

MS Series Photoelectric Sensors



M18 (18mm) plastic with background suppression - DC

- 4 models available
- Diffuse reflection with background suppression
- Plastic housing
- Axial cable or M12 quick-disconnect models
- NPN, PNP, N.O./N.C. selectable output
- IP67 rated



MS Series Photoelectric Selection Chart								
Part Number	Price	Sensing Range	Output State	Logic	Connection	Wiring	Dimensions	Characteristic Curves
MS0-00-0A	\$65.00	50mm (1.97in)	N.O./N.C. selectable	NPN/PNP selectable	2m (6.5') axial cable	Diagram 1 or Diagram 2	Figure 1	Chart 1
MS0-00-0E	\$65.00				M12 (12mm) connector		Figure 2	Chart 1
MS1-00-0A	\$65.00	100mm (3.94in)	N.O./N.C. selectable	NPN/PNP selectable	2m (6.5') axial cable		Figure 1	Chart 2
MS1-00-0E	\$65.00				M12 (12mm) connector		Figure 2	Chart 2

Wiring diagrams

Diagram 1

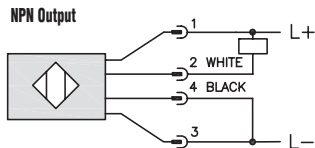
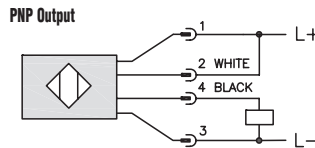
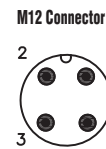


Diagram 2



Note For Diagram 1 and Diagram 2: For N.O. - Brown 1 to L+ and Blue 3 to L-
For N.C. - Blue 3 to L+ and Brown 1 to L-

Connector



Dimensions

in/mm)

Figure 1

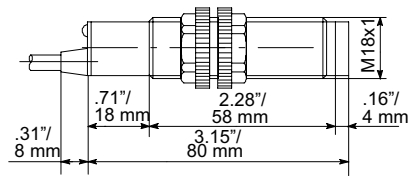
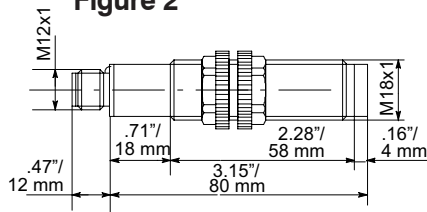


Figure 2



Characteristic curves

Chart 1 (MS0)

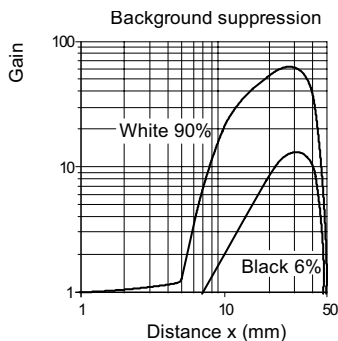
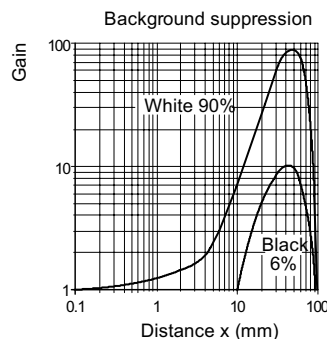


Chart 2 (MS1)



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

MS Series Photoelectric Sensors

MS Series Specifications	Standard Distance	Extended Distance
Type	Diffuse reflection with background suppression	
Sensing Distance	50mm ¹	100mm ¹
Light Spot Diameter	0.6 mm @ 50mm	0.9 mm @ 100mm
Emission	Infrared (880nm)	
Sensitivity	Fixed	
Output Type	NPN/PNP selectable; N.O./N.C. selectable	
Operating Voltage	10-30VDC	
No-load Supply Current	40mA	
Operating (Load) Current	≤ 100mA	
Off-state (Leakage) Current	≤ 10μA	
Voltage Drop	≤ 1.2volt maximum at 100mA	
Switching Frequency	80Hz	
Ripple	≤ 10%	
Time Delay Before Availability (tv)	200ms	
Short-Circuit Protection	Yes (switch autoresets after overload is removed)	
Operating Temperature	-25° to + 70° C (-13° to 158° F)	
Protection Degree (DIN 40050)	IEC IP67	
LED Indicators - Switching Status	Red (output energized)	
Housing Material	Polybutylene Terephthalate (PBT) plastic housing, polycarbonate (PC) cable exit	
Lens Material	Plexiglass 7N	
Shock/Vibration	See terminology section	
Tightening Torque	1 Nm (0.74 lb-ft)	
Weight	150g (5.29 oz)	
Connectors	2m (6.5') axial cable; M12 (12mm) connector	
Agency Approvals	CE	

¹With 100x100mm white matte paper

Accessories for 18mm Sensors

Axial Mounting Bracket

Axial mounting bracket available in zinc plated steel or 316L stainless steel. 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. For use with 18mm sensors.

