

# OPT Series Photoelectric Sensors

**OPT2135**

- Standard housing with long range and small spot diameter
- Simple potentiometer sensitivity adjustment
- Visible light spot allows easy targeting set-up
- LO/DO (Light-on/Dark-on) antivalent (complementary N.O./N.C.) outputs
- Clear glass detection models available
- Flexible mounting options available
- IO-Link compatibility



## OPT Series Photoelectric Sensors (Diffuse with Background Suppression) Selection Chart

| Part Number             | Price    | Adjustable Sensing Range (mm [in]) | Switching Frequency | Emission Type     | Logic | Connection                 | Wiring    | Drawing Link        |
|-------------------------|----------|------------------------------------|---------------------|-------------------|-------|----------------------------|-----------|---------------------|
| <a href="#">OPT2147</a> | \$98.00  | 50-200 [1.97-7.87]                 | 800 Hz              | Visible red 633nm | PNP   | 4-pin M12 quick-disconnect | Diagram 1 | <a href="#">PDF</a> |
| <a href="#">OPT2148</a> | \$98.00  | 50-200 [1.97-7.87]                 | 800 Hz              | Visible red 633nm | NPN   | 4-pin M12 quick-disconnect | Diagram 2 | <a href="#">PDF</a> |
| <a href="#">OPT2149</a> | \$98.00  | 60-500 [2.36-19.69]                | 800 Hz              | Visible red 633nm | PNP   | 4-pin M12 quick-disconnect | Diagram 1 | <a href="#">PDF</a> |
| <a href="#">OPT2150</a> | \$98.00  | 60-500 [2.36-19.69]                | 800 Hz              | Visible red 633nm | NPN   | 4-pin M12 quick-disconnect | Diagram 2 | <a href="#">PDF</a> |
| <a href="#">OPT2153</a> | \$94.00  | 100-1200 [3.94-47.24]              | 500 Hz              | Visible red 633nm | PNP   | 4-pin M12 quick-disconnect | Diagram 1 | <a href="#">PDF</a> |
| <a href="#">OPT2154</a> | \$94.00  | 100-1200 [3.94-47.24]              | 500 Hz              | Visible red 633nm | NPN   | 4-pin M12 quick-disconnect | Diagram 2 | <a href="#">PDF</a> |
| <a href="#">OPT2157</a> | \$207.00 | 50-300 [1.97-11.81]                | 800 Hz              | Class 1 Laser     | PNP   | 4-pin M12 quick-disconnect | Diagram 1 | <a href="#">PDF</a> |
| <a href="#">OPT2158</a> | \$207.00 | 50-300 [1.97-11.81]                | 800 Hz              | Class 1 Laser     | NPN   | 4-pin M12 quick-disconnect | Diagram 2 | <a href="#">PDF</a> |

Note: Brackets sold separately.

## OPT Series Photoelectric Sensors (Retro Reflex) Selection Chart

| Part Number             | Price    | Adjustable Sensing Range (m [ft]) | Switching Frequency | Emission Type     | Logic | Connection                 | Wiring    | Drawing Link        |
|-------------------------|----------|-----------------------------------|---------------------|-------------------|-------|----------------------------|-----------|---------------------|
| <a href="#">OPT2133</a> | \$76.00  | 0-7 [0-22.97]*                    | 2000 Hz             | Visible red 633nm | PNP   | 4-pin M12 quick-disconnect | Diagram 1 | <a href="#">PDF</a> |
| <a href="#">OPT2134</a> | \$76.00  | 0-7 [0-22.97]*                    | 2000 Hz             | Visible red 633nm | NPN   | 4-pin M12 quick-disconnect | Diagram 2 | <a href="#">PDF</a> |
| <a href="#">OPT2135</a> | \$85.00  | 0.02-11 [0.07-36.09]*             | 2000 Hz             | Visible red 633nm | PNP   | 4-pin M12 quick-disconnect | Diagram 1 | <a href="#">PDF</a> |
| <a href="#">OPT2136</a> | \$85.00  | 0.02-11 [0.07-36.09]*             | 2000 Hz             | Visible red 633nm | NPN   | 4-pin M12 quick-disconnect | Diagram 2 | <a href="#">PDF</a> |
| <a href="#">OPT2137</a> | \$207.00 | 0-9.5 [0-31.16]                   | 2000 Hz             | Class 1 Laser     | PNP   | 4-pin M12 quick-disconnect | Diagram 1 | <a href="#">PDF</a> |
| <a href="#">OPT2138</a> | \$207.00 | 0-9.5 [0-31.16]                   | 2000 Hz             | Class 1 Laser     | NPN   | 4-pin M12 quick-disconnect | Diagram 2 | <a href="#">PDF</a> |

