

# Background suppression sensor

## RL23-8-H-500-RT/116/125

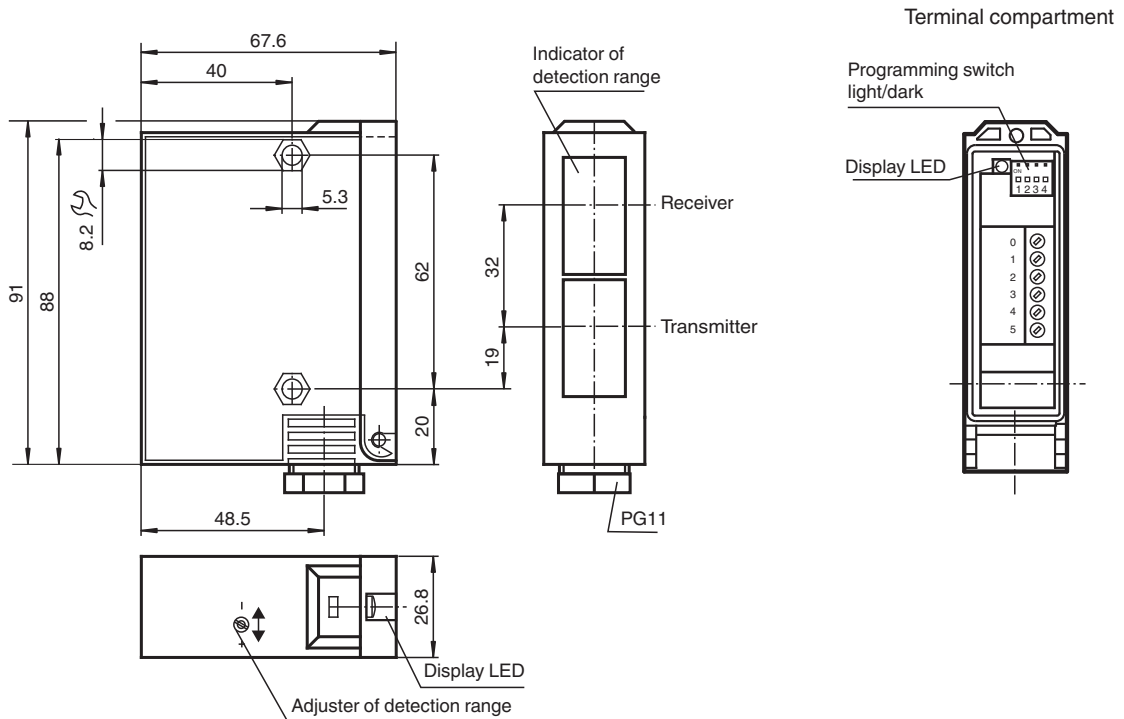


- Adjustable background suppression
- Visible red light
- Sturdy plastic housing
- Optical surface made of scratch-resistant glass

Background suppression sensor



### Dimensions



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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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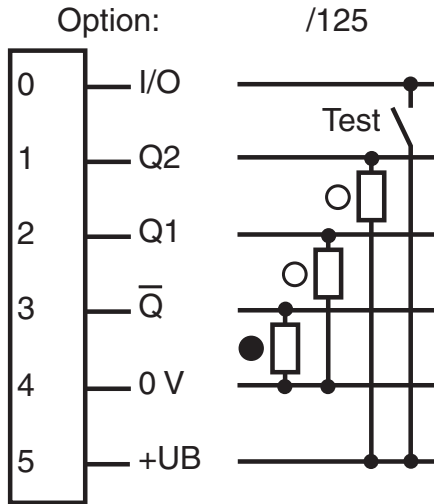
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**PF** PEPPERL+FUCHS

