

# MQ Series Photoelectric Sensors

## M18 (18 mm) plastic - AC



The MQ series is an AC diffuse photoelectric with a unique 90° optic package for mounting in space-limited applications. This series fits in a standard 18 mm mounting bracket or mounting hole, and is available in a choice of 20-250 VAC outputs in NO or NC configurations with an M12 disconnect. All MQ models include background suppression with maximum available sensing distances of 50 mm or 100 mm.

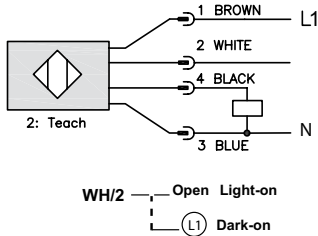
### Features

- Diffuse with background suppression
- Models with 50 mm or 100 mm maximum reading distance
- M12 plug connection
- Plastic housing
- Supply voltage 20 - 253 VAC
- LED output status indicator
- Light - ON, Dark - ON selectable
- IP67 housing protection

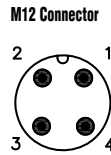


18mm AC Photoelectric Reflection Sensors with Background Suppression Selection Chart								
Part Number	Price	Voltage Range	Sensing Range	Switching Frequency	Sensing Beam	Thru-Beam Component	Output Type	Connection Type
<b>MQ0-00-0E</b>	\$59.00	20 to 253 VAC	50 mm	25 Hz	Infrared	NO/NC background suppression	TRIAC LO/DO selectable	M12 quick disconnect (purchase cable separately)
<b>MQ1-00-0E</b>	\$59.00		100 mm					M12 quick disconnect (purchase cable separately)

### Wiring Diagram



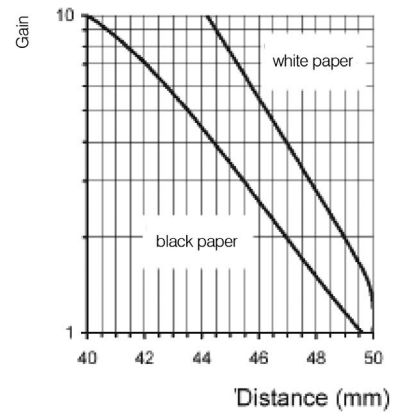
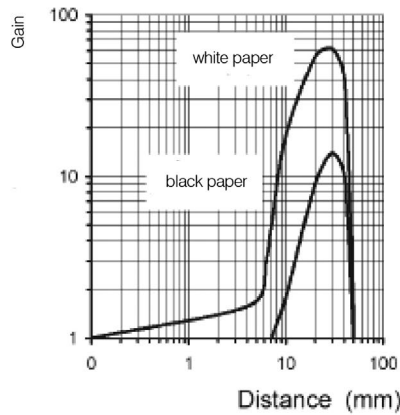
### Connector



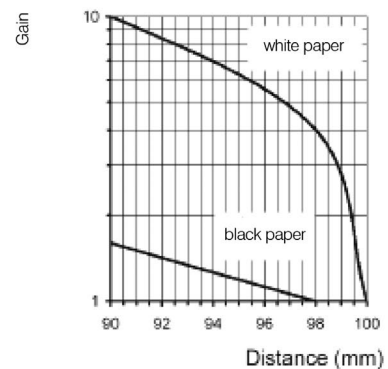
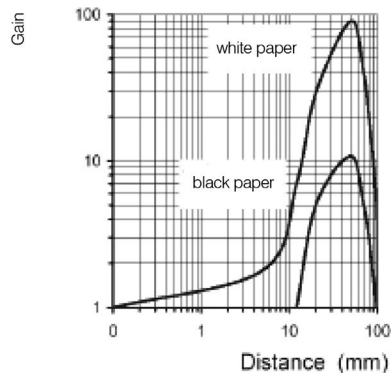
<b>NO</b>	Light ON
<b>NC</b>	Dark ON