\* Based on a 100mm x 100mm [3.94 in x 3.94 in]

Note: Reflectors and brackets sold separately.

## OPT Series Photoelectric Sensors (Retro Reflex for Clear Glass Detection) Selection Chart

| Part Number             | Price    | Sensing Range (m [ft]) | Switching Frequency | Emission Type     | Logic | Connection                 | Wiring    | Drawing Link        |
|-------------------------|----------|------------------------|---------------------|-------------------|-------|----------------------------|-----------|---------------------|
| <a href="#">OPT2139</a> | \$119.00 | 0-2.6 [0-8.53]*        | 2000 Hz             | Visible red 633nm | PNP   | 4-pin M12 quick-disconnect | Diagram 1 | <a href="#">PDF</a> |
| <a href="#">OPT2140</a> | \$119.00 | 0-2.6 [0-8.53]*        | 2000 Hz             | Visible red 633nm | NPN   | 4-pin M12 quick-disconnect | Diagram 2 | <a href="#">PDF</a> |

\* Based on a 100mm x 100mm [3.94 in x 3.94 in]

Note: Reflectors and brackets sold separately.

## OPT Series Photoelectric Sensors (Through-Beam) Selection Chart

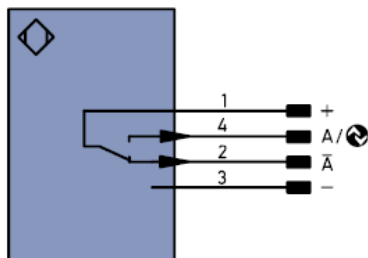
| Part Number             | Price   | Sensing Range (m [ft]) | Switching Frequency | Emission Type     | Logic | Connection                 | Wiring    | Drawing Link        |
|-------------------------|---------|------------------------|---------------------|-------------------|-------|----------------------------|-----------|---------------------|
| <b>Emitter</b>          |         |                        |                     |                   |       |                            |           |                     |
| <a href="#">OPT2132</a> | \$72.00 | 20 [65.62]             | -                   | Visible red 633nm | -     | 4-pin M12 quick-disconnect | Diagram 3 | <a href="#">PDF</a> |
| <b>Receivers</b>        |         |                        |                     |                   |       |                            |           |                     |
| <a href="#">OPT2130</a> | \$66.00 | 20 [65.62]             | 1000 Hz             | -                 | PNP   | 4-pin M12 quick-disconnect | Diagram 1 | <a href="#">PDF</a> |
| <a href="#">OPT2131</a> | \$66.00 | 20 [65.62]             | 1000 Hz             | -                 | NPN   | 4-pin M12 quick-disconnect | Diagram 2 | <a href="#">PDF</a> |

Note: Brackets sold separately.

# OPT Series Photoelectric Sensors

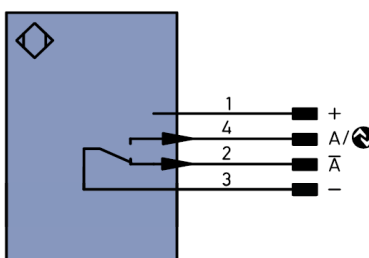
## Wiring Diagrams

**Diagram 1**  
PNP



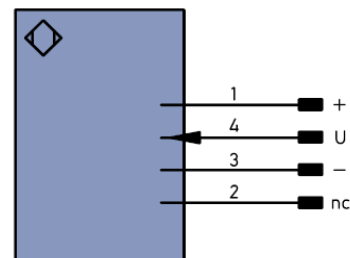
- + Supply Voltage +
- Supply Voltage 0V
- A Switching Output (N.O.)
- $\bar{A}$  Switching Output (N.C.)
-  IO-Link