## Technical Data

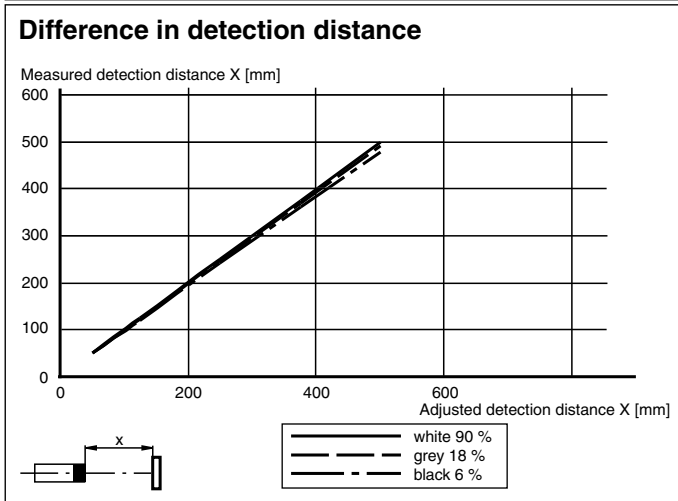
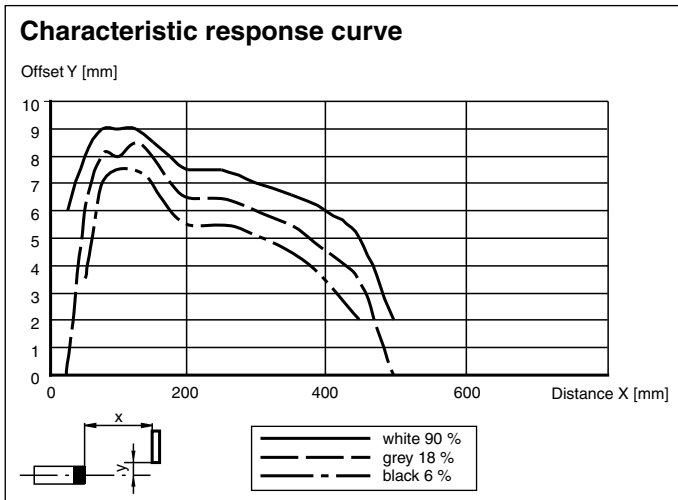
| General specifications               |                |   |
|--------------------------------------|----------------|---|
| Detection range                      |                | 50 ... 500 mm   |
| Detection range min.                 |                | 50 ... 150 mm   |
| Detection range max.                 |                | 50 ... 500 mm   |
| Light source                         |                | LED   |
| Light type                           |                | modulated visible red light   |
| Black-white difference (6 %/90 %)    |                | < 5 %   |
| Diameter of the light spot           |                | 12 mm at 500 mm sensor range  |
| Opening angle                        |                | 1.5 °   |
| Ambient light limit                  |                | 12000 Lux   |
| Functional safety related parameters |                |   |
| MTTF <sub>d</sub>                    |                | 540 a   |
| Mission Time (T <sub>M</sub> )       |                | 20 a  |
| Diagnostic Coverage (DC)             |                | 60 %  |
| Indicators/operating means           |                |   |
| Function indicator                   |                | LED yellow, lights up with receiver lit   |
| Control elements                     |                | Programming switch for light/dark switching                                     |
| Control elements                     |                | Sensing range adjuster  |
| Electrical specifications            |                |   |
| Operating voltage                    | U <sub>B</sub> | 10 ... 30 V DC  |
| Ripple                               |                | 10 %  |
| No-load supply current               | I <sub>0</sub> | 100 mA  |
| Input                                |                |   |
| Test input                           |                | emitter deactivation at +U <sub>B</sub>   |
| Output                               |                |   |
| Switching type                       |                | light/dark on   |
| Signal output                        |                | 2 PNP, complementary, 1 NPN short-circuit protected, reverse polarity protected |
| Switching voltage                    |                | 30 V DC   |
| Switching current                    |                | max. 200 mA   |
| Switching frequency                  | f              | 70 Hz   |
| Response time                        |                | 5 ms  |
| Conformity                           |                |   |
| Product standard                     |                | EN 60947-5-2  |
| Approvals and certificates           |                |   |
| UL approval                          |                | cULus   |
| CCC approval                         |                | CCC approval / marking not required for products rated ≤36 V                    |
| Ambient conditions                   |                |   |
| Ambient temperature                  |                | -20 ... 60 °C (-4 ... 140 °F)   |
| Storage temperature                  |                | -20 ... 75 °C (-4 ... 167 °F)   |
| Mechanical specifications            |                |   |
| Housing width                        |                | 26.8 mm   |
| Housing height                       |                | 91 mm   |
| Housing depth                        |                | 67.6 mm   |
| Degree of protection                 |                | IP65  |
| Connection                           |                | terminal compartment  |
| Material                             |                |   |
| Housing                              |                | Terluran® GV15  |
| Optical face                         |                | glass   |
| Mass                                 |                | 180 g   |

**Connection Assignment**







○ = Light on  
● = Dark on

**Characteristic Curve**



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**Accessories**

|   |                     |   |
|---|---------------------|---|
|  | <b>OMH-05</b>       | Mounting aid for round steel ø 12 mm or sheet 1.5 mm ... 3 mm |
|  | <b>OMH-21</b>       | Mounting bracket: mounting aid for sensors in the RL* series  |
|  | <b>OMH-22</b>       | Mounting aid for RL* series                                   |
|  | <b>OMH-RLK29-HW</b> | Mounting bracket for rear wall mounting                       |

**Light-on/dark-on changeover switch**

|                   |                 |
|-------------------|-----------------|
| <p>ON 1 2 3 4</p> | <p>Dark on</p>  |
| <p>ON 1 2 3 4</p> | <p>Light on</p> |

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