



## Background suppression sensor RL23-8-H-1000-IR/47/92

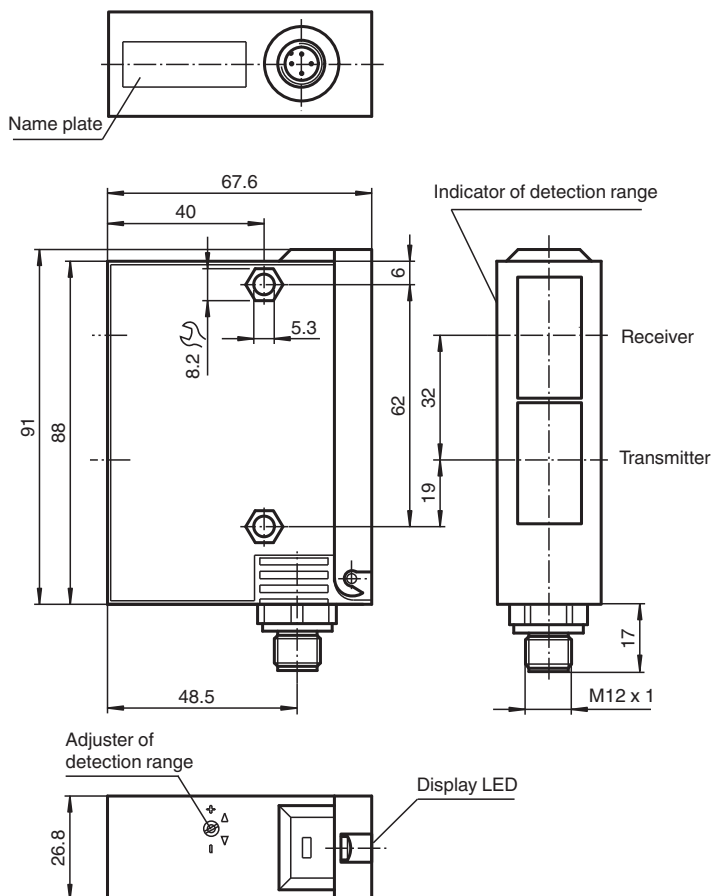


- Adjustable background suppression
- Infrared light
- Sturdy plastic housing
- Optical surface made of scratch-resistant glass

Background suppression sensor

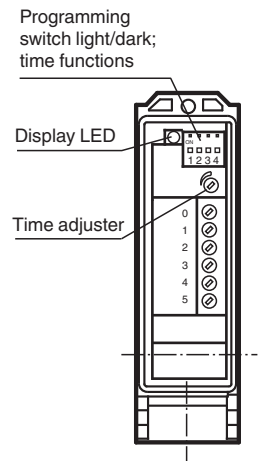
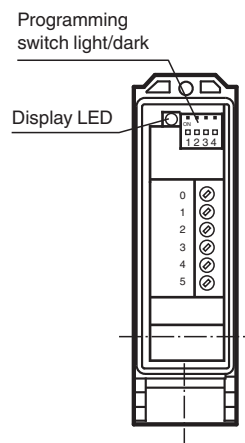


### Dimensions



Terminal compartment  
RL23-8-H-1000  
RLK23-8-H-1000

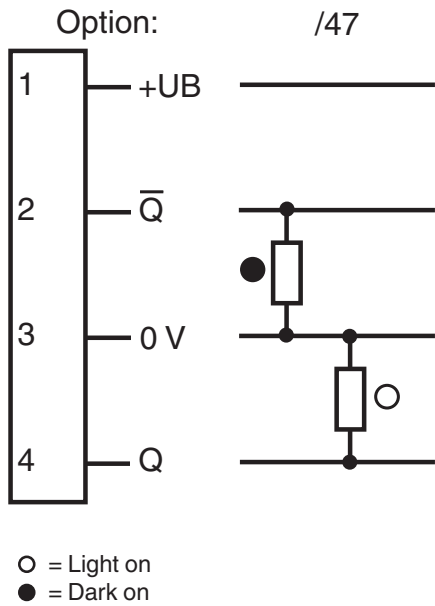
Terminal compartment  
RL23-8-H-2000  
RLK23-8-H-2000