**Diagram 2**  
NPN



- + Supply Voltage +
- Supply Voltage 0V
- A Switching Output (N.O.)
- $\bar{A}$  Switching Output (N.C.)
-  IO-Link

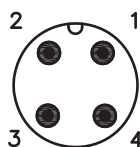
**Diagram 3**  
Emitter



- + Supply Voltage +
- Supply Voltage 0V
- U Test Input
- nc No Connection

## Connector

**M12 Connector**



# OPT Series Photoelectric Sensors

| OPT Series Photoelectric Sensor Specifications |                                                             |                                                                                   |                               |                                    |
|------------------------------------------------|-------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------|------------------------------------|
| Type                                           | Diffuse With Background Suppression                         | Retro Reflex                                                                      | Retro Reflex for Clear Glass  | Through-Beam                       |
| Sensing Distance                               | Refer to Photoelectric Sensors Selection Guide (OPT Series) |                                                                                   |                               |                                    |
| Light Spot Diameter                            | See tables below                                            |                                                                                   |                               |                                    |
| Sensitivity                                    | Adjustable via potentiometer                                |                                                                                   |                               |                                    |
| Output State                                   | Antivalent*                                                 |                                                                                   |                               |                                    |
| Operating Voltage                              | 15-30VDC                                                    | 10-30VDC                                                                          |                               |                                    |
| Supply Power IO-Link                           | 18-30VDC                                                    |                                                                                   |                               |                                    |
| No Load Supply Current                         | < 20mA                                                      |                                                                                   |                               | < 20mA emitter;<br>< 25mA receiver |
| Operating (Load) Current                       | 100mA                                                       |                                                                                   |                               |                                    |
| Off-state (Leakage) Current                    | < 50μA                                                      |                                                                                   |                               |                                    |
| Voltage Drop                                   | < 2V                                                        |                                                                                   |                               |                                    |
| Ripple                                         | N/A                                                         |                                                                                   |                               |                                    |
| Time Delay Before Availability (tv)            | N/A                                                         |                                                                                   |                               |                                    |
| Short-Circuit Protection                       | Yes                                                         |                                                                                   |                               |                                    |
| Operating Temperature                          | -40 to 60°C<br>[-40 to 140°F]                               | -40 to 60°C (-40 to 140°F)<br>(OPT2137 and OPT2138)<br>-25 to 60°C [-13 to 140°F] | -40 to 60°C<br>[-40 to 140°F] | -40 to 60°C<br>[-40 to 140°F]      |
| Thermal Drift                                  | < 5%                                                        | < 10%                                                                             | < 3%                          | < 10%                              |
| Protection Degree (DIN 40050)                  | IP67 IP68                                                   |                                                                                   |                               |                                    |
| LED Indicators                                 | Blue - power<br>Amber - output state “on”                   |                                                                                   |                               |                                    |
| Housing Material                               | Plastic                                                     |                                                                                   |                               |                                    |
| Lens Material                                  | PMMA (Polymethyl methacrylate)                              |                                                                                   |                               |                                    |
| Shock/Vibration                                | EC 69047-5-2/7.4                                            |                                                                                   |                               |                                    |
| Tightening Torque                              | 0.5 N•m [0.37 lb•ft] for mounting                           |                                                                                   |                               |                                    |
| Weight                                         | 0.035 kg [0.077 lb]                                         | 0.031 kg [0.068 lb]                                                               |                               | 0.03 kg [0.066 lb]                 |
| Connectors                                     | 4-pin M12 quick-disconnect,<br>Rotates 270°                 |                                                                                   |                               |                                    |
| IO Link                                        | IO-Link v1.1                                                |                                                                                   |                               |                                    |
| Accessories                                    | Mounting brackets available                                 | Reflectors and mounting brackets available                                        |                               | 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.

