

AM Series Inductive Proximity Sensors



M12 (12 mm) metal – DC

- 26 standard length models available
- 8 short body length models available
- 2-wire and 3-wire models
- Metal housing
- Axial cable or M12 quick-disconnect models
- Complete overload protection
- IP67 rated
- LED status indicator
- DC powered
- Several sensing distances available

AM1 Series Standard Length M12 DC Inductive Prox Selection Chart

Part Number		Sensing Range	Housing	Output State	Logic	Connection	Wiring	Dimensions
Standard Distance								
AM1-AN-1A	<--->	0 to 2.0mm (0-0.079in)	Shielded	N.O.	NPN	2m (6.5') axial cable	Diagram 1	Figure 1
AM1-AP-1A	<--->				PNP	2m (6.5') axial cable	Diagram 1	Figure 1
AM1-A0-1A	<--->				Sink/source	2m (6.5') axial cable	Diagram 2	Figure 1
AM1-AN-1H	<--->				NPN	M12 (12mm) connector	Diagram 1	Figure 2
AM1-AP-1H	<--->				PNP	M12 (12mm) connector	Diagram 1	Figure 2
AM1-A0-1H	<--->				Sink/source	M12 (12mm) connector	Diagram 2	Figure 2
AM1-AN-2A	<--->	0 to 4mm (0-0.157in)	Unshielded	N.O.	NPN	2m (6.5') axial cable	Diagram 1	Figure 1
AM1-AP-2A	<--->				PNP	2m (6.5') axial cable	Diagram 1	Figure 1
AM1-A0-2A	<--->				Sink/source	2m (6.5') axial cable	Diagram 2	Figure 1
AM1-AN-2H	<--->				NPN	M12 (12mm) connector	Diagram 1	Figure 2
AM1-AP-2H	<--->				PNP	M12 (12mm) connector	Diagram 1	Figure 2
AM1-A0-2H	<--->				Sink/source	M12 (12mm) connector	Diagram 2	Figure 2
Extended Distance								
AM1-AN-3A	<--->	0 to 4mm (0-0.157in)	Shielded	N.O.	NPN	2m (6.5') axial cable	Diagram 1	Figure 1
AM1-AP-3A	<--->				PNP	2m (6.5') axial cable	Diagram 1	Figure 1
AM1-A0-3A	<--->				Sink/source	2m (6.5') axial cable	Diagram 2	Figure 1
AM1-AN-3H	<--->				NPN	M12 (12mm) connector	Diagram 1	Figure 2
AM1-AP-3H	<--->				PNP	M12 (12mm) connector	Diagram 1	Figure 2
AM1-A0-3H	<--->				Sink/source	M12 (12mm) connector	Diagram 2	Figure 2
AM1-AN-4A	<--->	0 to 8mm (0-0.314in)	Unshielded	N.O.	NPN	2m (6.5') axial cable	Diagram 1	Figure 1
AM1-AP-4A	<--->				PNP	2m (6.5') axial cable	Diagram 1	Figure 1
AM1-A0-4A	<--->				Sink/source	2m (6.5') axial cable	Diagram 2	Figure 1
AM1-AN-4H	<--->				NPN	M12 (12mm) connector	Diagram 1	Figure 2
AM1-AP-4H	<--->				PNP	M12 (12mm) connector	Diagram 1	Figure 2
AM1-A0-4H	<--->				Sink/source	M12 (12mm) connector	Diagram 2	Figure 2
Triple Distance								
AM1-AN-5H	<--->	6mm (0.236in)	Shielded	N.O.	NPN	M12 (12mm) connector	Diagram 3	Figure 3
AM1-AP-5H	<--->				PNP	M12 (12mm) connector	Diagram 3	Figure 3

