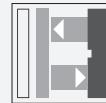




## Background suppression sensor

### ML100-8-H-250-BU/102/115



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

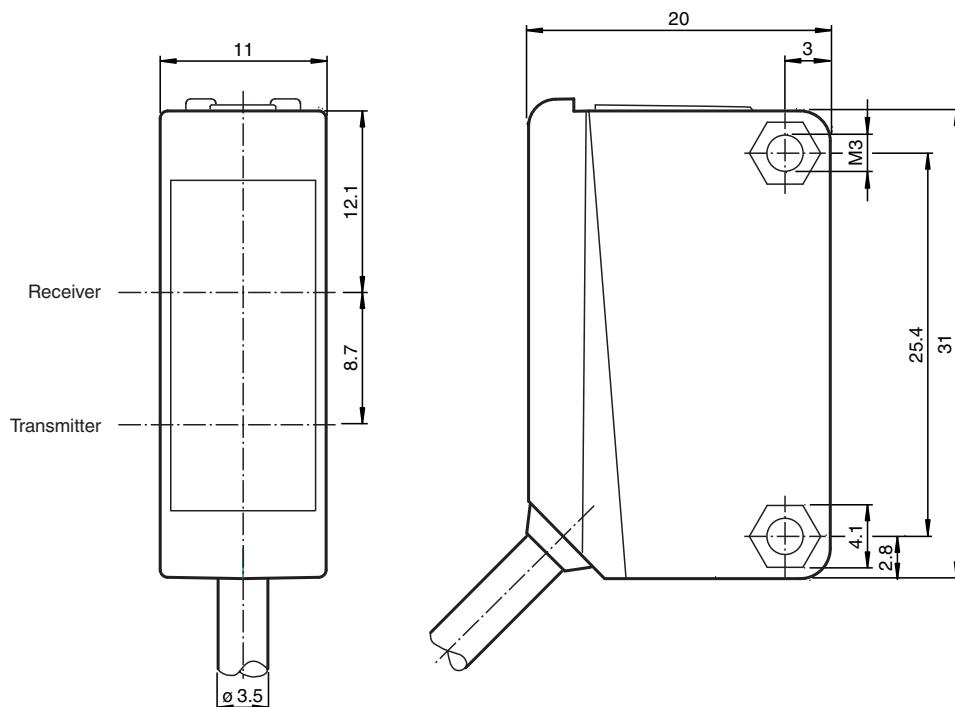
Triangulation sensor with background suppression, 250 mm adjustable detection range, blue light, light/dark on, NPN output, fixed cable



## 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



## 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 <sub>d</sub>	840 a
Mission Time (T <sub>M</sub> )	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 <sub>B</sub>	10 ... 30 V DC
Ripple		max. 10 %
No-load supply current	I <sub>0</sub>	< 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 <sub>d</sub> ≤ 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)

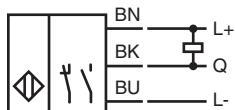
### Mechanical specifications

Housing width	11 mm
Housing height	31 mm
Housing depth	20 mm
Degree of protection	IP67
Connection	2 m fixed cable
Material	
Housing	PC (Polycarbonate)

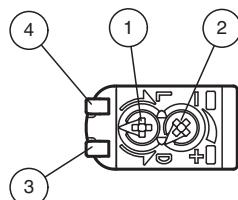
## Technical Data

Optical face	PMMA
Mass	approx. 50 g
Tightening torque, fastening screws	0.6 Nm
Cable length	2 m

