AT Series Inductive Proximity Sensors

M30 (30 mm) metal – DC

- 24 models available
- Standard and extended distance models available
- 2-wire and 3-wire models
- Axial cable or M12 quick-disconnect models
- LED status indicators are visible 360° around the cylinder
- Complete overload protection
- IP67 rated
- Lifetime warranty

NEED CABLES?

AT Series M30 DC Inductive Prox Selection Chart								
Part Number	**Price**	**Sensing Range**	**Housing**	**Output State**	**Logic**	**Connection**	**Wiring**	**Dimensions**
Standard Distance								
AT1-AN-1A	$27.00	10 mm (0.394 in)	Shielded	NO	NPN	2 m (6.5') axial cable	Diagram 1	Figure 1
AT1-AP-1A	$27.00				PNP	2 m (6.5') axial cable	Diagram 1	Figure 1
AT1-A0-1A	$33.50				Sink/source	2m (6.5') axial cable	Diagram 2	Figure 1
AT1-AN-1H	$27.00				NPN	M12 (12 mm) connector	Diagram 1	Figure 2
AT1-AP-1H	$27.00				PNP	M12 (12 mm) connector	Diagram 1	Figure 2
AT1-A0-1H	$38.00				Sink/source	M12 (12mm) connector	Diagram 2	Figure 2
AT1-AN-2A	$27.00	15 mm (0.591 in)	Unshielded	NO	NPN	2 m (6.5') axial cable	Diagram 1	Figure 1
AT1-AP-2A	$27.00				PNP	2 m (6.5') axial cable	Diagram 1	Figure 1
AT1-A0-2A	$33.50				Sink/source	2 m (6.5') axial cable	Diagram 2	Figure 1
AT1-AN-2H	$27.00				NPN	M12 (12 mm) connector	Diagram 1	Figure 2
AT1-AP-2H	$27.00				PNP	M12 (12 mm) connector	Diagram 1	Figure 2
AT1-A0-2H	$38.00				Sink/source	M12 (12 mm) connector	Diagram 2	Figure 2
Extended Distance								
AT1-AN-3A	$33.50	15 mm (0.591 in)	Shielded	NO	NPN	2 m (6.5') axial cable	Diagram 1	Figure 1
AT1-AP-3A	$33.50				PNP	2 m (6.5') axial cable	Diagram 1	Figure 1
AT1-A0-3A	$37.00				Sink/source	2 m (6.5') axial cable	Diagram 2	Figure 1
AT1-AN-3H	$33.50				NPN	M12 (12 mm) connector	Diagram 1	Figure 2
AT1-AP-3H	$33.50				PNP	M12 (12 mm) connector	Diagram 1	Figure 2
AT1-A0-3H	$37.00				Sink/source	M12 (12 mm) connector	Diagram 2	Figure 2
AT1-AN-4A	$33.50	20 mm (0.787 in)	Unshielded	NO	NPN	2 m (6.5') axial cable	Diagram 1	Figure 1
AT1-AP-4A	$33.50				PNP	2 m (6.5') axial cable	Diagram 1	Figure 1
AT1-A0-4A	$37.00				Sink/source	2 m (6.5') axial cable	Diagram 2	Figure 1
AT1-AN-4H	$33.50				NPN	M12 (12 mm) connector	Diagram 1	Figure 2
AT1-AP-4H	$33.50				PNP	M12 (12 mm) connector	Diagram 1	Figure 2
AT1-A0-4H	$37.00				Sink/source	M12 (12 mm) connector	Diagram 2	Figure 2

Dimensions

mm[inches]

Figure 1

Figure 2
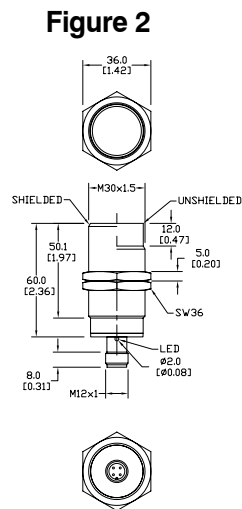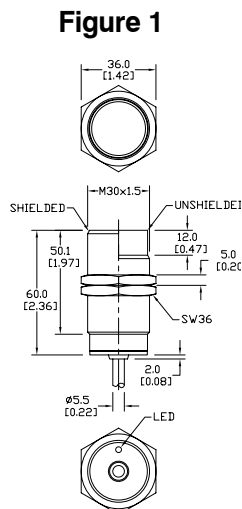
AT Series Inductive Proximity Sensors