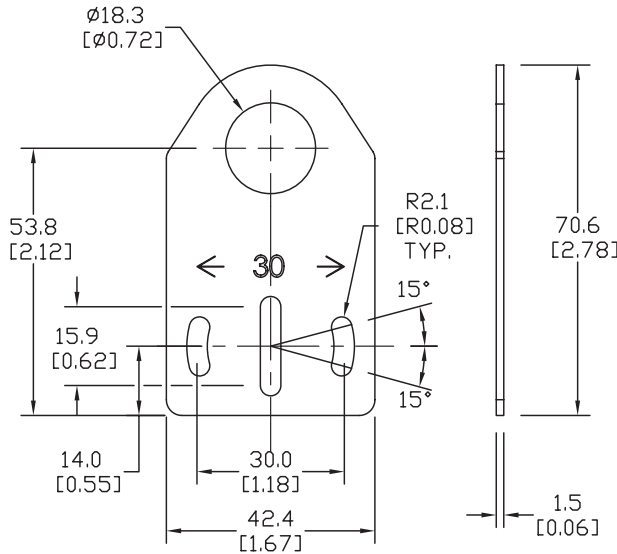
Accessories for 18mm Sensors			
Part Number	Price	Description	Weight lb (g)
ST18A	\$2.00	Mounting bracket, axial, zinc plated steel. For use with 18mm sensors.	0.06 (27.2)
ST18A7W	\$6.75	Mounting bracket, axial, 316L stainless steel. For use with 18mm sensors.	0.06 (27.2)



ST18A

Dimensions

mm [inches]



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.

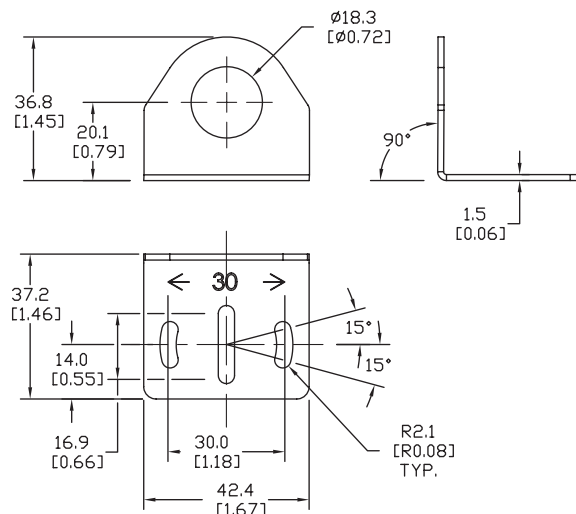
Accessories for 18mm Sensors			
Part Number	Price	Description	Weight lb (g)
ST18C	\$2.00	Mounting bracket, right-angle, zinc plated steel. For use with 18mm sensors.	0.06 (27.2)
ST18C7W	\$6.75	Mounting bracket, right-angle, 316L stainless steel. For use with 18mm sensors.	0.06 (27.2)



ST18C

Dimensions

mm [inches]



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Accessories for 18mm Sensors