## Connection

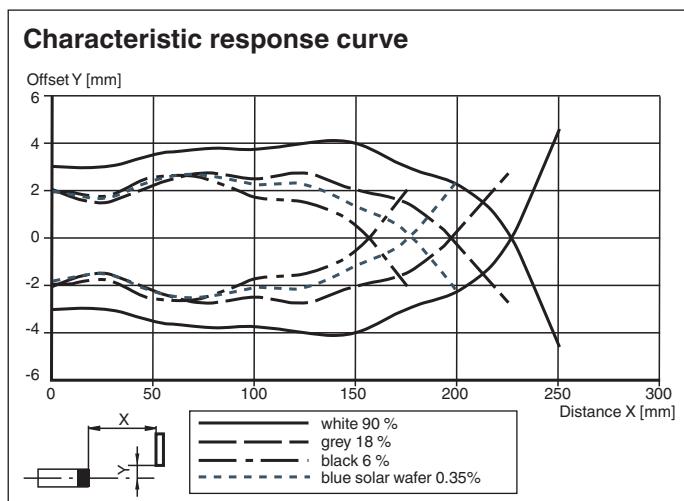


## Assembly



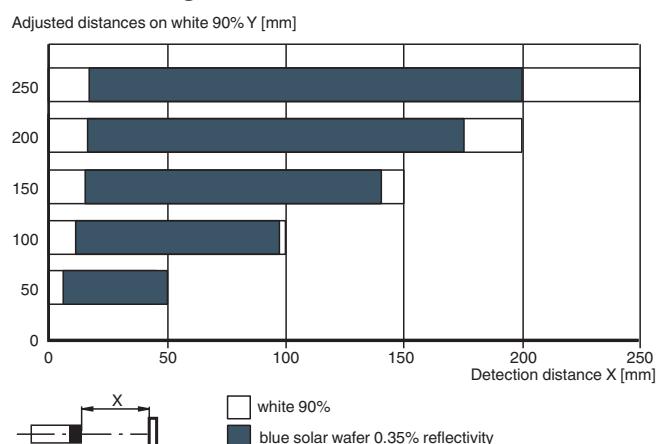
1	Light-Dark-switching	
2	Sensitivity adjuster	
3	Signal display	yellow
4	Operating display	green

## Characteristic Curve

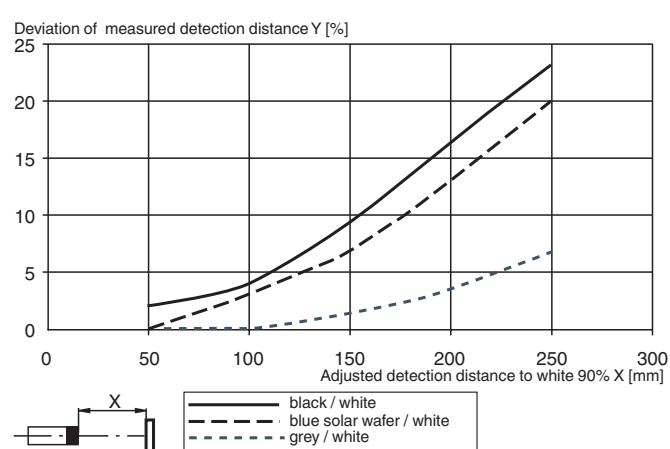


## Characteristic Curve

### Detection range of blue solar wafer



### Difference in detection distance



## Accessories

	<b>OMH-ML100-09</b>	Mounting aid for round steel $\varnothing$ 12 mm or sheet 1.5 mm ... 3 mm
	<b>OMH-ML100-01</b>	Mounting aid for ML100 series, mounting bracket
	<b>OMH-ML100-02</b>	Mounting aid for ML100 series, mounting bracket
	<b>OMH-ML100-03</b>	Mounting aid for round steel $\varnothing$ 12 mm or sheet 1.5 mm ... 3 mm
	<b>OMH-ML100-04</b>	Mounting aid for ML100 series, mounting bracket
	<b>OMH-ML100-05</b>	Mounting aid for ML100 series, mounting bracket
	<b>OMH-F10-ML100</b>	Mounting aid for ML100 series
	<b>OMH-10</b>	Mounting aid for ML100 series

## Accessories

	OMH-ML100-S1	Mounting bracket
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