.O.	PNP	M12 [12mm] connector	Diagram 4	Figure 2
AE1-AN-1F	\$18.50		Flush	N.O.	NPN	M8 [8mm] connector	Diagram 3	Figure 3
AE1-AP-1F	\$18.50		Flush	N.O.	PNP	M8 [8mm] connector	Diagram 4	Figure 3
<u>AE1-AN-2A</u>	\$18.50		Non-flush	N.O.	NPN	2m [6.5 ft] axial cable	Diagram 1	Figure 1
<u>AE1-AP-2A</u>	\$25.00		Non-flush	N.O.	PNP	2m [6.5 ft] axial cable	Diagram 2	Figure 1
AE1-AN-2H	\$18.50	0-2.5 mm	Non-flush	N.O.	NPN	M12 [12mm] connector	Diagram 3	Figure 2
<u>AE1-AP-2H</u>	\$25.00	[0-0.098 in]	Non-flush	N.O.	PNP	M12 [12mm] connector	Diagram 4	Figure 2
AE1-AN-2F	\$18.50		Non-flush	N.O.	NPN	M8 [8mm] connector	Diagram 3	Figure 3
AE1-AP-2F	\$18.50		Non-flush	N.O.	PNP	M8 [8mm] connector	Diagram 4	Figure 3
Extended Distance								
<u>AE1-AN-3A</u>	\$24.00		Flush	N.O.	NPN	2m [6.5 ft] axial cable	Diagram 1	Figure 1
<u>AE1-AP-3A</u>	\$24.00	0-2 mm	Flush	N.O.	PNP	2m [6.5 ft] axial cable	Diagram 2	Figure 1
AE1-AN-3F	\$31.00	[0-0.08 in]	Flush	N.O.	NPN	M8 [8mm] connector	Diagram 3	Figure 3
AE1-AP-3F	\$24.00		Flush	N.O.	PNP	M8 [8mm] connector	Diagram 4	Figure 3
<u>AE1-AN-4A</u>	\$24.00		Non-flush	N.O.	NPN	2m [6.5 ft] axial cable	Diagram 1	Figure 1
<u>AE1-AP-4A</u>	\$31.00	0-4 mm	Non-flush	N.O.	PNP	2m [6.5 ft] axial cable	Diagram 2	Figure 1
AE1-AN-4F	\$24.00	[0-0.157 in]	Non-flush	N.O.	NPN	M8 [8mm] connector	Diagram 3	Figure 3
AE1-AP-4F	\$24.00		Non-flush	N.O.	PNP	M8 [8mm] connector	Diagram 4	Figure 3
Triple Distance								
<u>AE1-AN-5A</u>	\$75.00		Semi-flush	N.O.	NPN	2m [6.5 ft] axial cable	Diagram 1	Figure 1
<u>AE1-AP-5A</u>	\$75.00	0-3 mm	Semi-flush	N.O.	PNP	2m [6.5 ft] axial cable	Diagram 2	Figure 1
AE1-AN-5F	\$75.00	[0-0.118 in]	Semi-flush	N.O.	NPN	M8 [8mm] connector	Diagram 3	Figure 4
AE1-AP-5F	\$75.00		Semi-flush	N.O.	PNP	M8 [8mm] connector	Diagram 4	Figure 4

	AE6 Series Short Body M8 DC Inductive Prox Selection Chart								
Part Number	Price	Sensing Range	Mounting	Output State	Logic	Connection	Wiring	Dimensions	
Extended Distance	Extended Distance								
AE6-AN-3A	\$28.00	0-2 mm [0-0.08 in]	Flush	N.O.	NPN	2m [6.5 ft] axial cable	Diagram 1	Figure 5	
AE6-AP-3A	\$28.00		Flush	N.O.	PNP	2m [6.5 ft] axial cable	Diagram 2	Figure 5	
AE6-AN-3F	\$37.50		Flush	N.O.	NPN	M8 [8mm] connector	Diagram 3	Figure 6	
AE6-AP-3F	\$28.00		Flush	N.O.	PNP	M8 [8mm] connector	Diagram 4	Figure 6	
AE6-AN-4A	\$28.00		Non-flush	N.O.	NPN	2m [6.5 ft] axial cable	Diagram 1	Figure 5	
AE6-AP-4A	\$28.00	0-4 mm	Non-flush	N.O.	PNP	2m [6.5 ft] axial cable	Diagram 2	Figure 5	
AE6-AN-4F	\$37.50	[0-0.157 in]	Non-flush	N.O.	NPN	M8 [8mm] connector	Diagram 3	Figure 6	
AE6-AP-4F	\$28.00		Non-flush	N.O.	PNP	M8 [8mm] connector	Diagram 4	Figure 6	

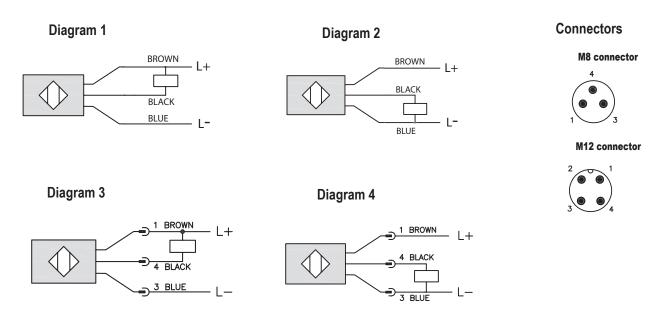
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# **AE1/AE6 Series Inductive Proximity Sensors**

