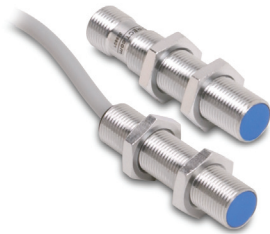


AM Series Analog Inductive Proximity Sensors



M12 (12 mm) metal – analog output

- Voltage or current analog output
- 4 models available
- Metal housing
- Axial cable or M12 quick-disconnect models
- IP67 rated
- Purchase cable separately (for quick-disconnect model)
- Lifetime warranty



AM Series M12 Analog Inductive Prox Selection Chart

| Part Number | Price | Sensing Range | Housing | Output | Connection | Dimensions |
|-------------|----------|-----------------------|----------|---------------------|-----------------------|------------|
| AM9-05-1A | \$114.00 | 0 to 6 mm (0-0.24 in) | Shielded | 0 - 5 VDC or 1-5 mA | 2 m (6.5) axial cable | Figure 1 |
| AM9-05-1H | \$114.00 | | | | M12 (12 mm) connector | Figure 2 |
| AM9-10-1A | \$127.00 | 0 to 6 mm (0-0.24 in) | | 0-10 VDC or 4-20 mA | 2 m (6.5) axial cable | Figure 1 |
| AM9-10-1H | \$127.00 | | | | M12 (12 mm) connector | Figure 2 |

Specifications

| Mounting Type | AM9-05-1* | AM9-10-1* |
|---|--|--------------------------------|
| | | Shielded |
| Nominal Sensing Distance | 0 to 6 mm (0-0.24 in) | 0 to 6 mm (0-0.24 in) |
| Operating Distance | NA | |
| Material Correction Factors | See the Material influence table | |
| Output Type | 0-5 VDC or 1-5 mA | 0-10 VDC or 4-20 mA |
| Current Output Max. Load / Power Supply | 1 kΩ / 10 VDC; 5 kΩ / 30 VDC | 0.5 kΩ / 15 VDC; 1 kΩ / 30 VDC |
| Voltage Output Min. Load | 500 Ω | 1 kΩ |
| Operating Voltage | 10 -30 VDC | 15 -30 VDC |
| No-load Supply Current | ≤10 mA | ≤12 mA |
| Operating (Load) Current | 1 kΩ | 0.5 kΩ |
| Off-state (Leakage) Current | NA | |
| Voltage Drop | ≤2.0 V | |
| Switching Frequency | NA | |
| Differential Travel (# of Nominal Distance) | NA | |
| Repeat Accuracy | ±0.01 mm | |
| Ripple | ≤20% | |
| Response Time | 1 ms | |
| Time Delay Before Availability (tv) | ≤50 ms | |
| Reverse Polarity Protection | Yes | |
| Short-Circuit Protection | Yes (switch auto-resets after overload is removed) | |
| Operating Temperature | -25° to +70° C (-13° to 158° F) | |
| Protection Degree (DIN 40050) | IEC IP67 | |
| Indication/Switch Status | NA | |
| Housing Material | Chrome-plated brass | |
| Sensing Face Material | Polybutylene Terephthalate (PBT) | |
| Shock / Vibration | See Proximity Sensor Terminology | |
| Tightening Torque | 10 Nm (7.37 lb-ft) | |
| Weight (cable/M8 connector) | 95 g (3.35 oz.) / 33 g (1.16 oz.) | |
| Connection | 2 m (6.5) axial cable or M12 (12 mm) connector | |
| Agency Approvals | UL file E328811 | |

Dimensions

mm [inches]

Figure 1

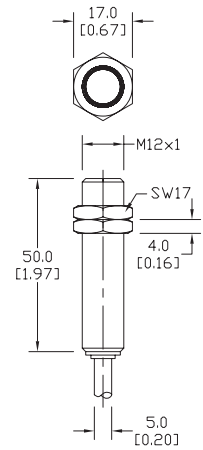
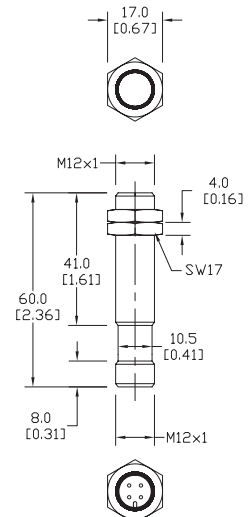
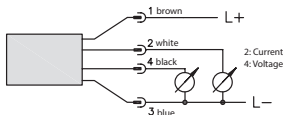


Figure 2



Wiring diagram



Connector

M12 connector



Sensors with M12 connectors must use 2M or 7M cables (4-wire).

