







#### **Model Number**

#### ML4.2-P-8m-RT/40b/76a/110/115

Thru-beam sensor with 2 m fixed cable

#### **Features**

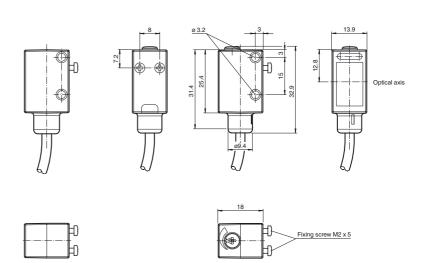
- Short response time
- Highly visible LEDs for Power-On, switching status, short-circuit, and undervoltage
- Test input
- Metal-reinforced fastening holes
- Optical surface made of scratch-resistant glass
- Push-pull output

## **Product information**

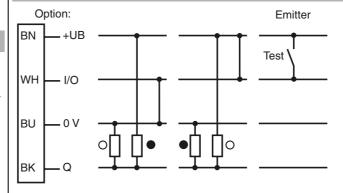
The ML4.2 series is characterized by a robust, powerful and standard design in a miniature housing. The housing offers IP67/ IP69K degree of protection, a scratch- and chemical-resistant lens, highly visible LEDs and robust all-metal bushings for mounting. Adjustable and tamper-proof sensors are available with a universal push-pull output and an electrical light ON/dark ON switch. The sensors have a high ambient light limit. Reflections from the background are suppressed. The unusually small, sharp light spot and the quick response time offer maximum switching precision on object edges.. Both red and infrared light sources are available. A high-performance fixed focus background suppressor is a useful feature. The sensors are suitable for precise object detection and open up a wide range of application fields.

#### **Dimensions**

Transmitter Receiver

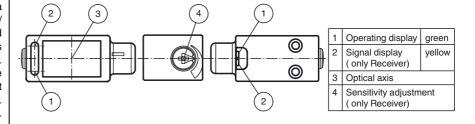


#### **Electrical connection**



- O = Light on
- = Dark on

#### Indicators/operating means



Technical data		
System components		
Emitter		ML4.2-T-8m-RT/76a/115
Receiver		ML4.2-R/40b/110/115
General specifications		
Effective detection range		0 8000 mm
Threshold detection range		10000 mm
Light source		LED
Light type		modulated visible red light
Target size		min. 7 mm
Diameter of the light spot		300 mm at 8000 mm detection range
Angle of divergence		approx. 2 °
Ambient light limit		••
Continuous light		40000 Lux
Modulated light		5000 Lux
Functional safety related param	eters	
MTTF <sub>d</sub>		550 a
Mission Time (T <sub>M</sub> )		20 a
Diagnostic Coverage (DC)		60 %
Indicators/operating means		
Operation indicator		LED green, statically lit Power on , Undervoltage indicator:
C por anon in a route.		Green LED, pulsing (approx. 0.8 Hz) , short-circuit : LED green flashing (approx. 4 Hz)
Function indicator		LED yellow, lights up with receiver lit flashes when falling short of the stability control
Control elements		sensitivity adjustment
Electrical specifications		
Operating voltage	$U_B$	10 30 V DC
Ripple		< 10 %
No-load supply current	I <sub>0</sub>	< 15 mA at 24 V DC
Input		
Test input		emitter deactivation at +U <sub>B</sub>
Output		
Switching type		light/dark on electrically switchable
Signal output		Push-pull output, short-circuit protected, reverse polarity protected
Switching voltage		max. 30 V DC
Switching current		max. 100 mA
Voltage drop	$U_d$	≤ 2.5 V DC
Switching frequency	f	2000 Hz
Response time		250 μs
Ambient conditions		
Ambient temperature		-20 60 °C (-4 140 °F)
Storage temperature		-20 75 °C (-4 167 °F)
Mechanical specifications		
Degree of protection		IP67 / IP69K
Connection		2 m fixed cable
Material		
Material Housing		ABS
		ABS glass pane
Housing		
Housing Optical face	l directi	glass pane 15 g (device)
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#### **Accessories**

#### OMH-4.1

Mounting Clamp

#### OMH-ML6

Mounting bracket

#### OMH-ML6-U

Mounting bracket

#### OMH-ML6-Z

Mounting bracket

#### OMH-11-02 Aperture-V-H 0.5 mm

Slit diaphragm can be affixed for detecting very small parts

#### OMH-11-04 Aperture-V-H 1.0 mm

Slit diaphragm can be affixed for detecting very small parts

## OMH-11-06 Aperture-V-H 1.5 mm

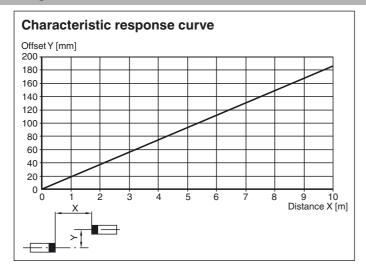
Slit diaphragm can be affixed for detecting very small parts

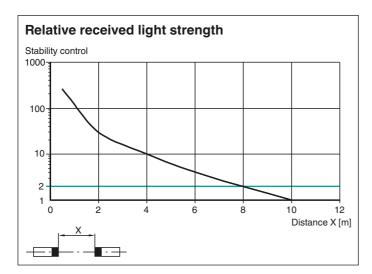
## OMH-11-08 Aperture-V-H 2.0 mm

Slit diaphragm can be affixed for detecting very small parts

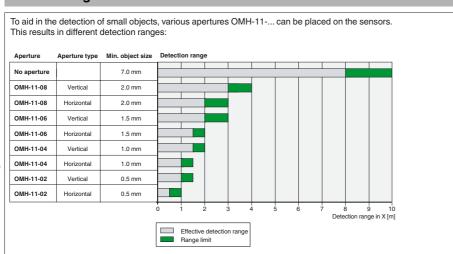
Other suitable accessories can be found at www.pepperl-fuchs.com

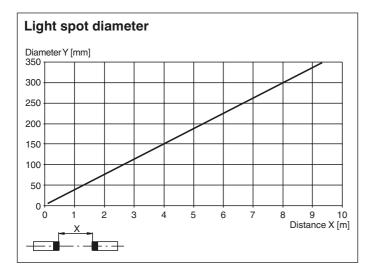
# **Curves/Diagrams**





# **Curves/Diagrams**





### Aperture alignment

When attaching the aperture, make sure that the sensor lens is aligned exactly with the black aperture.