# OPT Series Photoelectric Sensors

## Detection Range / Sensing Distance

### OPT2147, OPT2148 (Diffuse With Background Suppression)

|                            |                |                 |                 |
|----------------------------|----------------|-----------------|-----------------|
| <b>Detection Range</b>     | 50mm [1.97 in] | 100mm [3.94 in] | 200mm [7.87 in] |
| <b>Light Spot Diameter</b> | 7mm [0.28 in]  | 7mm [0.28 in]   | 5mm [0.20 in]   |

### OPT2149, OPT2150 (Diffuse With Background Suppression)

|                            |                |                 |                  |
|----------------------------|----------------|-----------------|------------------|
| <b>Detection Range</b>     | 60mm [2.36 in] | 250mm [9.84 in] | 500mm [19.69 in] |
| <b>Light Spot Diameter</b> | 11mm [0.43 in] | 13mm [0.51 in]  | 15mm [0.59 in]   |

### OPT2153, OPT2154 (Diffuse With Background Suppression)

|                            |                 |                  |                   |
|----------------------------|-----------------|------------------|-------------------|
| <b>Detection Range</b>     | 100mm [3.94 in] | 600mm [23.62 in] | 1200mm [47.24 in] |
| <b>Light Spot Diameter</b> | 14mm [0.55 in]  | 17mm [0.67 in]   | 24mm [0.94 in]    |

### OPT2157, OPT2158 Laser (Diffuse With Background Suppression)

|                            |                |                  |                  |
|----------------------------|----------------|------------------|------------------|
| <b>Detection Range</b>     | 65mm [2.55 in] | 150mm [5.90 in]  | 300mm [11.81 in] |
| <b>Light Spot Diameter</b> | 3mm [0.11 in]  | 2.5 mm [0.09 in] | 2mm [0.078 in]   |

### OPT2133, OPT2134 (Retro-Reflex)

|                                      |                 |                  |                 |
|--------------------------------------|-----------------|------------------|-----------------|
| <b>Distance, Sensor to Reflector</b> | 1.5 m [4.92 ft] | 3.5 m [11.48 ft] | 7m [22.97 ft]   |
| <b>Smallest Recognizable Part</b>    | 10mm [0.39 in]  | 6mm [0.24 in]    | 15mm [0.59 in]  |
| <b>Light Spot Diameter</b>           | 60mm [2.36 in]  | 120mm [4.72 in]  | 250mm [9.84 in] |

### OPT2135, OPT2136 (Laser Retro-Reflex)

|                                      |                   |                |                  |
|--------------------------------------|-------------------|----------------|------------------|
| <b>Distance, Sensor to Reflector</b> | 2m [6.5 ft]       | 5m [16.40 ft]  | 9.5 m [31.16 ft] |
| <b>Smallest Recognizable Part</b>    | 0.75 mm [0.02 in] | 5mm [0.19 in]  | 8mm [0.31 in]    |
| <b>Light Spot Diameter</b>           | 20mm [0.79 in]    | 50mm [1.97 in] | 70mm [2.75 in]   |

### OPT2137, OPT2138 (Retro-Reflex)

|                                      |                 |                  |                  |
|--------------------------------------|-----------------|------------------|------------------|
| <b>Distance, Sensor to Reflector</b> | 2m [6.5 ft]     | 5.5 m [18.04 ft] | 11m [36.09 ft]   |
| <b>Smallest Recognizable Part</b>    | 40mm [1.57 in]  | 20mm [0.79 in]   | 30mm [1.18 in]   |
| <b>Light Spot Diameter</b>           | 120mm [4.72 in] | 270mm [10.63 in] | 500mm [19.69 in] |

### OPT2139, OPT2140 (Retro-Reflex for Clear Glass Detection)

|                                      |                  |                 |                 |
|--------------------------------------|------------------|-----------------|-----------------|
| <b>Distance, Sensor to Reflector</b> | 0.5 m [1.64 ft]  | 1.3 m [4.27 ft] | 2.6 m [8.53 ft] |
| <b>Smallest Recognizable Part</b>    | 1.5 mm [0.06 in] | 4mm [0.16 in]   | 15mm [0.59 in]  |
| <b>Light Spot Diameter</b>           | 30mm [1.18 in]   | 45mm [1.77 in]  | 80mm [3.15 in]  |