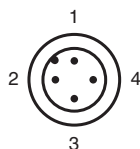
## Technical Data

|                                             |                |  |                                                                           |
|---------------------------------------------|----------------|--|---------------------------------------------------------------------------|
| <b>General specifications</b>               |                |  |                                                                           |
| Detection range                             |                |  | 50 ... 1000 mm                                                            |
| Detection range min.                        |                |  | 50 ... 150 mm                                                             |
| Detection range max.                        |                |  | 50 ... 1000 mm                                                            |
| Light source                                |                |  | IREd                                                                      |
| Light type                                  |                |  | modulated infrared light                                                  |
| Black-white difference (6 %/90 %)           |                |  | < 10 %                                                                    |
| Diameter of the light spot                  |                |  | 25 mm at 1000 mm sensor range                                             |
| Opening angle                               |                |  | 1.5 °                                                                     |
| Ambient light limit                         |                |  | 12000 Lux                                                                 |
| <b>Functional safety related parameters</b> |                |  |                                                                           |
| MTTF <sub>d</sub>                           |                |  | 540 a                                                                     |
| Mission Time (T <sub>M</sub> )              |                |  | 20 a                                                                      |
| Diagnostic Coverage (DC)                    |                |  | 60 %                                                                      |
| <b>Indicators/operating means</b>           |                |  |                                                                           |
| Function indicator                          |                |  | LED yellow, lights up with receiver lit                                   |
| Control elements                            |                |  | Programming switch for light/dark switching                               |
| Control elements                            |                |  | Sensing range adjuster                                                    |
| <b>Electrical specifications</b>            |                |  |                                                                           |
| Operating voltage                           | U <sub>B</sub> |  | 10 ... 30 V DC                                                            |
| Ripple                                      |                |  | 10 %                                                                      |
| No-load supply current                      | I <sub>0</sub> |  | 100 mA                                                                    |
| <b>Output</b>                               |                |  |                                                                           |
| Switching type                              |                |  | light/dark on                                                             |
| Signal output                               |                |  | 2 PNP, complementary, 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                                                                      |
| <b>Conformity</b>                           |                |  |                                                                           |
| Product standard                            |                |  | EN 60947-5-2                                                              |
| <b>Approvals and certificates</b>           |                |  |                                                                           |
| UL approval                                 |                |  | cULus                                                                     |
| CCC approval                                |                |  | CCC approval / marking not required for products rated ≤36 V              |
| <b>Ambient conditions</b>                   |                |  |                                                                           |
| Ambient temperature                         |                |  | -20 ... 60 °C (-4 ... 140 °F)                                             |
| Storage temperature                         |                |  | -20 ... 75 °C (-4 ... 167 °F)                                             |
| <b>Mechanical specifications</b>            |                |  |                                                                           |
| Housing width                               |                |  | 26.8 mm                                                                   |
| Housing height                              |                |  | 91 mm                                                                     |
| Housing depth                               |                |  | 67.6 mm                                                                   |
| Degree of protection                        |                |  | IP65                                                                      |
| Connection                                  |                |  | 4-pin, M12 x 1 connector                                                  |
| <b>Material</b>                             |                |  |                                                                           |
| Housing                                     |                |  | Terluran® GV15                                                            |
| Optical face                                |                |  | glass                                                                     |
| Mass                                        |                |  | 180 g                                                                     |

Connection Assignment



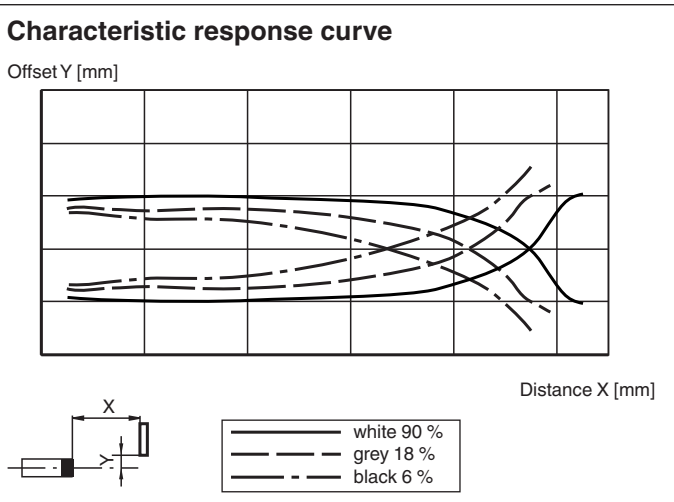
Connection Assignment



Wire colors in accordance with EN 60947-5-2

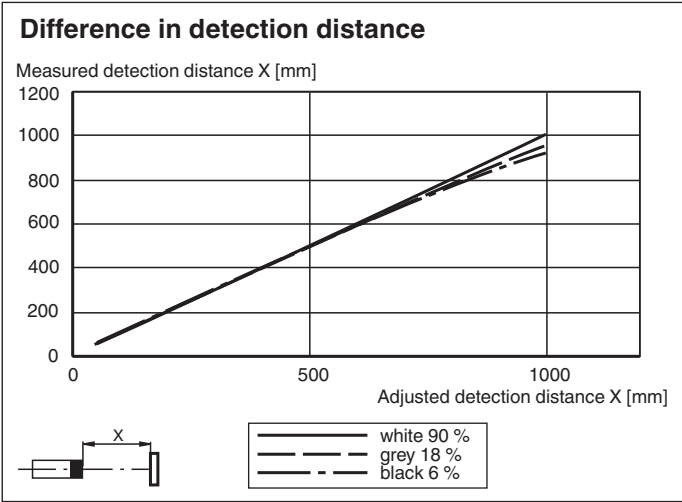
|   |    |         |
|---|----|---------|
| 1 | BN | (brown) |
| 2 | WH | (white) |
| 3 | BU | (blue)  |
| 4 | BK | (black) |

Characteristic Curve



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Characteristic Curve



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

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

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