



**Model Number**

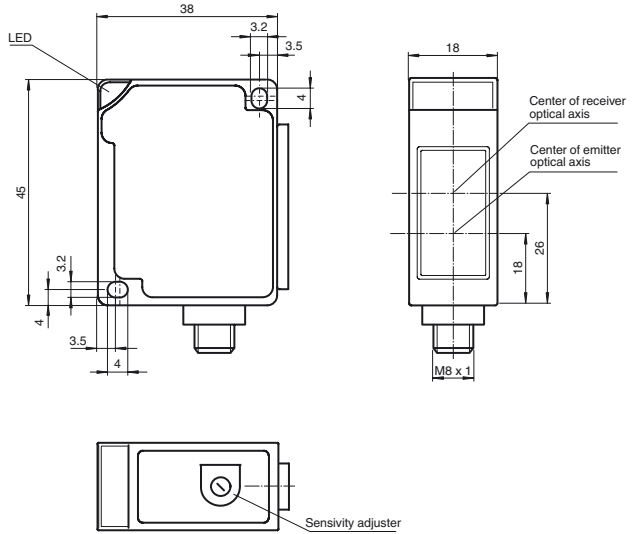
**M13/MV13/32/40b/95**

Thru-beam sensor  
with 4-pin, M8 x 1 connector

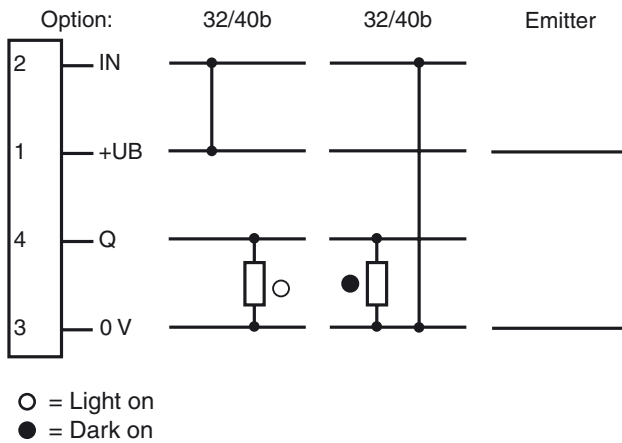
**Features**

- Visible red light
- Pre-fault indication
- Light/dark ON, programmable
- Control input for light/dark switching

**Dimensions**



**Electrical connection**



Release date: 2011-03-07 15:37 Date of issue: 2011-03-08 088796\_ENG.xml

Subject to modifications without notice

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**Technical data****System components**

|          |                |
|----------|----------------|
| Emitter  | M13/95         |
| Receiver | MV13/32/40b/95 |

**General specifications**

|                           |                             |
|---------------------------|-----------------------------|
| Effective detection range | 0 ... 15 m                  |
| Threshold detection range | 22 m                        |
| Adjustment range          | 2 ... 22 m                  |
| Light source              | LED , 660 nm                |
| Light type                | modulated visible red light |
| Ambient light limit       | 10000 Lux                   |

**Indicators/operating means**

|                   |   |
|-------------------|---|
| Operating display | LED green (emitter)   |
| Function display  | switching state: LED yellow<br>pre-fault indicator: LED red |
| Controls          | sensitivity adjustment                                      |

**Electrical specifications**

|                                |       |                |
|--------------------------------|-------|----------------|
| Operating voltage              | $U_B$ | 10 ... 30 V DC |
| Ripple                         |       | 10 %           |
| No-load supply current         | $I_0$ | $\leq 25$ mA   |
| Time delay before availability | $t_v$ | $\leq 30$ ms   |

**Input**

|               |                              |
|---------------|------------------------------|
| Control input | light on +UB<br>dark on: 0 V |
|---------------|------------------------------|

**Output**

|                     |  |                 |
|---------------------|--|-----------------|
| Switching type      | light/dark on  |                 |
| Signal output       | 1 PNP output, short-circuit protected, protected from reverse polarity, open collector |                 |
| Switching voltage   | max. 30 V DC   |                 |
| Switching current   | max. 200 mA  |                 |
| Voltage drop        | $U_d$  | $\leq 2.5$ V DC |
| Switching frequency | $f$  | $\leq 150$ Hz   |
| Response time       |  | $\leq 3$ ms     |