### OPT2130, OPT2131 (Through-Beam)

|                                          |               |                |                  |
|------------------------------------------|---------------|----------------|------------------|
| <b>Distance, Transmitter to Receiver</b> | 4m [13.12 ft] | 10m [32.81 ft] | 20m [65.62 ft]   |
| <b>Smallest Recognizable Part</b>        | 6mm [0.24 in] | 2mm [0.08 in]  | 2.5 mm [0.10 in] |

# 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] |
| <a href="#">OPT2031</a>                                  | \$7.00  | Wenglor mounting bracket, right-angle, nickel-plated brass. For use with OPT series 50x50mm photoelectric sensors.                                     | <a href="#">PDF</a> | 0.24        |
| <a href="#">OPT2038</a>                                  | \$11.00 | Wenglor mounting bracket, right-angle, vertical and horizontal adjustment, 304 stainless steel. For use with OPT series 50x50mm photoelectric sensors. | <a href="#">PDF</a> | 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] |
| <a href="#"><u>OPT2122</u></a>                           | \$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 | <a href="#"><u>PDF</u></a> | 0.19        |
| <a href="#"><u>OPT2123</u></a>                           | \$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 | <a href="#"><u>PDF</u></a> | 0.31        |

**NOTE:**

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



[OPT2122,](#)  
[OPT2123](#)

# 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.

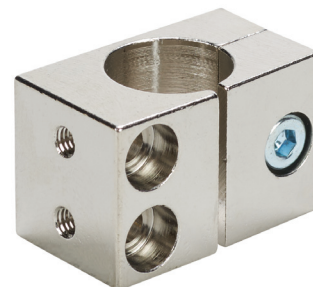
| Mounting Rods for OPT2112-2127 Swivel Mounting Brackets |         |                                                                         |                     |                  |
|---------------------------------------------------------|---------|-------------------------------------------------------------------------|---------------------|------------------|
| Part Number                                             | Price   | Description                                                             | Drawing Link        | Weight lb (g)    |
| <a href="#">OPT2109</a>                                 | \$13.00 | Wenglor mounting rod, 12mm diameter, 200mm length, 304 stainless steel. | <a href="#">PDF</a> | 0.41<br>[185.97] |
| <a href="#">OPT2110</a>                                 | \$16.00 | Wenglor mounting rod, 12mm diameter, 300mm length, 304 stainless steel. | <a href="#">PDF</a> | 0.60<br>[272.16] |
| <a href="#">OPT2111</a>                                 | \$21.00 | Wenglor mounting rod, 12mm diameter, 500mm length, 304 stainless steel. | <a href="#">PDF</a> | 0.98<br>[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]  |
| <a href="#">OPT2108</a>                        | \$16.00 | Wenglor mounting bracket, right-angle, nickel-plated brass. For use with 12mm mounting rods OPT2109, OPT2110 & OPT2111. | <a href="#">PDF</a> | 0.07<br>[31.8] |



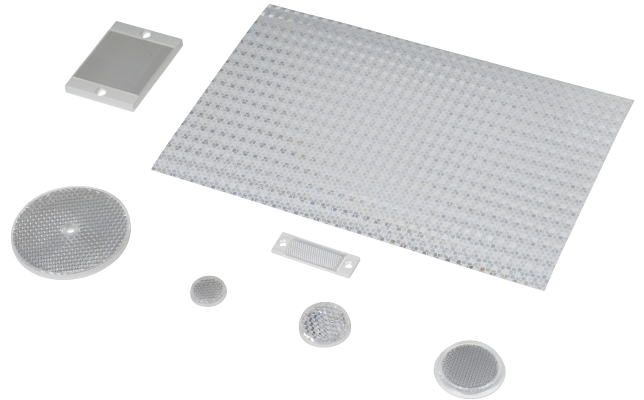
# Reflectors

## RL Series Reflectors for Polarized Reflective Photoelectric Sensors (All Models)

- Suitable for use with polarized light photoelectric sensors
- Shapes and sizes for most applications
- Miniature types for close mounting in multiple sensor installations
- Single hole, dual hole and self-adhesive mounting types available
- Single and 10-packs available

