

**VISC**� CE c US

### **Model Number**

### ML4.2-8-H-20-IR/40b/110/115

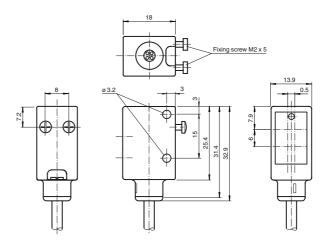
Background suppression sensor with 2 m fixed cable

## **Features**

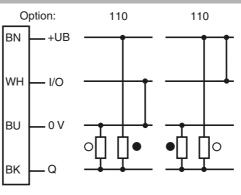
- Precise background suppression •
- Very small black-white difference
- Small, sharp light spot •
- Highly visible LEDs for Power-On, • switching status, short-circuit, and undervoltage
- Metal-reinforced fastening holes
- Tamper-proof version with no adjust-• ments
- Push-pull output

# **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.



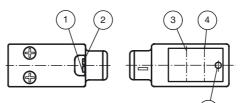
# **Electrical connection**



O = Light on

= Dark on

# Indicators/operating means



1	operating display	green
2	indication of the switching state	yellow
3	receiver axis	
4	emitter axis	

Refer to "General Notes Relating to Pepperl+Fuchs Product Information" Pepperl+Fuchs Group www.pepperl-fuchs.com

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Mass

General specifications   7 20 mm   OMH-4.1     Detection range max.   5 25 mm   Mounting Clamp     Background suppression   starts from 25 mm   OMH-ML6     Light source   IRED   Mounting bracket     Light type   modulated infrared light , 880 nm   OMH-ML6-U     BlackWhite difference (6 %/90 %)   approx. 1 mm   OMH-ML6-U     Diameter of the light spot   approx. 1.5 mm at 20 mm   Mounting bracket     Angle of divergence   approx. 5 °   OMH-ML6-U     Mounting bracket   OMH-ML6-U   Mounting bracket     Modulated light   5000 Lux   Mounting bracket     Mounting bracket   OMH-ML6-Z   Mounting bracket     Mounting bracket   OMH-ML6-Z   Mounting bracket     Mounting bracket   OMH-ML6-Z   Mounting bracket     Mounting bracket   Other suitable accessories can be found www.pepperl-fuchs.com     Mission Time (T <sub>M</sub> )   20 a   O%     Diagnostic Coverage (DC)   0%   0%				
Detection range7 20 mmOMIT-4.1Detection range max.5 25 mmMounting ClampBackground suppressionstarts from 25 mmOMH-ML6Light sourceIREDMounting bracketLight typemodulated infrared light , 880 nmOMH-ML6-UBlack/White difference (6 %/90 %)approx. 1 mmOMH-ML6-UDiameter of the light spotapprox. 1.5 mm at 20 mmMounting bracketAngle of divergenceapprox. 5 °Mounting bracketAmbient light limit5000 LuxOMH-ML6-ZModulated light5000 LuxMounting bracketMottrFrd1940 aOther suitable accessories can be fourneMission Time (T <sub>M</sub> )20 a0 %	Technical data		Accessories	
Detection range7 20 mmMounting ClampDetection range max.5 25 mmOMH-ML6Background suppressionstarts from 25 mmOMH-ML6Light sourceIREDMounting bracketLight typemodulated infrared light , 880 nmOMH-ML6-UBlack/White difference (6 %/90 %)approx. 1 mmOMH-ML6-UDiameter of the light spotapprox. 1.5 mm at 20 mmMounting bracketAngle of divergenceapprox. 5 °Mounting bracketAmbient light limit5000 LuxOMH-ML6-ZModulated light5000 LuxMounting bracketMounting bracketOther suitable accessories can be fourneMTTFd1940 aother suitable accessories can be fourneMission Time (TM)20 a0 %	General specifications		OMH-4.1	
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Functional safety related parameters www.pepperl-fuchs.com   MTTF <sub>d</sub> 1940 a   Mission Time (T <sub>M</sub> ) 20 a   Diagnostic Coverage (DC) 0 %	Modulated light	5000 Lux	Other suitable accessories can be found a	
MTTF <sub>d</sub> 1940 a   Mission Time (T <sub>M</sub> ) 20 a   Diagnostic Coverage (DC) 0 %	Functional safety related parameters			
Diagnostic Coverage (DC) 0 %	MTTF <sub>d</sub>			
	Mission Time (T <sub>M</sub> )	20 a		
Indicators/operating means	Diagnostic Coverage (DC)	0 %		
· •	Indicators/operating means			
Operation indicator LED green, statically lit Power on , Undervoltage indicator: Green LED, pulsing (approx. 0.8 Hz) , short-circuit : LED green flashing (approx. 4 Hz)	Operation indicator	Green LED, pulsing (approx. 0.8 Hz) , short-circuit : LED green		
Function indicator LED yellow: lights when object is detected	Function indicator	LED yellow: lights when object is detected		
Electrical specifications	Electrical specifications			
Operating voltage U <sub>B</sub> 1030 V DC	Operating voltage U <sub>B</sub>	10 30 V DC		
Ripple 10 %	Ripple	10 %		
No-load supply current I <sub>0</sub> < 25 mA	No-load supply current I0	< 25 mA		
Output	Output			
Switching type light/dark on electrically switchable	Switching type	light/dark on electrically switchable		
Signal output Push-pull output, short-circuit protected, reverse polarity protec- ted	Signal output			
Switching voltage max. 30 V DC	Switching voltage	max. 30 V DC		
Switching current max. 100 mA	Switching current	max. 100 mA		
Voltage drop $U_d \leq 2.5 \text{ V DC}$	Voltage drop U <sub>d</sub>	≤ 2.5 V DC		
Switching frequency f 1000 Hz	Switching frequency f	1000 Hz		
Response time 0.5 ms	Response time	0.5 ms		
Ambient conditions	Ambient conditions			
Ambient temperature -20 60 °C (-4 140 °F)	Ambient temperature	-20 60 °C (-4 140 °F)		
Storage temperature -20 75 °C (-4 167 °F)	Storage temperature	-20 75 °C (-4 167 °F)		
Mechanical specifications	Mechanical specifications			
Degree of protection IP67 / IP69K	Degree of protection	IP67 / IP69K		
Connection 2 m fixed cable	<b>e</b> .	2 m fixed cable		
Material	Material			
Housing ABS	Housing	ABS		
Optical face glass pane				
Cable PUR	•			

