



Background suppression sensor

ML100-8-H-250-BU/95/102



- Miniature design
- Easy to use
- Full metal thread mounting
- Not sensitive to ambient light
- Very bright, highly visible blue light spot
- Highly visible LEDs for Power ON and switching state

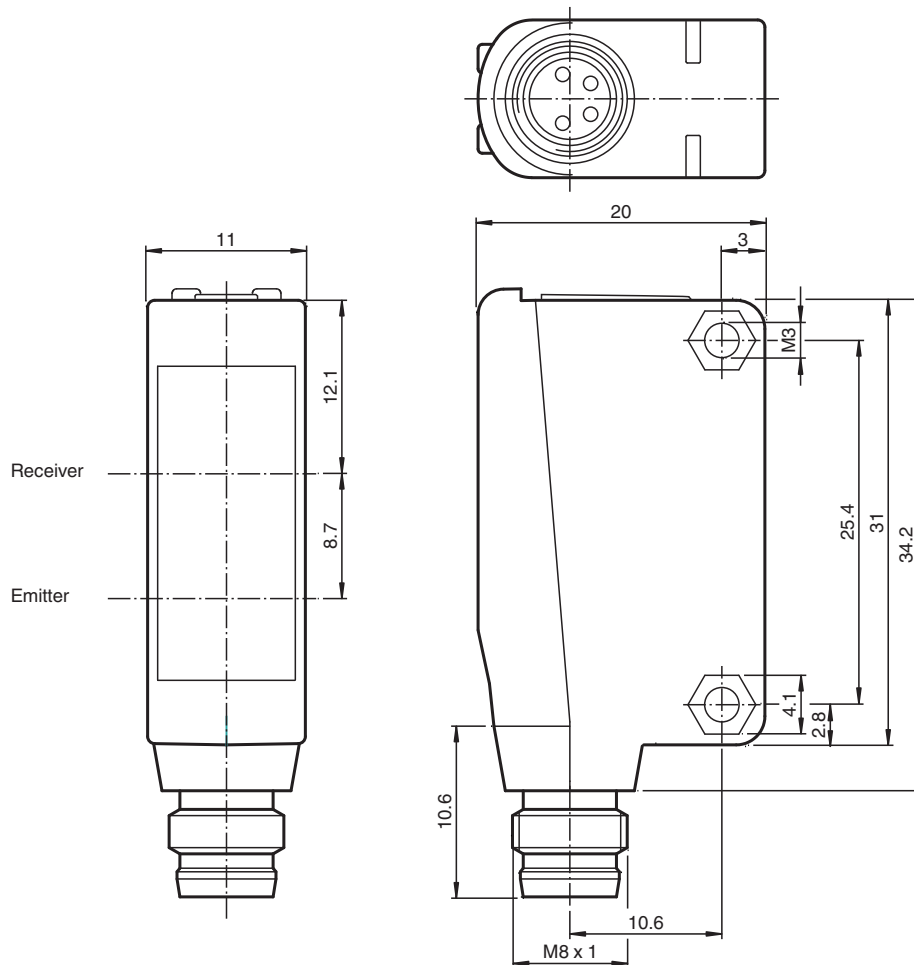
Triangulation sensor with background suppression, 250 mm adjustable detection range, blue light, light/dark on, npn output, M8 plug 4-pin



Function

The optical sensors of this series are suitable for both standard and demanding applications. The series features a miniature housing design, two M3 metal-threaded mounting holes and a highly visible LED status indicator. Each device is equipped with a sensitivity adjuster and a light-on/dark-on changeover switch for increased flexibility. A wide variety of versions are available in both infrared light and red light with PowerBeam for easy alignment. Special versions with BlueBeam are suitable for challenging applications like those in the solar and battery industries.

Dimensions



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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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Technical Data

General specifications			
Detection range			5 ... 250 mm
Detection range min.			5 ... 30 mm
Detection range max.			5 ... 250 mm
Adjustment range			30 ... 250 mm
Reference target			standard white, 100 mm x 100 mm
Light source			LED
Light type			modulated visible blue light
Polarization filter			no
Black-white difference (6 %/90 %)			<30% at 250 mm, <20% at 200 mm, <10% at 150 mm
Diameter of the light spot			approx. 14 mm at a distance of 250 mm
Opening angle			approx. 4 °
Optical face			frontal
Ambient light limit			EN 60947-5-2
Functional safety related parameters			
MTTF _d			840 a
Mission Time (T _M)			20 a
Diagnostic Coverage (DC)			0 %
Indicators/operating means			
Operation indicator			LED green: power on
Function indicator			LED yellow: lights when object is detected
Control elements			Sensing range adjuster
Control elements			Light-on/dark-on changeover switch
Electrical specifications			
Operating voltage	U _B		10 ... 30 V DC
Ripple			max. 10 %
No-load supply current	I ₀		< 20 mA
Output			
Switching type			The switching type of the sensor is adjustable. The default setting is: light-on
Signal output			1 NPN output, short-circuit protected, reverse polarity protected, open collector
Switching voltage			max. 30 V DC
Switching current			max. 100 mA , resistive load
Voltage drop	U _d		≤ 1.5 V DC
Switching frequency	f		500 Hz
Response time			1 ms
Conformity			
Product standard			EN 60947-5-2
Photobiological safety			Risk group 1 according to IEC 62471
Approvals and certificates			
UL approval			cULus Listed, Class 2 Power Source or listed Power Supply with a limited voltage output with (maybe integrated) fuse (max. 3.3 A according UL248), Type 1 enclosure
CCC approval			CCC approval / marking not required for products rated ≤36 V
Ambient conditions			
Ambient temperature			-30 ... 60 °C (-22 ... 140 °F)
Storage temperature			-40 ... 70 °C (-40 ... 158 °F)
Mechanical specifications			
Housing width			11 mm
Housing height			31 mm
Housing depth			20 mm
Degree of protection			IP67
Connection			Connector M8 x 1 , 4-pin
Material			
Housing			PC (Polycarbonate)