## Installation Notes

- Keep the reflector surface clean to ensure peak detection performance. This is especially true when the maximum sensing range is being used. Clean using a damp cloth.
- When selecting a reflector, it is important to consider the ambient conditions it will be exposed to. Dusty or high humidity conditions may reduce the sensing range as much as 90%.
- Reflectors should be positioned at a 90° angle to the optical axis with a tolerance of  $\pm 15^\circ$ .



| Reflector Specifications |         |                     |          |                    |                      |                                                                                                                         |                                                                                                                         |                                       |
|--------------------------|---------|---------------------|----------|--------------------|----------------------|-------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|---------------------------------------|
| Part number              | Price   | Drawing Link        | Quantity | Dimensions mm [in] | Degree of Protection | Mounting                                                                                                                | Materials                                                                                                               |                                       |
| <a href="#">RL102</a>    | \$38.00 | <a href="#">PDF</a> | 10       | 25                 | IEC IP67             | Customer-supplied adhesive or other mounting method required                                                            | Reflective face: PMMA<br>Polymethylmethacrylate (acrylic)<br><br>Base material: ABS<br>(Acrylonitrile-butadiene-styren) |                                       |
| <a href="#">RL102-1</a>  | \$4.25  |                     | 1        | [0.98]             |                      |                                                                                                                         |                                                                                                                         |                                       |
| <a href="#">RL103</a>    | \$42.50 | <a href="#">PDF</a> | 10       | 34.5               |                      |                                                                                                                         |                                                                                                                         |                                       |
| <a href="#">RL103-1</a>  | \$4.75  |                     | 1        | [1.36]             |                      |                                                                                                                         |                                                                                                                         |                                       |
| <a href="#">RL104</a>    | \$42.50 | <a href="#">PDF</a> | 10       | 46                 |                      |                                                                                                                         |                                                                                                                         |                                       |
| <a href="#">RL104-1</a>  | \$4.75  |                     | 1        | [1.81]             |                      |                                                                                                                         |                                                                                                                         |                                       |
| <a href="#">RL105G</a>   | \$38.00 | <a href="#">PDF</a> | 10       | 95 x 38            |                      | Two 4.3 mm holes                                                                                                        |                                                                                                                         |                                       |
| <a href="#">RL105G-1</a> | \$4.25  |                     | 1        | [3.74 x 1.50]      |                      |                                                                                                                         |                                                                                                                         |                                       |
| <a href="#">RL106G</a>   | \$42.50 | <a href="#">PDF</a> | 10       | 182 x 42           |                      | Two 6mm holes                                                                                                           |                                                                                                                         |                                       |
| <a href="#">RL106G-1</a> | \$4.75  |                     | 1        | [7.17 x 1.65]      |                      |                                                                                                                         |                                                                                                                         |                                       |
| <a href="#">RL110</a>    | \$19.00 | <a href="#">PDF</a> | 10       | 84                 |                      | One 5mm hole                                                                                                            |                                                                                                                         |                                       |
| <a href="#">RL110-1</a>  | \$2.00  |                     | 1        | [3.31]             |                      |                                                                                                                         |                                                                                                                         |                                       |
| <a href="#">RL116</a>    | \$19.00 | <a href="#">PDF</a> | 10       | 41 x 60            |                      | Two 3mm holes                                                                                                           |                                                                                                                         |                                       |
| <a href="#">RL116-1</a>  | \$2.00  |                     | 1        | [3.54 x 2.36]      |                      |                                                                                                                         |                                                                                                                         |                                       |
| <a href="#">RL100DA4</a> | \$38.50 | NA                  | 1        | 200 x 300          |                      | Self-adhesive                                                                                                           |                                                                                                                         | Paper (Acrylic tape with micro prism) |
| <a href="#">RL100DC4</a> | \$12.00 | NA                  | 1        | 50 x 300           |                      |                                                                                                                         |                                                                                                                         |                                       |
| <a href="#">RL100DQ1</a> | \$8.75  | NA                  | 1        | 100 x 100          |                      |                                                                                                                         |                                                                                                                         |                                       |
| <a href="#">RL111G</a>   | \$60.00 | <a href="#">PDF</a> | 10       | 22.5 x 47          | Two 3mm slots        | Reflective face: PMMA<br>Polymethylmethacrylate (acrylic)<br><br>Base material: ABS<br>(Acrylonitrile-butadiene-styren) |                                                                                                                         |                                       |
| <a href="#">RL111G-1</a> | \$7.25  |                     | 1        | [0.89 x 1.85]      |                      |                                                                                                                         |                                                                                                                         |                                       |
| <a href="#">RL112G</a>   | \$44.00 | <a href="#">PDF</a> | 10       | 19 x 73            |                      |                                                                                                                         |                                                                                                                         |                                       |
| <a href="#">RL112G-1</a> | \$4.75  |                     | 1        | [0.75 x 2.87]      |                      |                                                                                                                         |                                                                                                                         |                                       |
| <a href="#">RL113G</a>   | \$53.00 | <a href="#">PDF</a> | 10       | 51.4 x 60.3        | Two 4mm slots        |                                                                                                                         |                                                                                                                         |                                       |
| <a href="#">RL113G-1</a> | \$6.00  |                     | 1        | [2.02 x 2.37]      |                      |                                                                                                                         |                                                                                                                         |                                       |

