

# AK Series Analog Inductive Proximity Sensors



## M18 (18 mm) metal – analog output

- Voltage or current analog output
- 4 models available
- Metal housing
- Axial cable or M12 quick-disconnect models
- IP67 rated

### Cables and Accessories

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

### AK Series M18 Analog Inductive Prox Selection Chart

Part Number		Sensing Range	Housing	Output	Connection	Dimensions
AK9-05-1A	<--->	0 to 10.0mm (0-0.39in)	Shielded	0 - 5VDC or 1-5mA	2m (6.5') axial cable	Figure 1
AK9-05-1H	<--->				M12 (8mm) connector	Figure 2
AK9-10-1A	<--->	0 to 10.0mm (0-0.39in)		0-10VDC or 4-20mA	2m (6.5') axial cable	Figure 1
AK9-10-1H	<--->				M12 (8mm) connector	Figure 2

### Specifications

	AK9-05-1*	AK9-10-1*
<b>Output Type</b>	0-5VDC or 1-5mA	0-10VDC or 4-20mA
<b>Resolution</b>	≤2μm	
<b>Repeat Accuracy</b>	±0.02mm	
<b>Material Correction Factors</b>	See Proximity Sensor Terminology	
<b>Operating Voltage</b>	10 -30VDC	15 -30VDC
<b>Ripple</b>	≤20%	
<b>No-load Supply Current</b>	≤10mA	≤12mA
<b>Voltage Output Min. Load</b>	500Ω	1kΩ
<b>Current Output Max. Load / Power Supply</b>	1kΩ / 10VDC; 5kΩ / 30VDC	0.5kΩ / 15VDC; 1kΩ / 30VDC
<b>Voltage Drop</b>	≤2.0 V	
<b>Time Delay Before Availability</b>	≤50ms	
<b>Input Voltage Transient Protection</b>	Up to 30VDC	
<b>Input Power Polarity Reversal Protection</b>	Yes	
<b>Output Power Short-Circuit Protection</b>	Yes (switch auto-resets after overload is removed)	
<b>Temperature Range</b>	-25° to +70° C (-13° to 158° F)	
<b>Temperature Drift</b>	≤10% Sr	
<b>Protection Degree (DIN 40050)</b>	IEC IP67	
<b>Housing Material</b>	Chrome-plated brass	
<b>Sensing Face Material</b>	PBT	
<b>Tightening Torque</b>	30Nm (22lbs./ft.)	
<b>Weight (cable/M8 connector)</b>	110g (3.88 oz.) / 50g (1.76 oz.)	

Figure 1

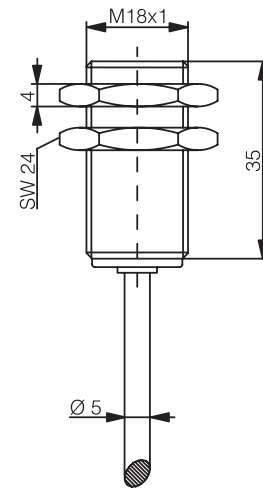
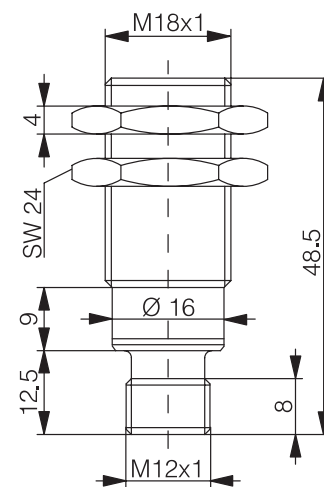
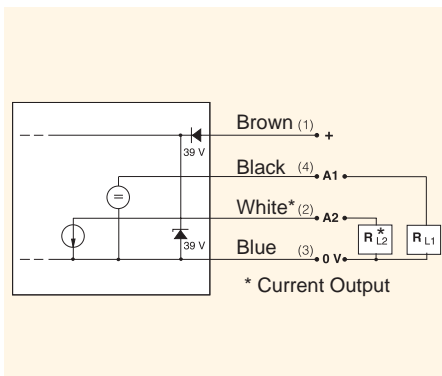


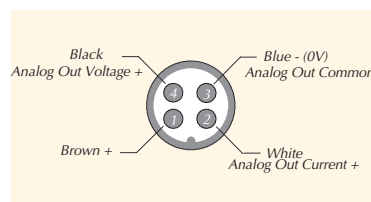
Figure 2



## Wiring diagrams



### Connector



- 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