AM6 Series Short Body M12 DC Inductive Prox Selection Chart

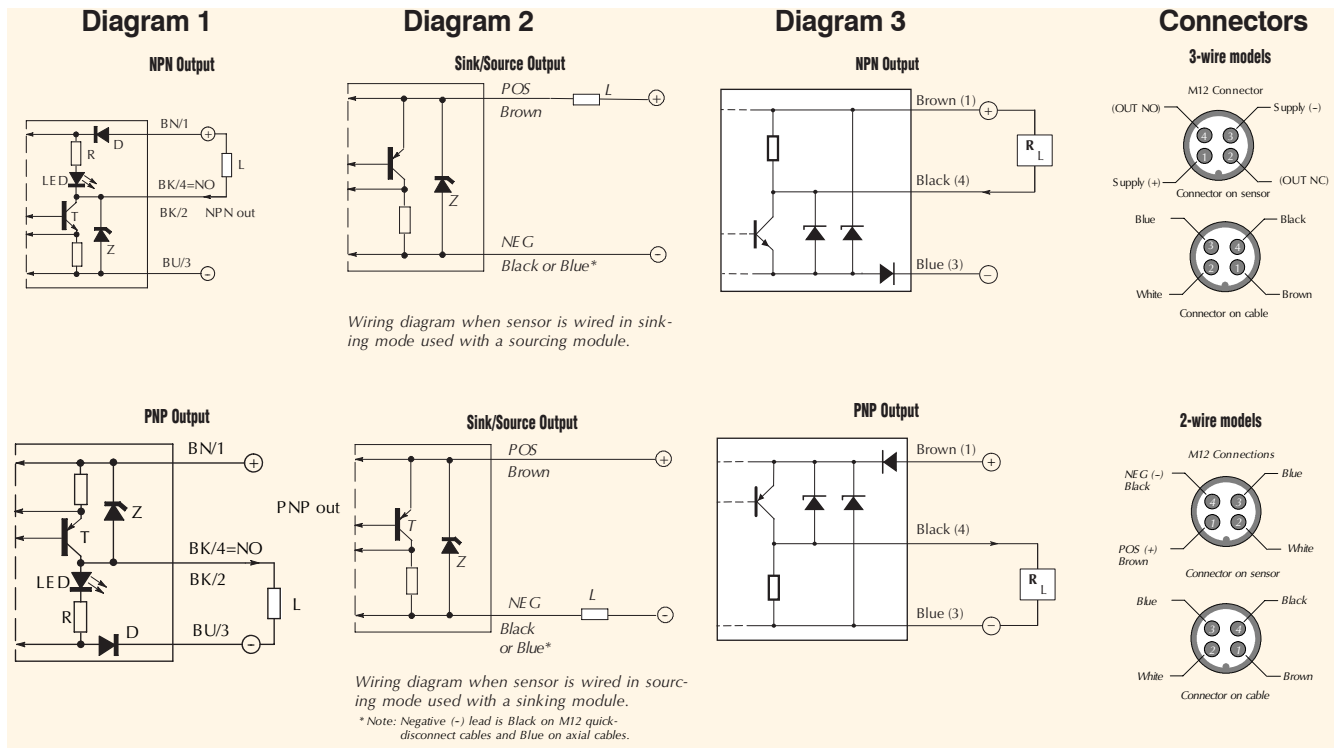
Part Number		Sensing Range	Housing	Output State	Logic	Connection	Wiring	Dimensions
Extended Distance								
AM6-AN-3A	<--->	0 to 4mm (0-0.157in)	Shielded	N.O.	NPN	2m (6.5') axial cable	Diagram 1	Figure 4
AM6-AP-3A	<--->				PNP	2m (6.5') axial cable	Diagram 1	Figure 4
AM6-AN-3H	<--->				NPN	M12 (12mm) connector	Diagram 1	Figure 5
AM6-AP-3H	<--->				PNP	M12 (12mm) connector	Diagram 1	Figure 5
AM6-AN-4A	<--->	0 to 8mm (0-0.314in)	Unshielded	N.O.	NPN	2m (6.5') axial cable	Diagram 1	Figure 4
AM6-AP-4A	<--->				PNP	2m (6.5') axial cable	Diagram 1	Figure 4
AM6-AN-4H	<--->				NPN	M12 (12mm) connector	Diagram 1	Figure 5
AM6-AP-4H	<--->				PNP	M12 (12mm) connector	Diagram 1	Figure 5

AM Series Inductive Proximity Sensors

Specifications	Standard Distance Models		Extended Distance Models		Triple Distance Models
Type	Shielded	Unshielded	Shielded	Unshielded	Shielded
Operating Distance	2mm (0.079in)	4mm (0.157in)	4mm (0.157in)	8mm (0.315in)	6mm (0.236in)
Material Correction Factors	*See Material Influence table #1				*See Material Influence table #2
Differential Travel	2 to 10%		1 to 20%		
Repeat Accuracy	≤2%		≤5%		
Operating Voltage	10-30VDC				
Ripple	≤10%				≤20%
No Load Supply Current	≤20mA		≤10mA		
Load Current	3 wire: ≤200mA / 2 wire: 3-100mA		3 wire: ≤300mA / 2 wire: 3-100mA		≤200mA
Leakage Current	3 wire: ≤10µA / 2 wire: ≤0.8mA		3 wire: ≤120µA / 2 wire: ≤0.8mA		≤100µA
Voltage Drop	3 wire:1.2 volts max. / 2 wire: 2.8 volts max.				≤2.0V
Output Type	3 wire: NPN or PNP, N.O. only/ 2 wire: sink/source, N.O. only				NPN or PNP, N.O. only
Switching Frequency	3 wire: 2kHz / 2 wire: 1.5kHz		3 wire: 1kHz / 2 wire: 1.5kHz		800Hz
(tv) Time Delay Before Availability	3 wire: 100ms / 2 wire: 50ms		100ms		
Input Voltage Transient Protection	Up to 30 VDC				
Input Power Polarity Reversal Protection	Yes				
Output Power Short-Circuit Protection	Yes (switch auto-resets after overload is removed)				
Temperature Range	-25° to + 70° C (-13° to 158° F)				
Temperature Drift	10% Sr				
Protection Degree (DIN 40050)	IEC IP67				
LED Indicators	Yellow (N.O. output energized)				
Housing Material	Nickel-plated brass				Chrome-plated brass
Sensing Face Material	PBT				
Tightening Torque	10Nm (88lb-in)				
Weight (cable/M12 connector)	70g (2.47oz)/30g (1.06oz)				96g (oz)/34g (oz)

