OPT Series Blue Light Photoelectric Sensors
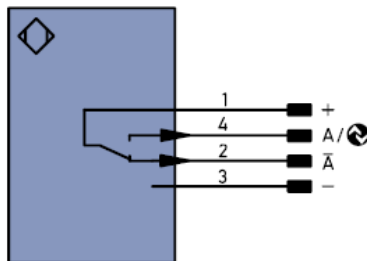
OPT2151

OPT2168

Features

- 50 x 20 x 50mm or 32 x 12 x 16mm models available
- Simple potentiometer sensitivity adjustment
- Blue light for dark, shiny objects
- Reliably detect objects against any background according to the angle measurement principle
- Sensor always has the same switching distance, regardless of the color, shape and surface of the detection object
- LO/DO (Light-on/Dark-on) antivalent (complementary N.O./N.C.) outputs
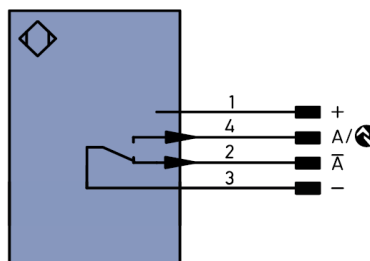- Flexible mounting options available
- IO-Link V1.1

NEED CABLES?

OPT Series Blue Light Sensors (Diffuse with Background Suppression) Selection Chart							
Part Number	Price	Sensing Range	Light Emission	Logic	Connection	Wiring	Drawing Link
OPT2151	$95.00	50-400mm [0-1.31 ft]	Blue	PNP	4-pin M12 quick-disconnect	Diagram 1	PDF
OPT2152	$95.00	50-400mm [0-1.31 ft]	Blue	NPN	4-pin M12 quick-disconnect	Diagram 2	PDF
OPT2168	$95.00	30-150mm [0-0.49 ft]	Blue	PNP	4-pin M8 quick-disconnect	Diagram 1	PDF
OPT2169	$95.00	30-150mm [0-0.49 ft]	Blue	NPN	4-pin M8 quick-disconnect	Diagram 2	PDF

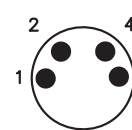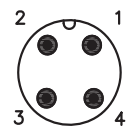| OPT Series Blue Light Sensors (Diffuse with Background Suppression) Selection Chart						
Sensor Model	OPT2151 and OPT2152			OPT2168 and OPT2169		
Detection Range	50mm [1.97 in]	200mm [7.87 in]	400mm [15.74 in]	50mm [1.97 in]	100mm [3.93 in]	150mm [5.90 in]
Light Spot Diameter	11mm [0.43 in]	13mm [0.51 in]	14mm [0.55 in]	4mm [0.15 in]	6mm [0.23 in]	10mm [0.39 in]

Wiring Diagrams

Diagram 1

PNP

1 +
4 A/⟳
2 Ā
3 −

+   Supply Voltage +
−   Supply Voltage 0V
A   Switching Output (NO)
Ā   Switching Output (NC)
⟳   IO-Link

Diagram 2

NPN

1 +
4 A/⟳
2 Ā
3 −

+   Supply Voltage +
−   Supply Voltage 0V
A   Switching Output (NO)
Ā   Switching Output (NC)
⟳   IO-Link

Connectors

M8 Connector   **M12 Connector**

OPT Series Blue Light Specifications

OPT Series Blue Light Sensors (Reflex with Background Suppression) Specifications		
Type	**50 x 20 x 50mm Models**	**32 x 12 x 16mm Models**
Sensing Distance	Refer to Selection Guide (OPT Series)	
Light Spot Diameter	See selection chart	
Emission	Blue Light	
Sensitivity	Adjustable via potentiometer	
Output State	Antivalent*	
Operating Voltage	15 to 30 VDC	10 to 30 VDC
No Load Supply Current	< 20mA	
Operating (Load) Current	100mA	
Off-state (Leakage) Current	< 50µA	
Voltage Drop	< 2V	
Switching Frequency	800Hz	1000Hz
Switching Hysteresis	< 3%	< 10%
Maximum Ambient Light	10000 Lux	
Short-Circuit Protection	Yes	
Operating Temperature	-40 to 60ºC [-40 to 140ºF]	
Thermal Drift	< 5%	
Protection Degree (DIN 40050)	IP67 IP68	
LED Indicators	Blue - power Amber - output state "ON"	
Housing Material	Plastic	
Lens Material	PMMA (Polymethyl methacrylate)	
Shock/Vibration	ED69047-5-2/7.4	
Tightening Torque	0.5 N•m [0,37 lb•ft] for mounting	
Weight	0.12 lbs	0.06 lbs
Connectors	4-pin M12 quick-disconnect rotates 270°	4-pin M8 quick-disconnect
IO Link	IO-Link V1.1	
Accessories	Mounting brackets available	
Agency Approvals **	UL E189727, CE	

 * LO/DO antivalent (complementary N.O./N.C.) outputs
** To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page.