### Characteristic Curves

**MQ0-00-0E**



**MQ1-00-0E**

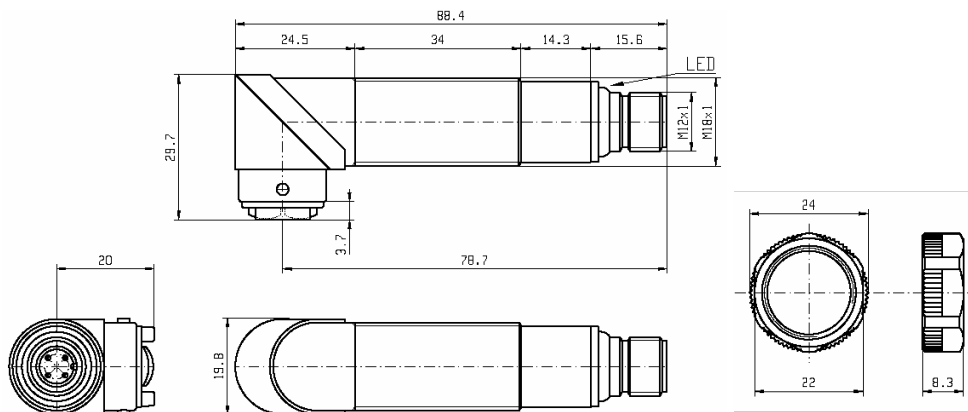


# MQ Series Photoelectric Sensors

MQ Series Photoelectric Sensors Specifications	
<b>Type</b>	<b>18 mm Diffuse with Background Suppression, 90° Radial Optic</b>
<b>Model Series</b>	MQ0/MQ1
<b>Sensing Distance</b>	50 mm / 100 mm
<b>LightSpot Diameter</b>	0.6 mm @ 50 mm/0.9 mm @ 100 mm
<b>Emission</b>	Infrared (C880nm)
<b>Sensitivity</b>	Fixed
<b>Output Types</b>	TRIAC
<b>Operating Voltage</b>	20 - 253 VAC
<b>No Load Supply Current</b>	40 mA
<b>Operating (Load) Current</b>	<300 mA
<b>Off-state (Leakage) Current (max)</b>	≤ 1.5 mA @ 250 VAC
<b>Voltage Drop</b>	3V @ 300 mA
<b>Switching Frequency</b>	25 Hz
<b>Ripple</b>	≤10%
<b>Time Delay Before Availability (tv)</b>	200 ms
<b>Short-circuit Protection</b>	Yes
<b>Operating Temperature</b>	13°F to 158°F (-25°C to +70°C)
<b>Protection Degree (DIN 40050)</b>	IP67
<b>LED Indicators - Switching Status</b>	Yellow Output State
<b>Housing Material</b>	Polybutylene Terephthalate (PBT)
<b>Lens Material</b>	Poly methyl methacrylate (PMMA)
<b>Shock/Vibration</b>	See terminology section
<b>Tightening Torque</b>	1 Nm (0.74 lb-ft)
<b>Weight</b>	34.473 g (1.216 oz)
<b>Connectors</b>	M12 quick disconnect
<b>Agency Approvals</b>	UL Recognized E130644, CE

## Dimensions

(mm)