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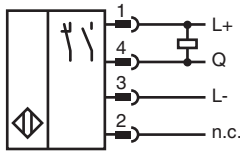
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Technical Data

Optical face	PMMA
Mass	approx. 10 g
Tightening torque, fastening screws	0.6 Nm

Connection



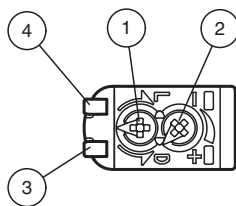
Connection Assignment



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)

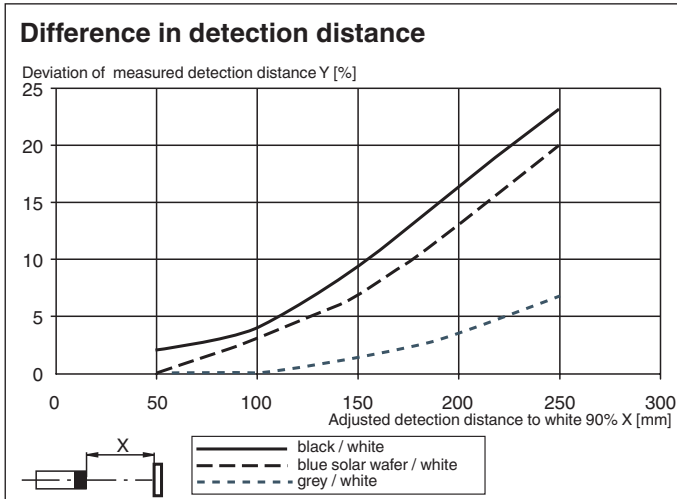
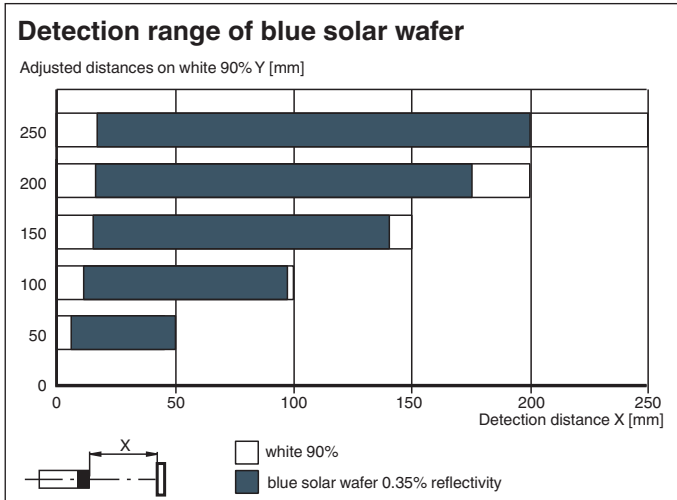
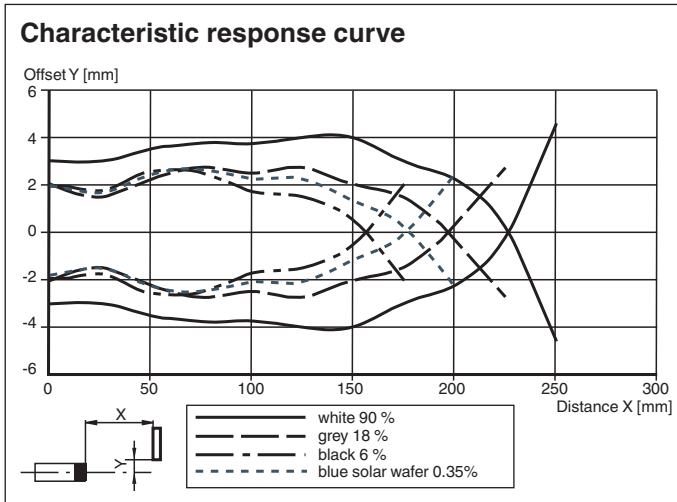
Assembly






1	Light-Dark-switching	
2	Sensitivity adjuster	
3	Signal display	yellow
4	Operating display	green

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Characteristic Curve









Accessories

	OMH-ML100-09	Mounting aid for round steel \varnothing 12 mm or sheet 1.5 mm ... 3 mm
	OMH-ML100-03	Mounting aid for round steel \varnothing 12 mm or sheet 1.5 mm ... 3 mm
	OMH-ML100-04	Mounting aid for ML100 series, mounting bracket

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Accessories

	OMH-ML100-05	Mounting aid for ML100 series, mounting bracket
	OMH-F10-ML100	Mounting aid for ML100 series
	OMH-10	Mounting aid for ML100 series
	V31-GM-2M-PUR	Female cordset single-ended M8 straight A-coded, 4-pin, PUR cable grey
	V31-WM-2M-PUR	Female cordset single-ended M8 angled A-coded, 4-pin, PUR cable grey
	OMH-ML100-S1	Mounting bracket