AE Series Specifications								
Specification	Standard Di	stance Models	Extended Dis	tance Models	nce Models Triple Distance Models			
Mounting Type	Flush	Non-flush	Flush	Non-flush	Semi-flush			
Nominal Sensing Distance	1.5 mm [0.06 in]	2.5 mm [0.098 in]	2mm [0.08 in]	4mm [0.157 in]	3mm [0.118 in]			
Operating Distance			N	A				
Material Correction Factors See the Material influence								
Output Type			NPN or PNP/N	.O. only/3-wire				
Operating Voltage			10 to 3	0 VDC				
No-load Supply Current	≤ 2	20 mA		≤ 1	0 mA			
Operating (Load) Current		≤ 200 mA						
Off-state (Leakage) Current	≤	10µA		≤1	20µA			
Voltage Drop		≤1.2	1.2 V ≤ 2.0 V					
Switching Frequency	3kHz	2.5 kHz	3k	Hz	1kHz			
Differential Travel (% of Nominal Distance)	2 to 10%		1 to 20%		m 10%			
Repeat Accuracy	≤ 2%		≤ 5 %		5 %			
Ripple		≤ 10	%		≤ 20%			
Time Delay Before Availability (tv)	1	100ms (5 ms for AE6	short body models	)	50ms			
Reverse Polarity Protection			Ye	es				
Short-Circuit Protection		Yes (su	vitch auto-resets a	fter overload is ren	noved)			
Operating Temperature			-25 to +70°C	[-13 to 158°F]				
Protection Degree (DIN 40050)			IEC	IP67				
Indication/Switch Status			Yellow (output	ut energized)				
Housing Material		Nickel-plate	ed brass		Chrome-plated brass			
Sensing Face Material			Polybutylene Ter	ephthalate (PBT)				
Shock/Vibration	See Proximity Sensor Terminology							
Tightening Torque			4 Nm (2	.95 lb-ft)				
Weight (cable/M8 connector/M12 connector)			54g [1.90 oz]/26g [0.92 oz]/(NA)					
Connection		2 meter [6.5 f	t] PVC axial cable	/ M8 connector / M	112 connector			
Agency Approvals		NA	<u> </u>		UL file E328811			

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

#### **Wiring Diagrams**



# **AE1/AE6** Series Inductive Proximity Sensors

#### **Dimensions**

mm [inch]

Figure 1

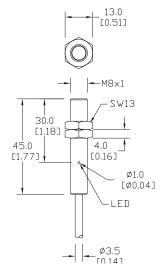


Figure 3

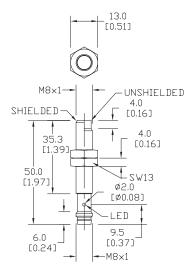


Figure 5

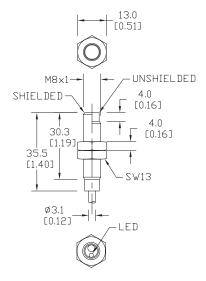


Figure 2

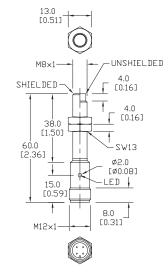


Figure 4

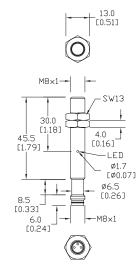
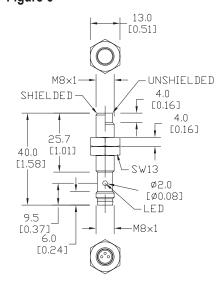


Figure 6



See our website: www.AutomationDirect.com for complete Engineering Drawings.

## **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.

Accessories for 8mm Sensors							
Part Number	Price	Description	Drawing Link	Weight [lb]			
ST08A	\$2.00	Micro Detectors mounting bracket, axial, zinc plated steel. For use with 8mm sensors.	PDF	0.04			



ST08A

#### **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-adapter sensors. Hexagonal nuts not included.

Accessories for 8mm Sensors							
Part Number	Price	Description	Drawing Link	Weight [lb]			
<u>ST08C</u>	\$2.00	Micro Detectors mounting bracket, right-angle, zinc plated steel. For use with 8mm sensors.	PDF	0.04			



ST08C

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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	Drawing Link	Weight [lb]			
<u>OPT2101</u>	\$8.00	Wenglor mounting bracket, right-angle, plastic. For use with 8mm sensors.	<u>PDF</u>	0.02			



**OPT2101** 

#### **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	Drawing Link	Weight [lb]				
<u>OPT2112</u>	\$11.50	Wenglor mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment, aluminum, 12mm rod mount. For use with 8mm sensors.	Aluminum	304 Stainless Steel	<u>PDF</u>	0.14				
<u>OPT2113</u>	\$21.00	Wenglor mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment, 304 stainless steel, 12mm rod mount. For use with 8mm sensors.	304 Stainless Steel	304 Stainless Steel	<u>PDF</u>	0.26				



OPT2112 & OPT2113

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

## **Mounting Rods and Brackets**

#### **Mounting Rods**

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

M	Mounting Rods for OPT2112-2127 Swivel Mounting Brackets								
Part Number	Price	Description	Drawing Link	Weight lb (g)					
<u>OPT2109</u>	\$13.00	Wenglor mounting rod, 12mm diameter, 200mm length, 304 stainless steel.	PDF	0.41 [185.97]					
<u>OPT2110</u>	\$16.00	Wenglor mounting rod, 12mm diameter, 300mm length, 304 stainless steel.	PDF	0.60 [272.16]					
<u>OPT2111</u>	\$21.00	Wenglor mounting rod, 12mm diameter, 500mm length, 304 stainless steel.	<u>PDF</u>	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 Ib [g]			
<u>OPT2108</u>	\$16.00	Wenglor mounting bracket, right-angle, nickel-plated brass. For use with 12mm mounting rods OPT2109, OPT2110 & OPT2111.	<u>PDF</u>	0.07 [31.8]			



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