AT Series Specifications				
Mounting Type	**Standard Distance Models**		**Extended Distance Models**	
	Shielded	Unshielded	Shielded	Unshielded
Nominal Sensing Distance	10 mm (0.394 in)	15 mm (0.591 in)	15 mm (0.591 in)	20 mm (0.787 in)
Operating Distance	NA			
Material Correction Factors	See the Material influence table			
Output Type	Three wire: NPN or PNP/NO (normally open) / Two wire: sink/source, NO only			
Operating Voltage	10 to 30 VDC			
No-load Supply Current	≤ 20 mA			
Operating (Load) Current	3 wire: ≤400mA / 2-wire: 3-100mA		2-wire and 3-wire:≤400mA	
Off-state (Leakage) Current	3-wire:≤10µA / 2-wire: ≤0.8mA max.		3-wire ≤8µA / 2-wire: ≤0.8mA max.	
Voltage Drop	3-wire: ≤1 volt max. / 2-wire: ≤2.8V≤10%		3-wire: ≤1 volt max. / 2-wire: ≤2.8V	
Switching Frequency	3-wire: 200Hz / 2-wire: 150Hz		2-and 3-wire:150Hz	
Differential Travel	2 to 10%		2 to 15%	
Repeat Accuracy	3-wire: 2% / 2-wire: 5%		2-wire and 3-wire: 5%	
Ripple	≤10%			
Time Delay Before Availability (tv)	3-wire: 100ms / 2-wire: 50ms		3-wire:100ms / 2-wire: 50ms	
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); drift: 10% Sr			
Protection Degree (DIN 40050)	IEC IP67			
Indication/Switch Status	Yellow (NO output energized)			
Housing Material	Nickel-plated brass			
Sensing Face Material	Polybutylene Terephthalate (PBT)			
Shock/Vibration	See Proximity Sensor Terminology			
Tightening Torque	50 Nm (36.88 lbs-ft.)			
Weight	A type (w/ cable): 180 g (6.35 oz) H type: 110 g (3.88 oz)			
Connection	2 meter axial cable or M12 connector			
Agency Approvals	NA			

Wiring diagrams

Connector

M12 connector

Diagram 1

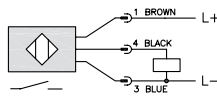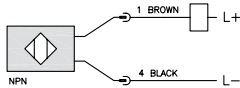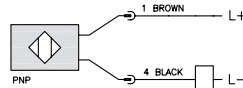**NPN Output**
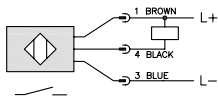
PNP Output

Diagram 2

Sink/Source Output

Sink/Source Output

Wiring diagram when sensor is wired in sinking mode used with a sourcing module.
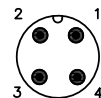
Wiring diagram when sensor is wired in sourcing mode used with a sinking module.

Note: Negative (-) lead is Black on M12 quick disconnect cables and Blue on axial cables.
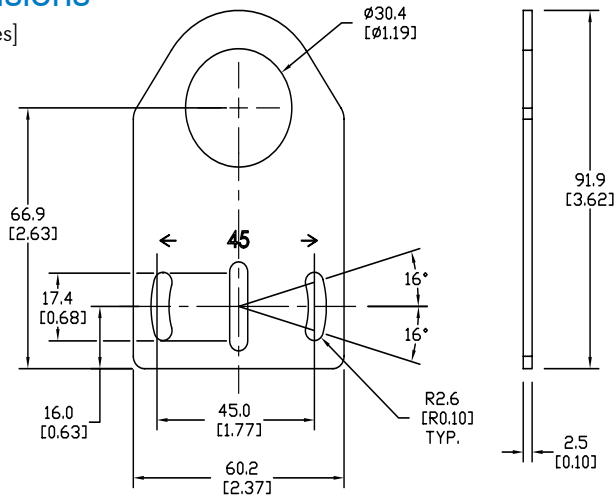
Accessories for 30mm Sensors

Axial Mounting Bracket

Mounting bracket, axial, zinc-plated steel. For use with 30mm sensors. Has two mounting holes (use 5mm screws) and allows the rotation of an optical axis for right-beam-angle-adapter sensors. Hexagonal nuts not included.