*See Material Influence tables #1 and #2 on page 17–53

Wiring diagrams



AM Series Inductive Proximity Sensors

Dimensions

Figure 1

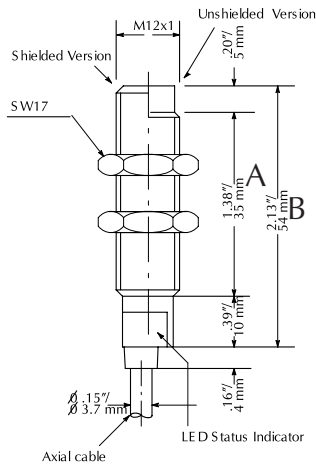


Figure 2

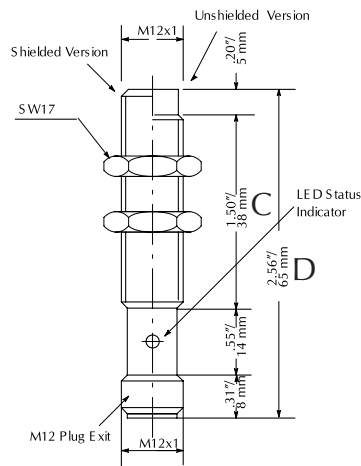


Figure 3

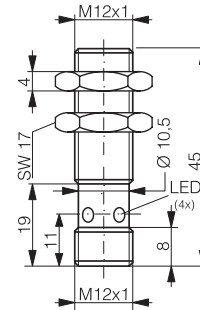


Figure 4

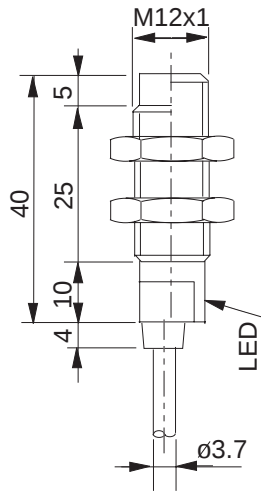
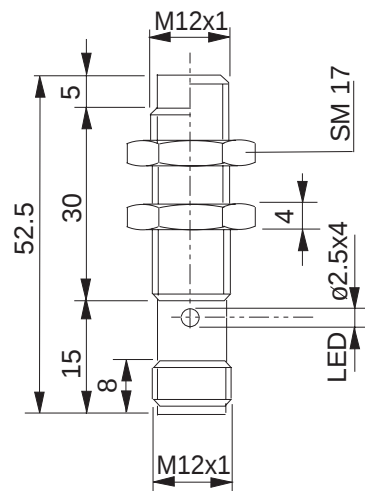


Figure 5



Dimensions				
Model	A	B	C	D
3-wire (standard distance)	1.38in (35mm)	2.13in (54mm)	1.50in (38mm)	2.56in (65mm)
3-wire (extended distance)	1.57in (40mm)	2.13in (54mm)	1.50in (38mm)	2.76in (70mm)
2-wire (all)	1.77in (45mm)	2.36in (60mm)	1.89in (48mm)	2.95in (75mm)

Cables and Accessories

Cables and accessories can be found starting on page 17–48.

PLC Overview

DL05/06 PLC

DL105 PLC

DL205 PLC

DL305 PLC

DL405 PLC

Field I/O

Software

C-more HMIs

Other HMI

AC Drives

Motors

Steppers/ Servos

Motor Controls

Proximity Sensors

Photo Sensors

Limit Switches

Encoders

Pushbuttons/ Lights

Process

Relays/ Timers

Comm.

TB's & Wiring

Power

Enclosures

Appendix

Part Index