Not recommended for applications involving moist air environments or water immersion.

# Reflectors

## RL Series Reflectors for Polarized Reflective Laser Photoelectric Sensors (FALN series)

- Suitable for use with polarized light laser photoelectric sensors
- Sizes for most applications
- Miniature types for close mounting in multiple sensor installations
- Single and 5-packs available

| Specifications                    |                              |                                |                              |                                |                                  |                                |
|-----------------------------------|------------------------------|--------------------------------|------------------------------|--------------------------------|----------------------------------|--------------------------------|
| Part Number                       | <a href="#"><i>RL201</i></a> | <a href="#"><i>RL201-1</i></a> | <a href="#"><i>RL203</i></a> | <a href="#"><i>RL203-1</i></a> | <a href="#"><i>RL204</i></a>     | <a href="#"><i>RL204-1</i></a> |
| Price                             | \$38.00                      | \$8.25                         | \$35.50                      | \$7.75                         | \$30.00                          | \$6.75                         |
| Quantity                          | 5                            | 1                              | 5                            | 1                              | 5                                | 1                              |
| Drawing Link                      | <a href="#">PDF</a>          |                                | <a href="#">PDF</a>          |                                | <a href="#">PDF</a>              |                                |
| Dimensions                        | 60 x 82 mm<br>2.36 x 3.23 in |                                | 19 x 6mm<br>0.75 x 2.36 in   |                                | 20mm x 32mm<br>0.80 in x 1.26 in |                                |
| Degree of Protection <sup>1</sup> | IEC IP67                     |                                |                              |                                |                                  |                                |
| Mounting                          | Two 0.4 mm holes             |                                | Two 0.4 mm holes             |                                | Two 0.3 mm holes                 |                                |
| Materials                         | Acrylic/polycarbonate        |                                |                              |                                |                                  |                                |

<sup>1</sup> Not recommended for applications involving moist air environments or water immersion.

# Reflectors

## Reflectors for Photoelectric Laser Sensors

| Reflectors for OPT Series Photoelectric Sensors |         |                                                                              |                     |               |
|-------------------------------------------------|---------|------------------------------------------------------------------------------|---------------------|---------------|
| Part Number                                     | Price   | Description                                                                  | Drawing Link        | Weight lb [g] |
| <a href="#">OPT2030</a>                         | \$14.00 | Reflector, square, 100 x 100mm. For use with photoelectric laser sensors.    | <a href="#">PDF</a> | 0.20 [90.71]  |
| <a href="#">OPT2167</a>                         | \$13.50 | Wenglor reflector, rectangular, 61 x 51.5mm. For use with OPT2137 & OPT2138. | <a href="#">PDF</a> | 0.03 [13.60]  |

Note: [OPT2015](#) requires purchase of [OPT2030](#) reflector. <50m sensing distance requires 1 reflector. 50–100 m sensing distance requires 4 reflectors.



[OPT2167](#)



[OPT2030](#)