**Warning: These products are not safety sensors and are not suitable for use in personal safety applications.**

# Accessories for 18mm Sensors

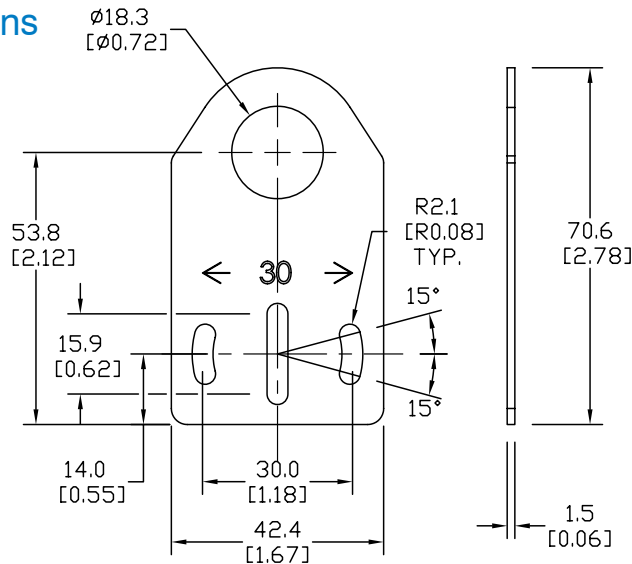
## Axial Mounting Bracket

Axial mounting bracket for use with 18mm sensors. Has two mounting holes (use 4mm screws) and allows for rotation of an optical axis for right-beam-angle-adaptor sensors. Hexagonal nuts not included.

Accessories for 18mm Sensors			
Part Number	Price	Description	Weight [lb]
ST18A	\$2.00	Mounting bracket, axial, zinc-plated steel. For use with 18mm sensors. 1/pk.	0.06
ST18A7W	\$2.00	Mounting bracket, axial, 316L stainless steel. For use with 18mm sensors. 1/pk.	0.06

### Dimensions

mm [inches]



ST18A

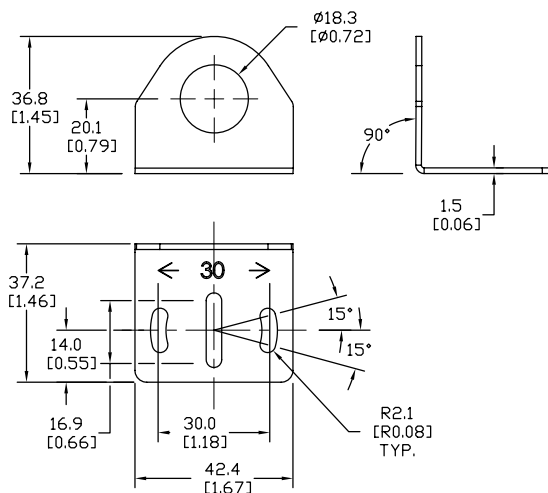
## Right-angle Mounting Bracket

Right-angle mounting bracket for use with 18mm sensors. Has two mounting holes (use 4mm screws) and allows the rotation of an optical axis for axial sensors. Hexagonal nuts not included.

Accessories for 18mm Sensors			
Part Number	Price	Description	Weight [lb]
ST18C	\$2.00	Mounting bracket, right angle, zinc-plated steel. For use with 18mm sensors. 1/pk.	0.06
ST18C7W	\$2.00	Mounting bracket, right angle, 316L stainless steel. For use with 18mm sensors. 1/pk.	0.06

### Dimensions

mm [inches]



ST18C

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# Accessories for 18mm Sensors

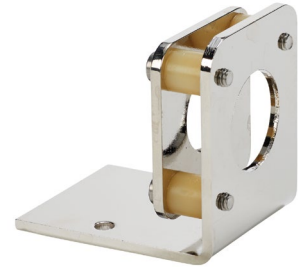
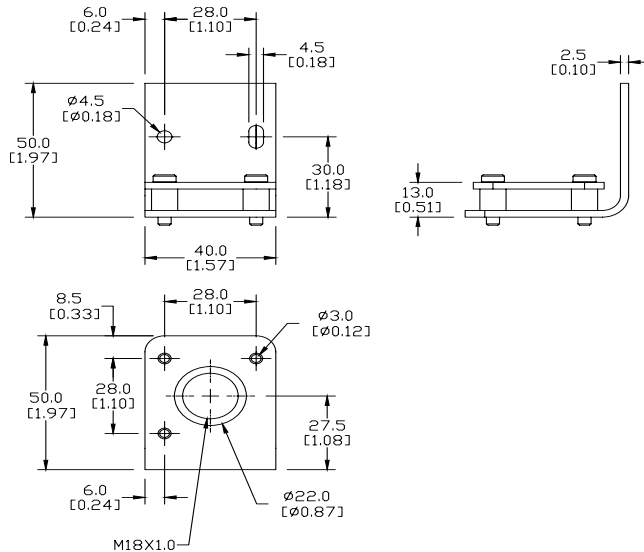
## Right-angle Fine Tune Mounting Bracket

Mounting bracket, right-angle, fine tune vertical and horizontal adjustment, nickel-plated steel. For use with 18mm sensors. Allows for fine tuning vertical and horizontal placement.

