Dimensions

M3
24
26.4
21
2.7

12
Optical axis receiver
Optical axis emitter
7
10

12   3.5
MX   L
LED red
6.5   7
MIN   D
2.5
LED yellow
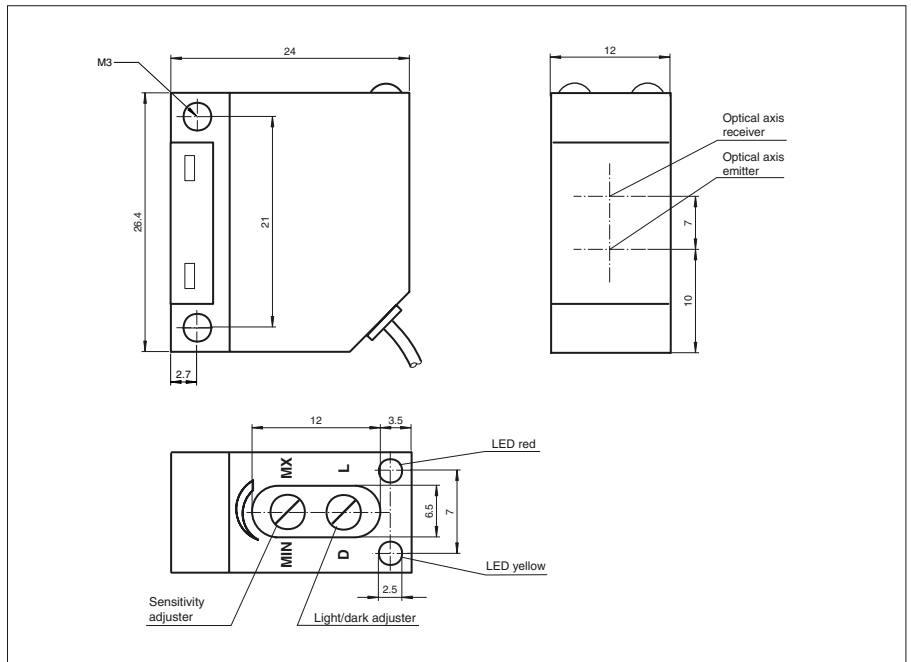Sensitivity adjuster
Light/dark adjuster

Model Number

ML5-6/30/115a

Retro-reflective sensor

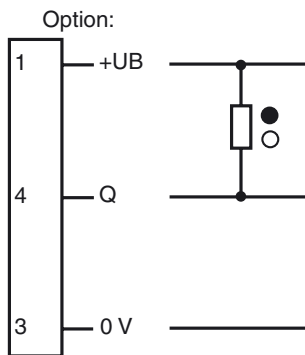with 2 m fixed cable and 3-pin, M8 cable connector

Features

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

Electrical connection

Option:

1 — +UB

4 — Q

3 — 0 V

○ = Light on
● = Dark on

Pinout

4
1 ○ ○ 3

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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
Reference target	H50 reflector
Light source	LED, Infrared 950 nm
Light type	modulated infrared light
Approvals	CE, cULus Listed 57M3 (Only in association with UL Class 2 power supply; Type 1 enclosure)
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
Controls	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 (-13 ... 158 °F)
Storage temperature	-25 ... 70 °C (-13 ... 158 °F)

Mechanical specifications

Protection degree	IP67 according to EN 60529
Connection	2 m, 3 x 0.14 mm^2, PUR cable
Material	
Housing	Polycarbonate
Optical face	PMMA
Mass	approx. 45 g

Compliance with standards and directives

Standard conformity	
Standards	EN 60947-5-2

Approvals and certificates

UL approval	cULus Listed, Type 1 enclosure

Curves/Diagrams

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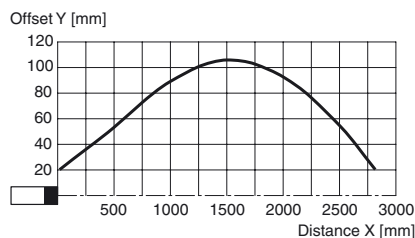
Permissible distance (offset) between optical axis and retro-reflector.

Additional Information
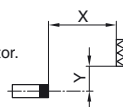
Conventional use:

Accessories

OMH-ML5
Mounting aid

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.

lustration:

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

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