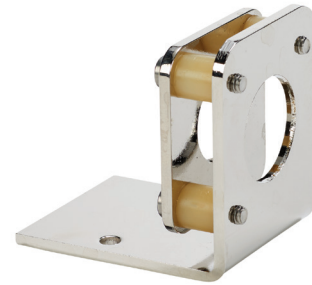
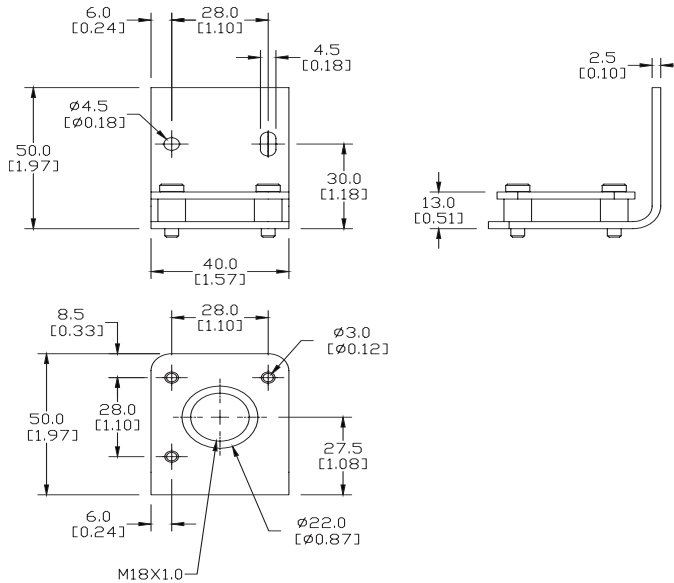
Right-angle Fine Tune Mounting Bracket

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]
OPT2036	\$32.50	Wenglor mounting bracket, right-angle, fine tune vertical and horizontal adjustment, nickel plated steel. For use with 18mm sensors.	0.02

Dimensions

mm [inches]



OPT2036

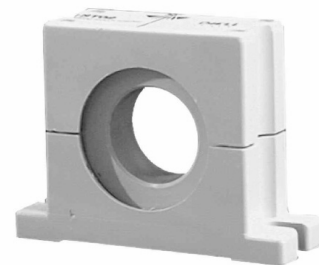
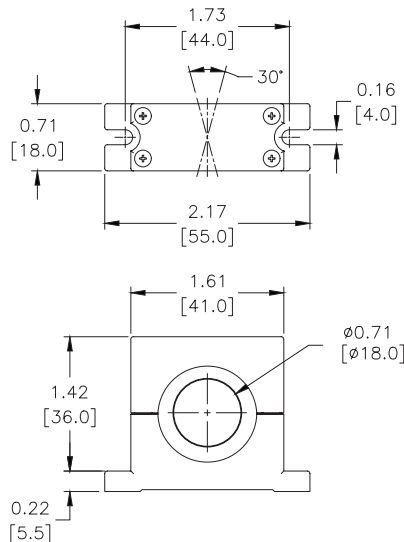
Swivel Mounting Bracket

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]
ST02	\$9.00	Mounting bracket, ball swivel, plastic. For use with 18mm sensors.	0.06

Dimensions

mm [inches]



ST02

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Accessories for 18mm Sensors

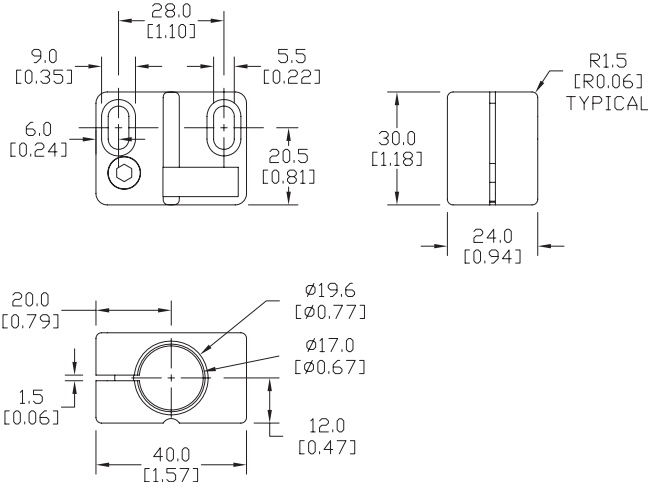
Right-angle Mounting Brackets

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	Weight lb (g)
OPT2104	\$8.75	Wenglor mounting bracket, right-angle, fixed insertion stop adjustment, plastic. For use with 18mm sensors.	0.06 (27.2)
OPT2105	\$8.75	Wenglor mounting bracket, right-angle, plastic. For use with 18mm sensors.	0.06 (27.2)

Dimensions

mm [inches]



OPT2104, OPT2105

Right-angle Swivel Mounting Systems

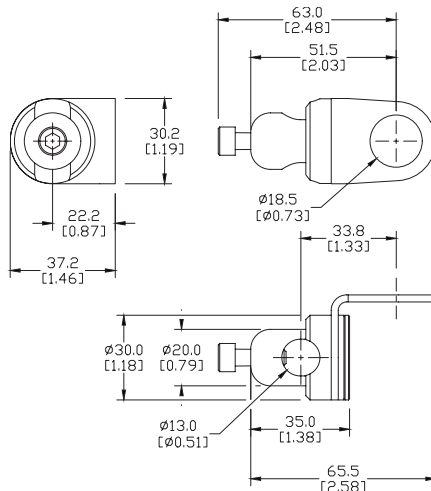
Mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment, 12mm rod mount. For use with 18mm sensors. Available in all 304 stainless steel or with an aluminum head and a stainless steel mounting plate.

