



Model Number

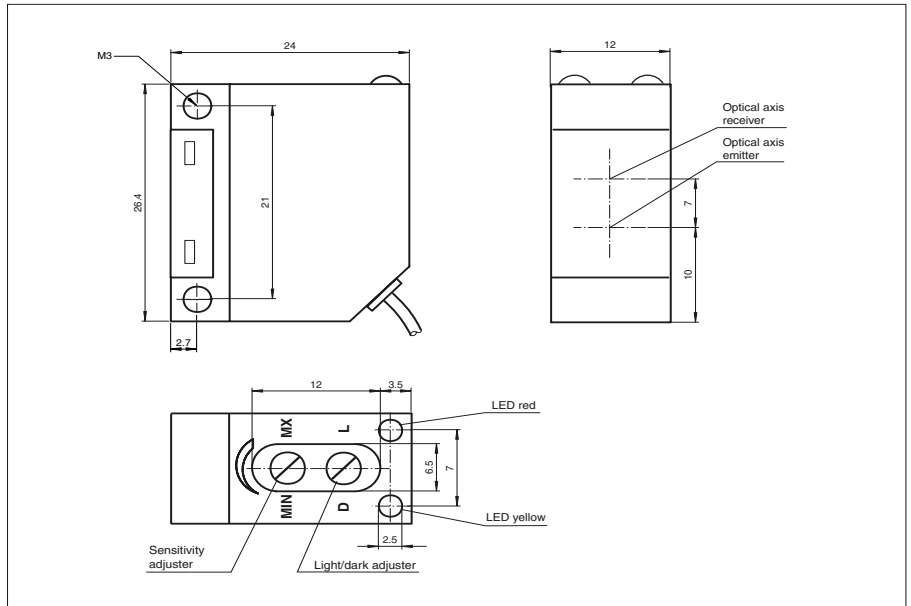
ML5-6/30/33/115

Retro-reflective sensor
with fixed cable

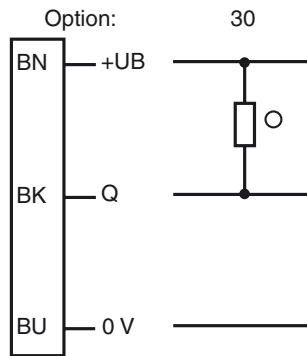
Features

- Miniature design
- Infrared light design
- Light/dark ON, switchable
- Pre-fault indication
- Protection degree IP67
- Thru-holes for screw mounting

Dimensions



Electrical connection



○ = Light on
● = Dark on

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Technical data

General specifications

| | |
|---------------------------|--|
| Effective detection range | 0 ... 2000 mm |
| Reflector distance | 0.01 ... 2 m |
| Threshold detection range | 2500 mm |
| Light source | LED, Infrared 950 nm |
| Approvals | CE, cULus Listed 57M3 (Only in association with UL Class 2 power supply; Type 1 enclosure) |
| Reference target | H50 reflector |
| Light type | infrared, modulated light |
| Ambient light limit | ≤ 20000 Lux sun light ≤ 5000 Lux halogen light |

Indicators/operating means

| | |
|--------------------|--|
| Function display | LED yellow: switching state LED red: pre-fault indication |
| Operating elements | light/dark switch, sensitivity adjuster |

Electrical specifications

| | | |
|------------------------|-------|----------------|
| Operating voltage | U_B | 10 ... 30 V DC |
| Ripple | | 10 % |
| No-load supply current | I_0 | ≤ 30 mA |

Output

| | | |
|---------------------|--|----------|
| Switching type | light/dark ON, switchable | |
| Signal output | 1 NPN output, short-circuit proof, protected from reverse polarity, open collector | |
| Switching voltage | max. 30 V DC | |
| Switching current | max. 200 mA | |
| Voltage drop | U_d | ≤ 2.5 V |
| Switching frequency | f | ≤ 500 Hz |
| Response time | | 1 ms |

Standard conformity

| | |
|-----------|--------------|
| Standards | EN 60947-5-2 |
|-----------|--------------|

Ambient conditions

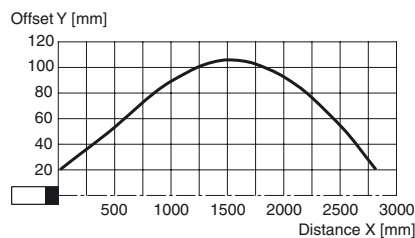
| | |
|---------------------|-------------------------------|
| Ambient temperature | -25 ... 70 °C (248 ... 343 K) |
| Storage temperature | -25 ... 70 °C (248 ... 343 K) |

Mechanical specifications

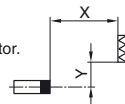
| | |
|-------------------|---|
| Protection degree | IP67 according to EN 60529 |
| Connection | 5 m cable, 3 x 0,14 mm ² , PUR |
| Material | |
| Housing | Polycarbonate |
| Optical face | PMMA |
| Mass | approx. 45 g |

Curves/Diagrams

Characteristic response curve



Permissible distance (offset) between optical axis and retro-reflector.



Additional Information

Conventional use:

The reflex light beam switch contains the emitter and receiver in a single housing. The light from transmitter is reflected back to the receiver by a reflector. 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 a mounting bracket (not included in scope of supply). 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:

Connect the sensor to operating voltage, the LED green lights up constantly.

Mount suitable reflector opposite light beam switch and align roughly.

The exact adjustment takes by swivelling the sensor horizontally and vertically. With optimum light reception the yellow LED 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 goes off. If it isn't going 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.