Accessories for OPT Series 50x50mm Photoelectric Sensors

Right-angle Brackets

Mounting bracket, right-angle, nickel-plated steel or 304 stainless steel.
For use with OPT series 50x50mm photoelectric sensors.

Accessories for OPT Series 50x50mm Photoelectric Sensors				
Part Number	Price	Description	Drawing Link	Weight [lb]
OPT2031	$7.00	Wenglor mounting bracket, right-angle, nickel-plated brass. For use with OPT series 50x50mm photoelectric sensors.	PDF	0.24
OPT2038	$11.00	Wenglor mounting bracket, right-angle, vertical and horizontal adjustment, 304 stainless steel. For use with OPT series 50x50mm photoelectric sensors.	PDF	0.19

OPT2031

OPT2038

Accessories for OPT Series 50x50mm Photoelectric Sensors

Right-angle Swivel Mounting Systems

Mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment, 12mm rod mount. For use with OPT series 50x50mm photoelectric sensors. Available in all stainless steel or with an aluminum head with a stainless steel mounting plate.

Accessories for OPT Series 50x50mm Photoelectric Sensors						
Part Number	Price	Description	Mounting Head	Mounting Plate	Drawing Link	Weight [lb]
OPT2122	$11.50	Wenglor mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment, aluminum, 12mm rod mount. For use with OPT series 50x50mm photoelectric sensors.	Aluminum	304 Stainless Steel	PDF	0.19
OPT2123	$21.00	Wenglor mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment, 304 stainless steel, 12mm rod mount. For use with OPT series 50x50mm photoelectric sensors.	304 Stainless Steel	304 Stainless Steel	PDF	0.31

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

OPT2122, OPT2123

Accessories for OPT Series 32x12mm Photoelectric Sensors

Right-Angle Mounting Brackets

Mounting bracket, right angle, vertical adjustment. For use with OPT series 32x12mm photoelectric sensors.

Mounting Brackets for OPT 32x12mm Sensors					
Part Number	*Price*	*Description*	*Qty*	*Drawing Link*	*Weight lb [g]*
OPT2033	$7.00	Wenglor mounting bracket, right-angle, vertical adjustment, nickel plated steel. For use with OPT series 32x12mm photoelectric sensors.	1	PDF	0.04 [16]

OPT2033

Right-angle Swivel Mounting Systems

Mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment, aluminum, 12mm rod mount. For use with OPT series 32x12mm photoelectric sensors.

Accessories for 32x12mm Sensors						
Part Number	*Price*	*Description*	*Mounting Head*	*Mounting Plate*	*Drawing Link*	*Weight lb [g]*
OPT2120	$11.50	Wenglor mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment, aluminum, 12mm rod mount. For use with OPT series 32x12mm photoelectric sensors.	Aluminum	304 Stainless Steel	PDF	0.14 [63.50]
OPT2121	$21.00	Wenglor mounting bracket, right-angle swivel, 360 degree vertical and horizontal adjustment, 304 stainless steel, 12mm rod mount. For use with OPT series 32x12mm photoelectric sensors.	304 Stainless Steel	304 Stainless Steel	PDF	0.27 [122.46]

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

OPT2121

OPT2120

Mounting Rods and Brackets

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*	*Drawing Link*	*Weight lb (g)*
OPT2109	$13.00	Wenglor mounting rod, 12mm diameter, 200mm length, 304 stainless steel.	PDF	0.41 [185.97]
OPT2110	$16.00	Wenglor mounting rod, 12mm diameter, 300mm length, 304 stainless steel.	PDF	0.60 [272.16]
OPT2111	$21.00	Wenglor mounting rod, 12mm diameter, 500mm length, 304 stainless steel.	PDF	0.98 [444.52]

Right-angle Mounting Bracket

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

Right-angle Mounting Brackets for 12mm Sensors				
Part Number	*Price*	*Description*	*Drawing Link*	*Weight lb [g]*
OPT2108	$16.00	Wenglor mounting bracket, right-angle, nickel-plated brass. For use with 12mm mounting rods OPT2109, OPT2110 & OPT2111.	PDF	0.07 [31.8]