Accessories for 12mm Sensors

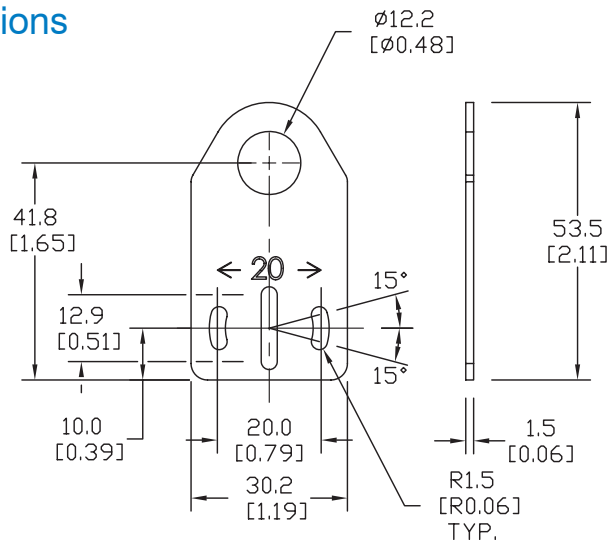
Axial Mounting Bracket

Mounting bracket, axial, zinc-plated steel. For use with 12mm sensors. Has two mounting holes (use 3mm screws) and allows the rotation of an optical axis for right-angle adapter sensors. Hexagonal nuts not included.

| Accessories for 12mm Sensors | | | |
|------------------------------|--------|---|-------------|
| Part Number | Price | Description | Weight (lb) |
| ST12A | \$2.00 | Mounting bracket, axial, zinc-plated steel. For use with 12mm sensors. 1/pk. | 0.03 |
| ST12A7W | \$6.00 | Mounting bracket, axial, 316L stainless steel. For use with 12mm sensors. 1/pk. | 0.03 |

Dimensions

mm [inches]



ST12A

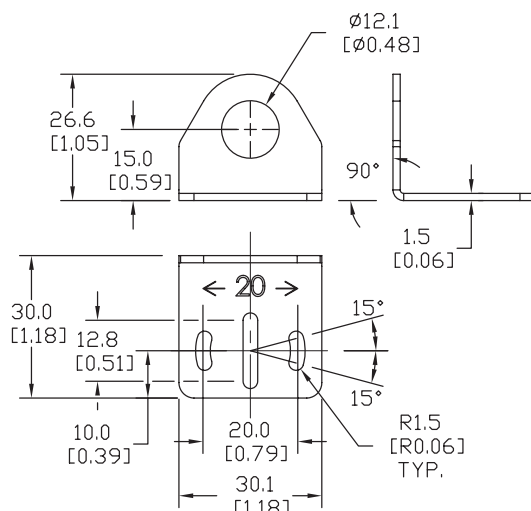
Right-angle Mounting Bracket

Mounting bracket, right-angle, zinc-plated steel or 316L stainless steel. For use with 12mm sensors. Has two mounting holes (use 3mm screws) and allows the rotation of an optical axis for axial sensors. Hexagonal screws not included.

| Accessories for 12mm Sensors | | | |
|------------------------------|--------|---|-------------|
| Part Number | Price | Description | Weight (lb) |
| ST12C | \$2.00 | Mounting bracket, right angle, zinc-plated steel. For use with 12mm sensors. 1/pk. | 0.03 |
| ST12C7W | \$6.00 | Mounting bracket, right angle, 316L stainless steel. For use with 12mm sensors. 1/pk. | 0.03 |

Dimensions

mm [inches]



ST12C

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

Accessories for 12mm Sensors

Right-angle Mounting Brackets

Mounting bracket, right-angle, fixed insertion stop adjustment, plastic. For use with 12mm sensors. Available with or without fixed insertion stop.

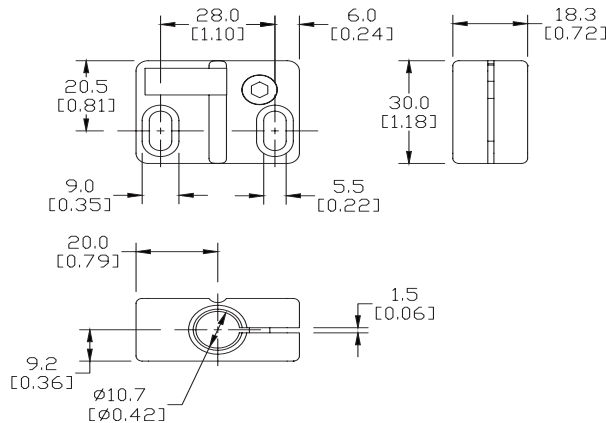
| Accessories for 12mm Sensors | | | | | |
|------------------------------|--------|---|-------------|--|--|
| Part Number | Price | Description | Weight [lb] | | |
| OPT2102 | \$6.00 | Mounting bracket, right-angle, fixed insertion stop adjustment, plastic. For use with 12mm sensors. | 0.05 | | |
| OPT2103 | \$6.00 | Mounting bracket, right-angle, plastic. For use with 12mm sensors. | 0.05 | | |