Accessories for 30mm Sensors			
Part Number	Price	Description	Weight [lb]
ST30A	$2.00	Mounting bracket, axial, zinc-plated steel. For use with 30mm sensors. 1/pk.	0.18

Dimensions

mm [inches]

Ø30.4 [Ø1.19]
91.9 [3.62]
66.9 [2.63]
17.4 [0.68]
45
16°
16°
16.0 [0.63]
45.0 [1.77]
R2.6 [R0.10] TYP.
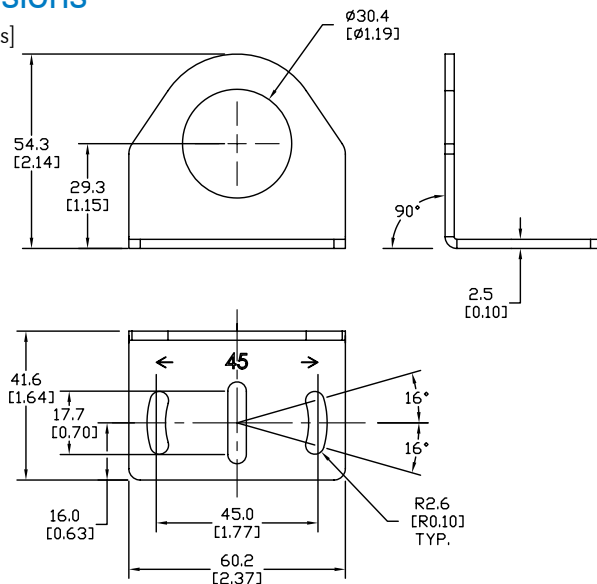60.2 [2.37]
2.5 [0.10]

ST30A

Right-angle Mounting Bracket

Mounting bracket, right-angle, zinc-plated steel. For use with 30mm sensors. Has two mounting holes (use 5mm screws) and allows the rotation of an optical axis for axial sensors. Hexagonal nuts not included.

Accessories for 30mm Sensors			
Part Number	Price	Description	Weight [lb]
ST30C	$2.00	Mounting bracket, right angle, zinc-plated steel. For use with 30mm sensors. 1/pk.	0.18

Dimensions

mm [inches]

Ø30.4 [Ø1.19]
54.3 [2.14]
29.3 [1.15]
90°
2.5 [0.10]
41.6 [1.64]
17.7 [0.70]
45
16°
16°
16.0 [0.63]
45.0 [1.77]
R2.6 [R0.10] TYP.
60.2 [2.37]

ST30C

See our website: www.AutomationDirect.com for complete engineering drawings
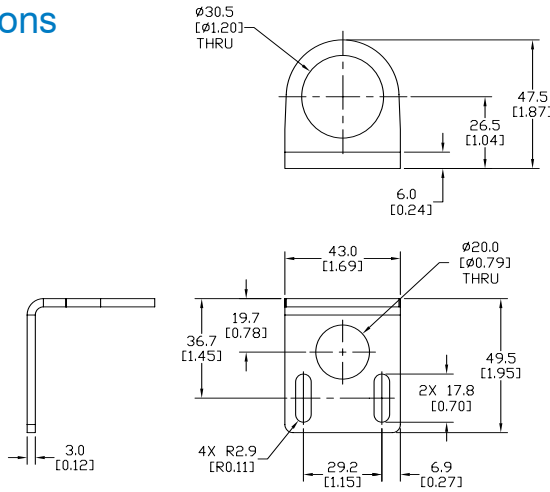
Accessories for 30mm Sensors

Right-angle Mounting Bracket

Mounting bracket, right-angle, 304 stainless steel. For use with 30mm sensors.

Accessories for FW Series Sensors			
Part Number	Price	Description	Weight [lb]
ST30C6W	$2.50	Mounting bracket, right angle, 304 stainless steel. For use with 30mm sensors.	0.15

Dimensions
mm [inches]

ø30.5 [ø1.20] THRU
47.5 [1.87]
26.5 [1.04]
6.0 [0.24]

43.0 [1.69]
ø20.0 [ø0.79] THRU
19.7 [0.78]
36.7 [1.45]
49.5 [1.95]
2X 17.8 [0.70]
3.0 [0.12]
4X R2.9 [R0.11]
29.2 [1.15]
6.9 [0.27]