**Ambient conditions**

|                     |                                |
|---------------------|--------------------------------|
| Ambient temperature | -25 ... 70 °C (-13 ... 158 °F) |
| Storage temperature | -40 ... 70 °C (-40 ... 158 °F) |

**Mechanical specifications**

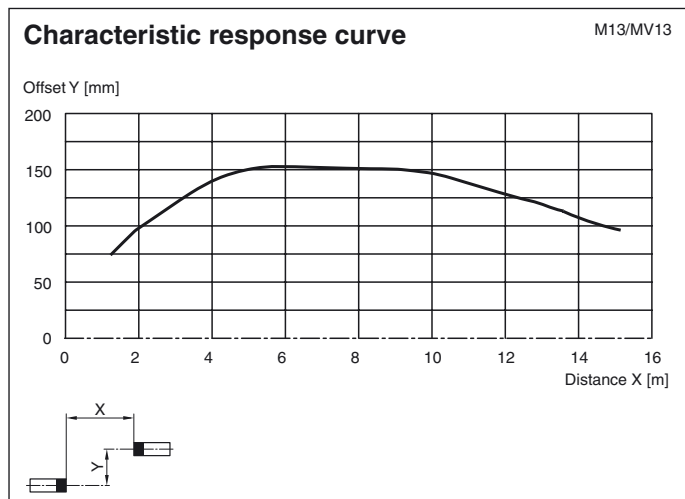
|                   |                     |
|-------------------|---------------------|
| Protection degree | IP67                |
| Connection        | M8 connector, 4-pin |
| Material          |                     |
| Housing           | ABS                 |
| Optical face      | PMMA                |
| Mass              | 40 g (device)       |

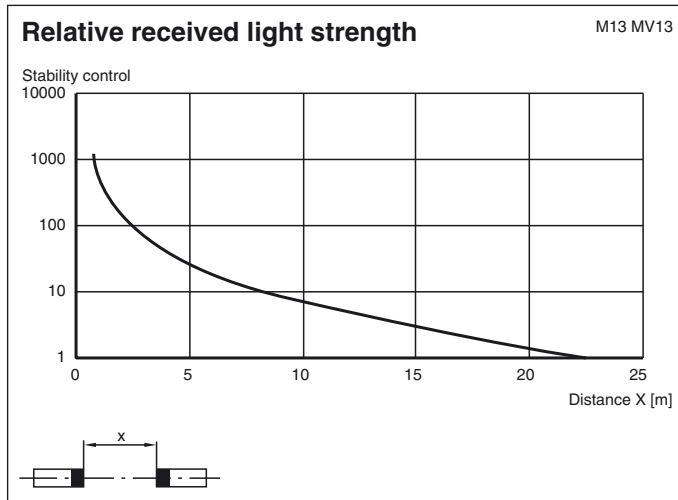
**Compliance with standards and directives**

|                     |                   |
|---------------------|-------------------|
| Standard conformity |                   |
| Product standard    | EN 60947-5-2:2007 |

**Approvals and certificates**

|              |  |
|--------------|--|
| CCC approval | Products with a maximum operating voltage of $\leq 36$ V do not bear a CCC marking because they do not require approval. |
|--------------|--|

**Curves/Diagrams**



## Additional Information

### Conventional use:

The emitter and receiver of the single path light beam switch are housed in different cases that are separated from each other. The emitter transmits directly to receiver. If an object interrupts the light beam the switching function is initiated.

### Mounting instructions:

The sensor can be fastened over the through-holes directly or with the included support angle. The base surface must be flat to avoid distorting the housing during mounting. It is advisable to secure the bolts and screws with washers to prevent misalignment of the sensor.

### Instructions for adjustment:

Emitter and receiver mount to opposite each other and align roughly. The exact adjustment takes by swivelling the emitter or receiver horizontally and vertically. With optimum light reception the yellow LED (only receiver) lights up constantly. In case of bad alignment, the red LED lights up.

### Object detection check:

Move the object into the light beam. If the object is recorded, the yellow LED switch off. If it doesn't go off, reduce the sensitivity with the potentiometer until it goes off. It should light up constantly again when the object is removed.

The red LED lights up if reception deteriorates (e.g. soiled lenses or by maladjustment) and when falling short of the stability control.

### Illustration:

We recommend that you clean the optical interfaces and check the plug-in connections and screw connections at regular intervals.