Accessories for 18mm Sensors			
Part Number	Price	Description	Weight [lb]
<b>OPT2036</b>	\$30.00	Mounting bracket, right-angle, fine tune vertical and horizontal adjustment, nickel-plated steel. For use with 18mm sensors.	0.02

### Dimensions

mm [inches]



**OPT2036**

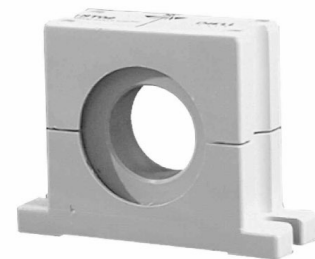
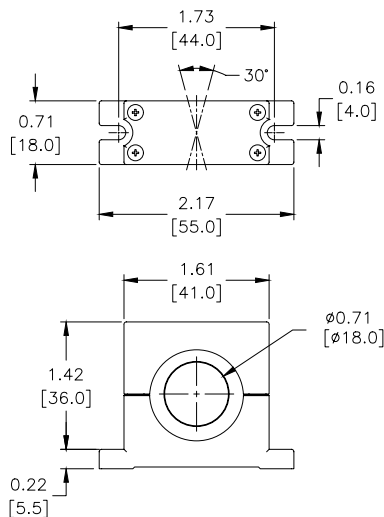
## Swivel Mounting Bracket

Mounting bracket, ball swivel, plastic. For use with 18mm sensors. Has a ball-joint and set screws to adjust sensor orientation. Allows angular orientation up to 15 degrees (from center) in all directions for photoelectric sensors (Will not work with C18 series).

Accessories for 18mm Sensors			
Part Number	Price	Description	Weight [lb]
<b>ST02</b>	\$2.00	Mounting bracket, ball swivel, plastic. For use with 18mm sensors.	0.06

### Dimensions

mm [inches]



**ST02**

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# Accessories for 18mm Sensors

## Right-angle Mounting Brackets

Mounting bracket, right-angle, fixed insertion stop adjustment, plastic. For use with 18mm sensors. Available with or without fixed insertion stop.

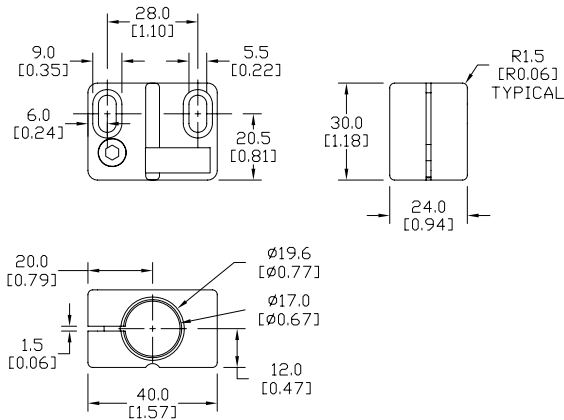
Accessories for 18mm Sensors					
Part Number	Price	Description	Mounting Head	Mounting Plate	Weight [lb]
<b>OPT2104</b>	\$8.25	Mounting bracket, right-angle, fixed insertion stop adjustment, plastic. For use with 18mm sensors.	Aluminum	304 Stainless Steel	0.06
<b>OPT2105</b>	\$8.25	Mounting bracket, right-angle, plastic. For use with 18mm sensors.	304 Stainless Steel	304 Stainless Steel	0.06



**OPT2104, OPT2105**

## 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 18mm sensors. Available in all 304 stainless steel or with an aluminum head and a stainless steel mounting plate.

