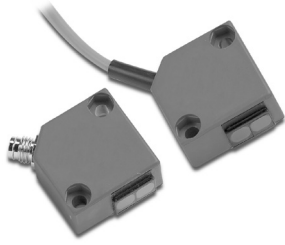


# CX Series Photoelectric Sensors



## Mini-rectangular plastic - DC

- 18 models available
- Long operating distances
- Adjustable sensitivity
- Scratch-resistant and easy to clean glass lens
- Axial cable or M8 quick-disconnect models
- Complete overload protection
- Mounting brackets are not needed
- IP65 rated



### CX Series Mini-Rectangular Photoelectric Sensors Selection Chart

| Part Number                         |          | Price   | Sensing Range                 | Output State       | Logic              | Connection              | Wiring    | Dimensions | Characteristic Curves |
|-------------------------------------|----------|---------|-------------------------------|--------------------|--------------------|-------------------------|-----------|------------|-----------------------|
| Diffuse                             |          |         |                               |                    |                    |                         |           |            |                       |
| <a href="#">CX3-AN-1A</a>           |          | \$63.00 | Up to 600mm<br>[23.62 in]     | N.O.               | NPN                | 2m [6.5 ft] axial cable | Diagram 1 | Figure 1   | Chart 1               |
| <a href="#">CX3-AP-1A</a>           |          | \$63.00 |                               |                    | PNP                | 2m [6.5 ft] axial cable | Diagram 2 | Figure 1   | Chart 1               |
| <a href="#">CX3-AN-1F</a>           |          | \$63.00 |                               |                    | NPN                | M8 [8mm] connector      | Diagram 1 | Figure 2   | Chart 1               |
| <a href="#">CX3-AP-1F</a>           |          | \$63.00 |                               |                    | PNP                | M8 [8mm] connector      | Diagram 2 | Figure 2   | Chart 1               |
| Diffuse with background suppression |          |         |                               |                    |                    |                         |           |            |                       |
| <a href="#">CX5-AN-1A</a>           |          | \$86.00 | 15-150mm<br>[0.59 to 5.91 in] | N.O.               | NPN                | 2m [6.5 ft] axial cable | Diagram 1 | Figure 1   | Chart 2               |
| <a href="#">CX5-AP-1A</a>           |          | \$86.00 |                               |                    | PNP                | 2m [6.5 ft] axial cable | Diagram 2 | Figure 1   | Chart 2               |
| <a href="#">CX5-AN-1F</a>           |          | \$86.00 |                               |                    | NPN                | M8 [8mm] connector      | Diagram 1 | Figure 2   | Chart 2               |
| <a href="#">CX5-AP-1F</a>           |          | \$86.00 |                               |                    | PNP                | M8 [8mm] connector      | Diagram 2 | Figure 2   | Chart 2               |
| Polarized reflective*               |          |         |                               |                    |                    |                         |           |            |                       |
| <a href="#">CXP-AN-1A</a>           |          | \$66.00 | Up to 2m [6.6 ft]             | N.O.               | NPN                | 2m [6.5 ft] axial cable | Diagram 1 | Figure 1   | Chart 3               |
| <a href="#">CXP-AP-1A</a>           |          | \$66.00 |                               |                    | PNP                | 2m [6.5 ft] axial cable | Diagram 2 | Figure 1   | Chart 3               |
| <a href="#">CXP-AN-1F</a>           |          | \$66.00 |                               |                    | NPN                | M8 [8mm] connector      | Diagram 1 | Figure 2   | Chart 3               |
| <a href="#">CXP-AP-1F</a>           |          | \$66.00 |                               |                    | PNP                | M8 [8mm] connector      | Diagram 2 | Figure 2   | Chart 3               |
| Through-beam**                      |          |         |                               |                    |                    |                         |           |            |                       |
| <a href="#">CXR-AP-1A</a>           | Receiver | \$63.00 | Up to 6m [19.7 ft]            | N.O.               | PNP                | 2m [6.5 ft] axial cable | Diagram 2 | Figure 1   | Chart 4               |
| <a href="#">CXR-AP-1F</a>           | Receiver | \$63.00 |                               |                    | PNP                | M8 [8mm] connector      | Diagram 2 | Figure 2   | Chart 4               |
| <a href="#">CXE-0N-1A</a>           | Emitter  | \$40.50 |                               | Receiver dependent | Receiver dependent | 2m [6.5 ft] axial cable | Diagram 3 | Figure 1   | Chart 4               |
| <a href="#">CXE-0N-1F</a>           | Emitter  | \$40.50 |                               |                    |                    | M8 [8mm] connector      | Diagram 3 | Figure 2   | Chart 4               |

\*Purchase reflectors separately.

\*\*Purchase one receiver and one emitter for a complete set.

## Wiring Diagrams

**Diagram 1**  
NPN Output

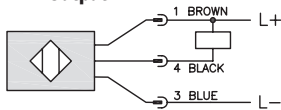


**Diagram 2**  
PNP Output

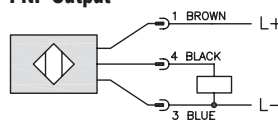
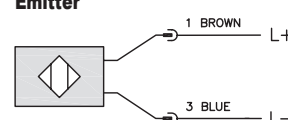


**Diagram 3**  
Emitter

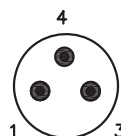


Emitter test input (<4V: OFF / >8V or open: ON) 0.5mA

### Switching Element Function

|          | Through-beam and Reflective Models | Diffuse Reflective Models |
|----------|------------------------------------|---------------------------|
| Light-on | N.C.                               | N.O.                      |
| Dark-on  | N.O.                               | N.C.                      |

**Connector**  
M8 connector



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



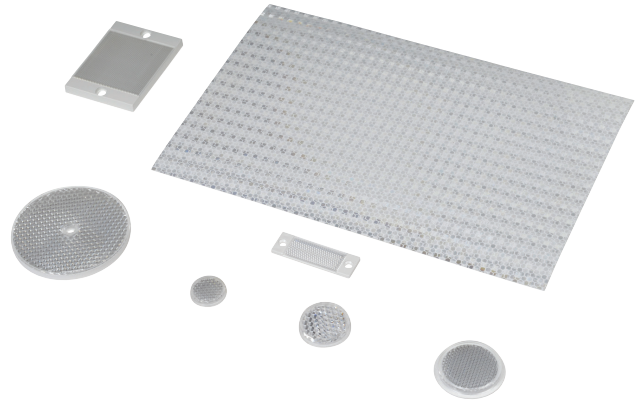
# Reflectors

## 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.