



**Model Number**

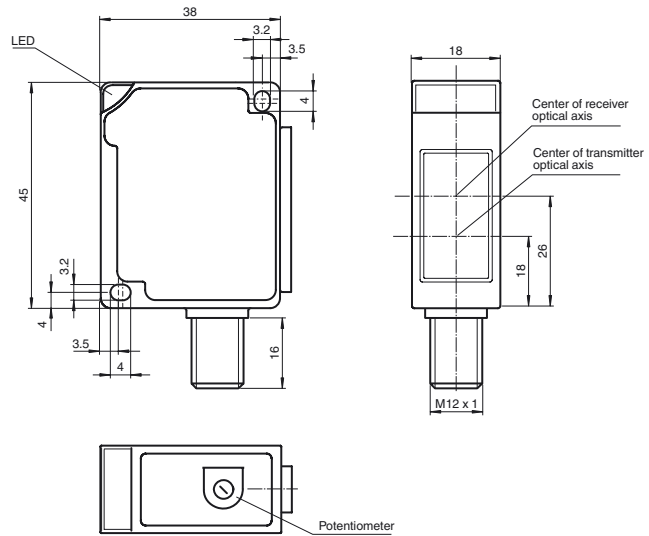
**M13/MV13/30/40b/73c**

Thru-beam sensor  
with 4-pin, M12 x 1 connector

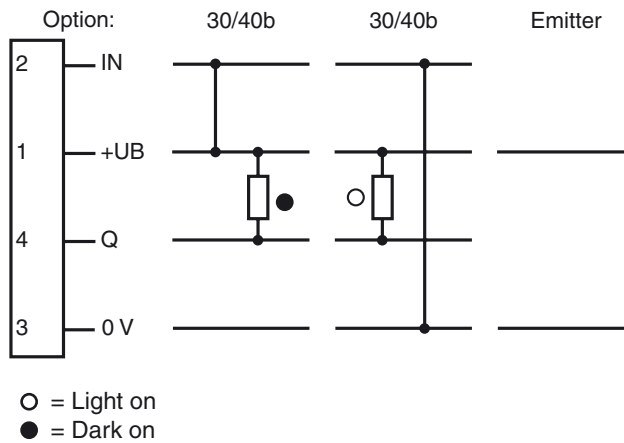
**Features**

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

**Dimensions**



**Electrical connection**



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**Technical data**

**System components**

Emitter	M13/73c
Receiver	MV13/30/40b/73c

**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 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 dark on: 0 V
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**Output**

Switching type	light/dark on	
Signal output	1 NPN output, short-circuit protected, reverse polarity protected, 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	M12 connector, 4-pin
Material	
Housing	ABS
Optical face	PMMA
Mass	40 g (device)

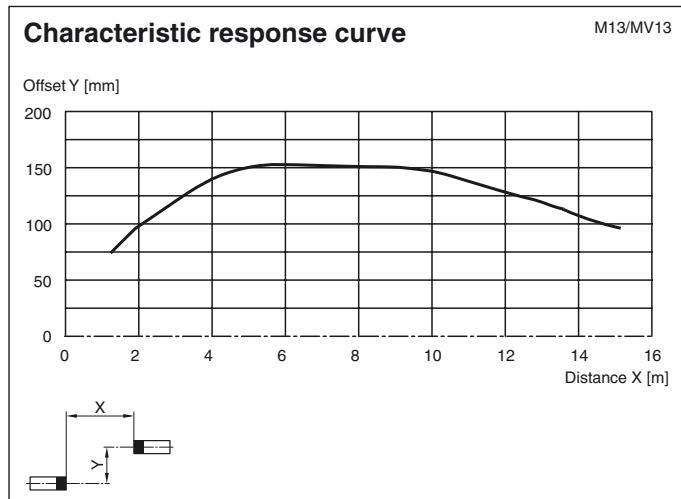
**Compliance with standards and directives**

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

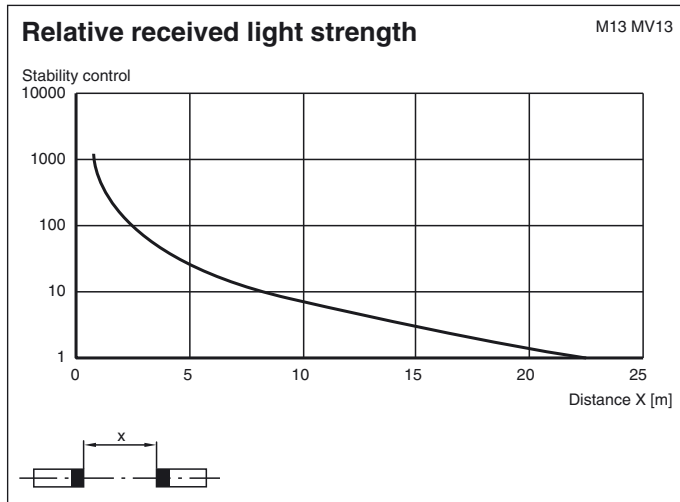
**Approvals and certificates**

CCC approval	Products with a maximum operating voltage of $\leq 36$ V do not bear a CCC marking because they do not require approval.
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**Curves/Diagrams**



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## 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.