Accessories for 18mm Sensors					
Part Number	Price	Description	Mounting Head	Mounting Plate	Weight lb (g)
OPT2116	\$9.75	Wenglor mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment, aluminum, 12mm rod mount. For use with 18mm sensors.	Aluminum	304 Stainless steel	0.15 (68.0)
OPT2117	\$17.50	Wenglor mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment, 304 stainless steel, 12mm rod mount. For use with 18mm sensors.	304 Stainless steel	304 Stainless steel	0.28 (127.0)

Note: 304 Stainless steel mounting rods sold separately: OPT2109 (200mm [7.87 in] length), OPT2110 (300mm [11.81 in] length), and OPT2111 (500mm [19.69 in] length).

Dimensions

mm [inches]



OPT2116, OPT2117

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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.

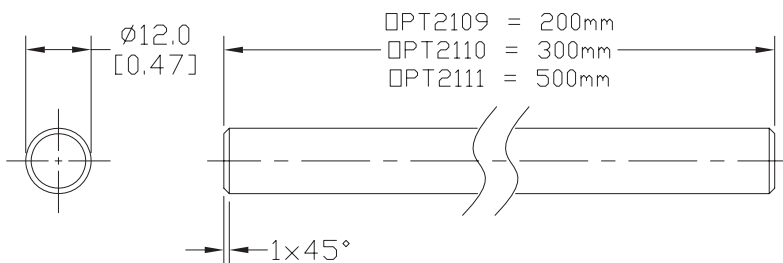
Mounting Rods for OPT2112-2127 Swivel Mounting Brackets			
Part Number	Price	Description	Weight lb (g)
OPT2109	\$11.00	Wenglor mounting rod, 12mm diameter, 200mm length, 304 stainless steel.	0.41 (185.97)
OPT2110	\$13.50	Wenglor mounting rod, 12mm diameter, 300mm length, 304 stainless steel.	0.60 (272.16)
OPT2111	\$17.50	Wenglor mounting rod, 12mm diameter, 500mm length, 304 stainless steel.	0.98 (444.52)



OPT2109, OPT2110, OPT2111

Dimensions

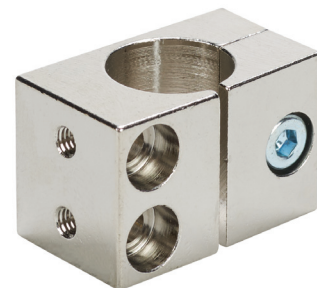
mm [inches]



Right-angle Mounting Bracket

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

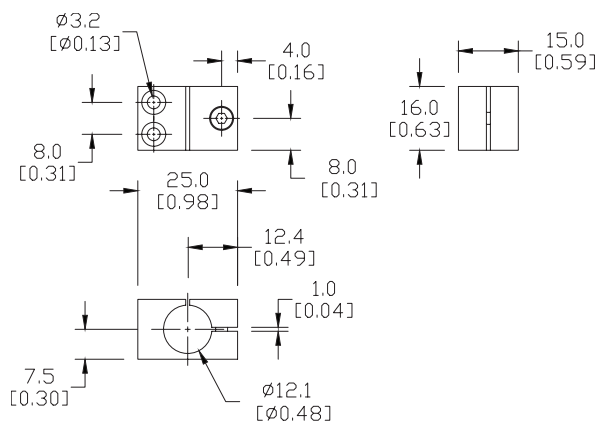
Accessories for 12mm Sensors			
Part Number	Price	Description	Weight lb (g)
OPT2108	\$13.50	Wenglor mounting bracket, right-angle, nickel plated brass. For use with 12mm mounting rods OPT2109, OPT2110 & OPT2111.	0.07 (31.8)



OPT2108

Dimensions

mm [inches]



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for complete engineering drawings