features

- Wide range of models: diffuse, retro-reflective, through-beam
- Extremely reduced dimensions
- High sensing distance
- Sensitivity adjustment
- Standard cable exit or M12 plug exit
- LED status indicator
- IP65 protection degree
- Complete protection against electrical damage

web content

- Application notes
- Photos
- Catalogue/Manuals

code description

**series**

PS

**type**

2 100 mm diffuse reflection
4 200 mm diffuse reflection
C 3 m retro-reflective
E Emitter
R Receiver

**NO / NC output**

0 Emitter / NO/NC selectable output (PSR only)
A NO output state
C NC output state

**NPN / PNP output**

0 Emitter
N NPN output
P PNP output

**housing**

0 Plastic housing 2 m

**cable / plug output**

C Right angle cable exit
E Right angle M12 plastic plug cable exit
### Available Models

<table>
<thead>
<tr>
<th>Model</th>
<th>Distance</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diffuse</td>
<td>100 mm</td>
<td>Cable: PS2/AN-0C, Plug: PS2/AN-0E</td>
</tr>
<tr>
<td></td>
<td>200 mm</td>
<td>Cable: PS4/AN-0C, Plug: PS4/AN-0E</td>
</tr>
<tr>
<td>Retro-reflective</td>
<td>2 m</td>
<td>Cable: PS4/AN-0C, Plug: PSC/AP-0C</td>
</tr>
<tr>
<td>Through-beam</td>
<td>4 m</td>
<td>Cable: PS4/AN-0C, Plug: PSR/0N-0E</td>
</tr>
</tbody>
</table>

### Technical Specification

<table>
<thead>
<tr>
<th></th>
<th>Diffuse Reflection</th>
<th>Retro-Reflective</th>
<th>Through-Beam</th>
</tr>
</thead>
<tbody>
<tr>
<td>PS2/**-0*</td>
<td></td>
<td>PS4/**-0*</td>
<td>PSE/00-0*</td>
</tr>
<tr>
<td>PS4/**-0*</td>
<td></td>
<td>PSC/**-0*</td>
<td>PSE/00-0*</td>
</tr>
</tbody>
</table>

#### Nominal Sensing Distance

- **100 mm**
- **200 mm**
- **3 m**
- **4 m**

#### Emission

- Infrared (880 nm)

#### Tolerance

- +15 / -5 % Sn

#### Hysteresis

- ≤ 5 %
- ≤ 10 %

#### Operating Voltage

- 10...30 Vdc max
- ≤ 10 %

#### Ripple

- ≤ 10 mA
- ≤ 10 %

#### No-Load Supply Current

- 30 mA max
- 25 mA (emitter)
- 30 mA (receiver)

#### Load Current

- ≤ 100 mA
- ≤ 10 µA @ Vmax

#### Leakage Current

- ≤ 100 mA
- ≤ 10 µA @ Vmax

#### Output Voltage Drop

- 1.2 Vmax
- ≤ 100 mA

#### Output Type

- PNP or NPN, NO or NC (NO/NC selectable for PSR models)
- PNP or NPN, NO or NC (NO/NC selectable for PSR models)

#### Switching Frequency

- 100 Hz
- 25 Hz

#### Power on Delay

- 200 ms

#### Temperature Range

- -25°C...+70°C (without freeze)

#### Power Supply Protections

- Polarity reversal, transient
- Short circuit (autoreset)

#### Sensitivity Adjustment

- 1 turn trimmer
- ≤ 10 % Sr

#### Temperature Range

- ≤ 10 % Sr
- ≤ 10 % Sr

#### Protection Degree

- IP65 (EN60529)
- Protection degree

#### EMC

- In conformity with the EMC Directive according to EN 60947-5-2

#### External Light Interference

- 3,000 lux (incandescent lamp), 10,000 lux (sunlight)

#### LEDs

- Red (output energized)

#### Housing Material

- ABS

#### Optic Material

- PMMA

#### Weight (approximate)

- 70 g connector / 140 g cable (20 g mounting bracket ST07)

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(1) With 100x100 mm white matt paper
(2) With standard reflector Ø80 mm (RL110 supplied separately)
(3) Protection guaranteed only with plug cable well mounted...
electrical diagrams of the connections

<table>
<thead>
<tr>
<th></th>
<th>PSE/00-0* emitter</th>
<th>PSR/”N-0” NPN output</th>
<th>PSR/”P-0” PNP output</th>
</tr>
</thead>
<tbody>
<tr>
<td>BN/1</td>
<td></td>
<td>WH/2</td>
<td>BN/1</td>
</tr>
<tr>
<td>BU/3</td>
<td></td>
<td>BN/1</td>
<td>BK/4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
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<tr>
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<tr>
<td>BK/4</td>
<td>BK/4</td>
<td>BK/4</td>
</tr>
<tr>
<td>BU/3</td>
<td>BU/3</td>
<td>BU/3</td>
</tr>
</tbody>
</table>

Notes:
- In case of combined load, resistive and capacitive, the maximum admissible capacity C = 0.1 μF, for maximum output voltage and current.
- Wh (white wire): the cable present on the receiver PSR/”0*-0* allows the output state selection.
- NPN output: NO state (white and brown on +), NC state (white and blue on -).
- PNP output: NO state (white and blue on -), NC state (white and brown on +).

plug

<table>
<thead>
<tr>
<th>M12</th>
<th>PSR/00-0*</th>
<th>M12</th>
<th>PS/”0*-0*&quot;</th>
<th>M12</th>
<th>PS/”2*-1&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>OUT</td>
<td>Supply (+)</td>
<td>OUT</td>
<td>Supply (+)</td>
<td>Supply (+)</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Light / Dark</td>
<td>1</td>
<td>Light / Dark</td>
<td>Light / Dark</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>2</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>3</td>
<td></td>
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<tr>
<td>4</td>
<td></td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes:
- Supply (+) and Supply (-) are connected to the supply voltage.
- OUT is connected to the output state.
- Light / Dark indicates the light/dark state.

201601_MD_Product_Catalogue
response diagrams
retro-reflective models (detected with RL 110)

response diagrams
through beam models

PSE/00-0* - PSR/00-0* excess gain

PSE/00-0* - PSR/00-0* spot dimension

PS2/**-** excess gain

PS2/**-** spot dimension

PS2/**-** parallel displacement

PS2/**-** parallel displacement

PSE/00-0* - PSR/00-0* excess gain

PSE/00-0* - PSR/00-0* spot dimension
### DC Miniaturized Cubic

**Dimensions (mm)**

<table>
<thead>
<tr>
<th>PS2/<strong>-0C - PS4/</strong>-0C</th>
<th>PSC/**-0C - PSE/00-0C - PSR/0*-0C</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Diagram" /></td>
<td><img src="image2" alt="Diagram" /></td>
</tr>
<tr>
<td><img src="image3" alt="Diagram" /></td>
<td><img src="image4" alt="Diagram" /></td>
</tr>
<tr>
<td></td>
<td><img src="image5" alt="Diagram" /></td>
</tr>
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</table>

**PS*/**-0E**

![Diagram](image6)