Accessories for 18mm Sensors					
Part Number	Price	Description	Mounting Head	Mounting Plate	Weight [lb]
<b>OPT2116</b>	\$9.25	Mounting bracket, right-angle swivel, 360 vertical and horizontal adjustment, aluminum, 12mm rod mount. For use with 18mm sensors.	Aluminum	304 Stainless Steel	0.15
<b>OPT2117</b>	\$16.50	Mounting bracket, right-angle swivel, 360 vertical and horizontal adjustment, 304 stainless steel, 12mm rod mount. For use with 18mm sensors.	304 Stainless Steel	304 Stainless Steel	0.28

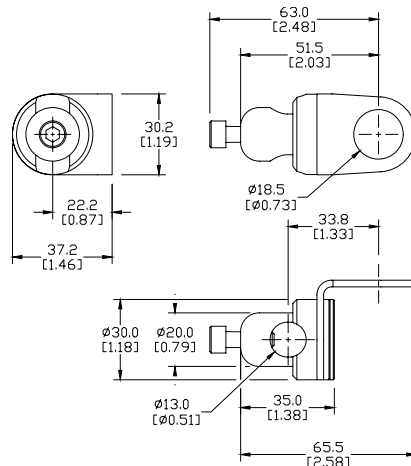


**OPT2116, OPT2117**

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

## Dimensions

mm [inches]



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# Mounting Rods

## Mounting Rods

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

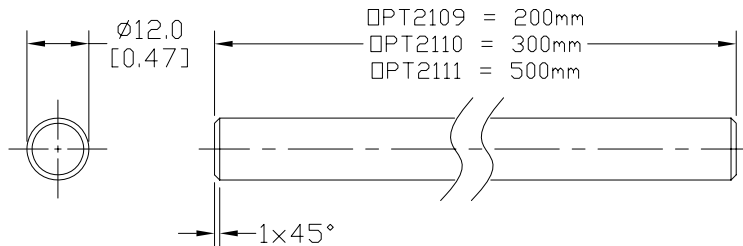
Mounting Rods for OPT2112-2127 Swivel Mounting Brackets			
Part Number	Price	Description	Weight [lb]
<b>OPT2109</b>	\$10.50	Mounting rod, 12mm diameter, 200mm length, 304 stainless steel.	0.41
<b>OPT2110</b>	\$12.50	Mounting rod, 12mm diameter, 300mm length, 304 stainless steel.	0.60
<b>OPT2111</b>	\$16.50	Mounting rod, 12mm diameter, 500mm length, 304 stainless steel.	0.98



**OPT2109, OPT2110, OPT2111**

## Dimensions

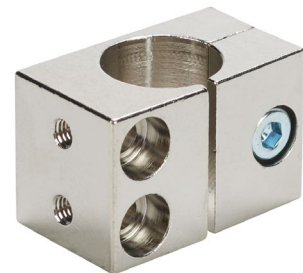
mm [inches]



## Right-angle Mounting Bracket

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

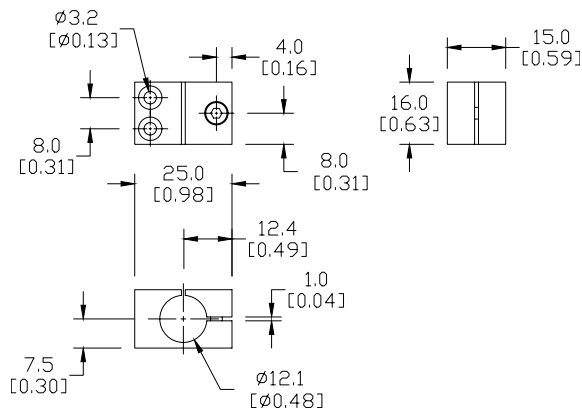
Accessories for 12mm Sensors			
Part Number	Price	Description	Weight [lb]
<b>OPT2108</b>	\$12.50	Mounting bracket, right-angle, nickel-plated brass. For use with 12mm mounting rods OPT2109, OPT2110 & OPT2111.	0.07



**OPT2108**

## Dimensions

mm [inches]



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