Compliance with standards and directi-		
ves		
Standard conformity		

Standard conformity	
Product standard	EN 60947-5-2:2007 IEC 60947-5-2:2007
Shock and impact resistance	IEC / EN 60068. half-sine, 40 g in each X, Y and Z directions
Vibration resistance	IEC / EN 60068-2-6. Sinus. 10 -150 Hz, 5 g in each X, Y and Z directions

approx. 50 g

#### Approvals and certificates

CE conformity	
UL approval	
CCC approval	

yes
cULus Listed
CCC approval / marking not required for products rated $\leq$ 36 V

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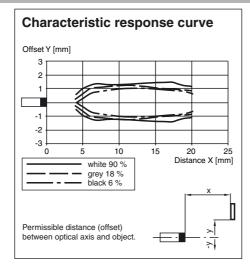
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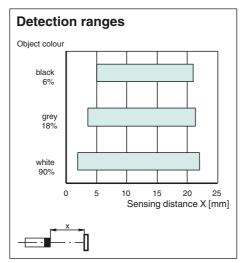
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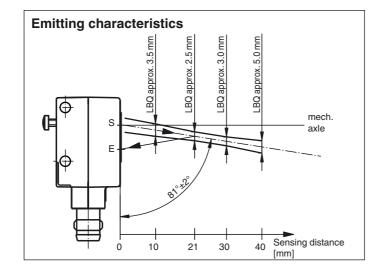
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# **Curves/Diagrams**







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