OPT2102, OPT2103

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 12mm sensors. Available in all stainless steel or with an aluminum head and stainless steel mounting plate.

| Accessories for 12mm Sensors | | | | | |
|------------------------------|---------|---|---------------------|---------------------|-------------|
| Part Number | Price | Description | Mounting Head | Mounting Plate | Weight [lb] |
| OPT2114 | \$9.00 | Mounting bracket, right-angle swivel, 360 vertical and horizontal adjustment, aluminum, 12mm rod mount. For use with 12mm sensors. | Aluminum | Stainless Steel | 0.14 |
| OPT2115 | \$16.00 | Mounting bracket, right-angle swivel, 360 vertical and horizontal adjustment, 304 stainless steel, 12mm rod mount. For use with 12mm sensors. | 304 Stainless Steel | 304 Stainless Steel | 0.27 |

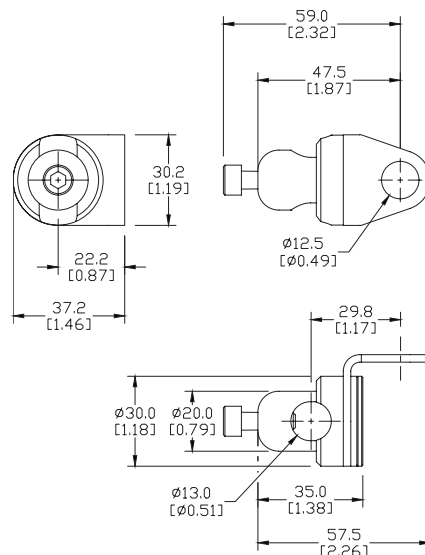
Note: 304 Stainless steel mounting rods sold separately: OPT2109 (200mm length), OPT2110 (300mm length), and OPT2111 (500mm length).



OPT2114, OPT2115

Dimensions

mm [inches]



See our website: 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.

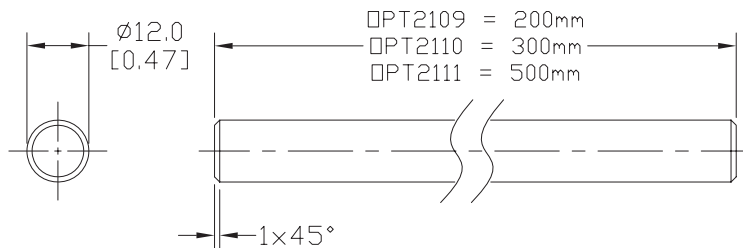
| Mounting Rods for OPT2112-2127 Swivel Mounting Brackets | | | |
|---|---------|---|-------------|
| Part Number | Price | Description | Weight [lb] |
| OPT2109 | \$10.00 | Mounting rod, 12mm diameter, 200mm length, 304 stainless steel. | 0.41 |
| OPT2110 | \$12.00 | Mounting rod, 12mm diameter, 300mm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



OPT2109, OPT2110, OPT2111

Dimensions

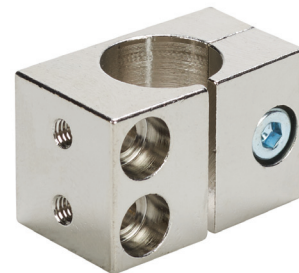
mm [inches]



Right-angle Mounting Bracket

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

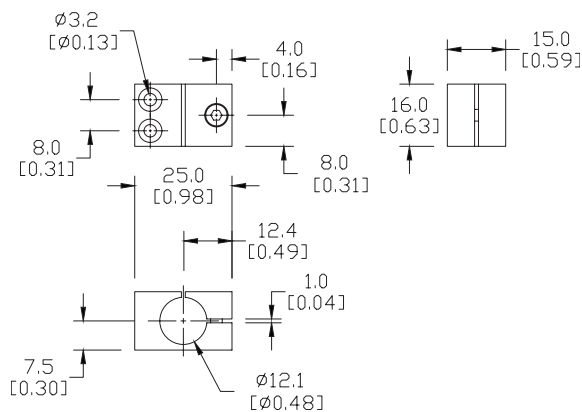
| Accessories for 12mm Sensors | | | |
|------------------------------|---------|---|-------------|
| Part Number | Price | Description | Weight [lb] |
| OPT2108 | \$12.00 | Mounting bracket, right-angle, nickel-plated brass. For use with 12mm mounting rods OPT2109, OPT2110 & OPT2111. | 0.07 |



OPT2108

Dimensions

mm [inches]



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