ST30C6W
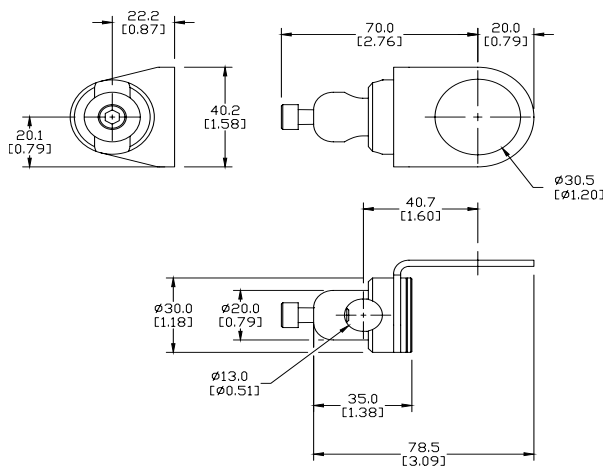
Right-angle Swivel Mounting Systems

Mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment, 12mm rod mount. For use with 30mm sensors. Available in all 304 stainless steel or with an aluminum head with a 304 stainless steel mounting plate.

Accessories for 30mm Sensors					
Part Number	Price	Description	Mounting Head	Mounting Plate	Weight [lb]
OPT2118	$9.25	Mounting bracket, right-angle swivel, 360 vertical and horizontal adjustment, aluminum, 12mm rod mount. For use with 30mm sensors.	Aluminum	304 Stainless Steel	0.18
OPT2119	$16.50	Mounting bracket, right-angle swivel, 360 vertical and horizontal adjustment, 304 stainless steel, 12mm rod mount. For use with 30mm sensors.	304 Stainless Steel	304 Stainless Steel	0.30

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

Dimensions
mm [inches]

22.2 [0.87]
70.0 [2.76]
20.0 [0.79]
40.2 [1.58]
20.1 [0.79]
ø30.5 [ø1.20]
40.7 [1.60]
ø30.0 [1.18]
ø20.0 [0.79]
ø13.0 [ø0.51]
35.0 [1.38]
78.5 [3.09]

OPT2118, OPT2119

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	$10.50	Mounting rod, 12mm diameter, 200mm length, 304 stainless steel.		0.41
OPT2110	$12.50	Mounting rod, 12mm diameter, 300mm length, 304 stainless steel.		0.60
OPT2111	$16.50	Mounting rod, 12mm diameter, 500mm length, 304 stainless steel.		0.98

OPT2109, OPT2110, OPT2111

Dimensions

mm [inches]
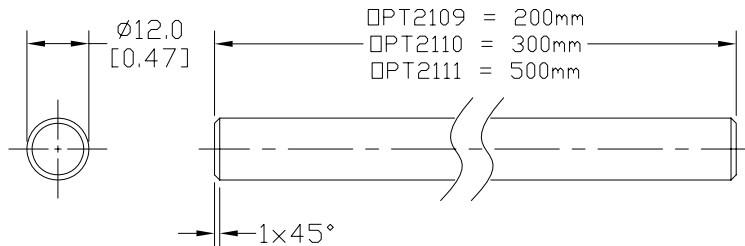
Ø12.0 [0.47]

OPT2109 = 200mm
OPT2110 = 300mm
OPT2111 = 500mm

1×45°

Right-angle Mounting Bracket

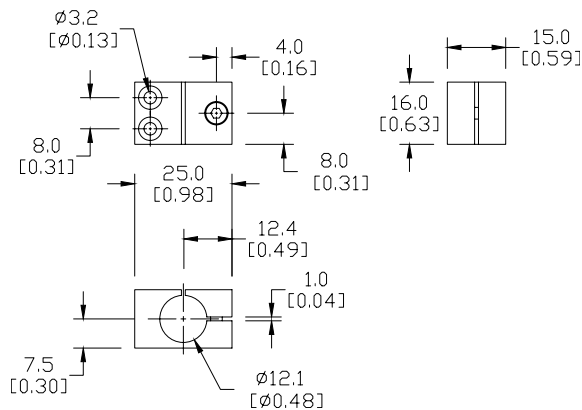Mounting bracket, right-angle, nickel-plated brass. For use with 12mm mounting rods OPT2109, OPT2110 & OPT2111.

Accessories for 12mm Sensors				
Part Number	Price	Description		Weight [lb]
OPT2108	$12.50	Mounting bracket, right-angle, nickel-plated brass. For use with 12mm mounting rods OPT2109, OPT2110 & OPT2111.		0.07

OPT2108

Dimensions

mm [inches]

Ø3.2 [Ø0.13]
4.0 [0.16]
15.0 [0.59]
8.0 [0.31]
16.0 [0.63]
25.0 [0.98]
8.0 [0.31]
12.4 [0.49]
1.0 [0.04]
7.5 [0.30]
Ø12.1 [Ø0.48]

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