



Model Number

ML100-8-H-250-BU/95/103

Background suppression sensor
with 4-pin, M8 x 1 connector

Features

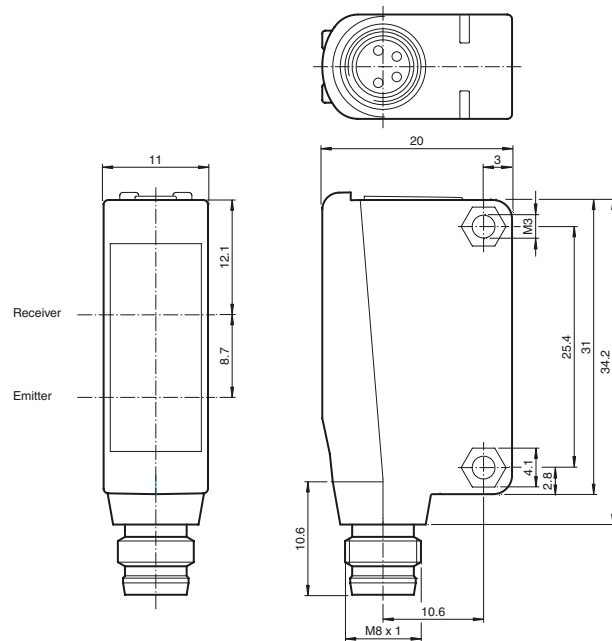
- Miniature design
- Easy to use
- Full metal thread mounting
- Highly visible LEDs for Power ON and switching state
- Not sensitive to ambient light
- Very bright, highly visible blue light spot

Product information

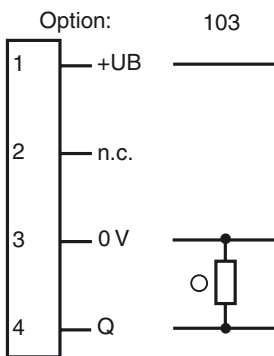
The ML100 series is characterized by its miniature housing with integral, all-metal threaded bushings. This version is equipped with a visible blue transmitter LED. This greatly simplifies installation and commissioning. The switching states are easily visible from all directions thanks to the highly visible LEDs.

The sensor is particularly suitable for detection of blue solar wafers, even those with anti-reflection coating.

Dimensions

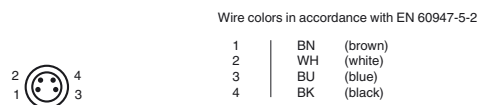


Electrical connection

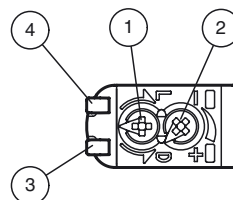


○ = Light on
● = Dark on

Pinout



Indicators/operating means



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

**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
Angle of divergence	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 PNP 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
------------------	--------------

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

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

Accessories**OMH-ML100-09**

Mounting aid for round steel ø 12 mm or sheet 1.5 mm ... 3 mm

OMH-ML100-03

Mounting aid for round steel ø 12 mm or sheet 1.5 mm ... 3 mm

OMH-ML100-04

Mounting aid for ML100 series, mounting bracket

OMH-ML100-05

Mounting aid for ML100 series, mounting bracket

OMH-F10-ML100

Mounting aid for ML100 series

OMH-10

Mounting aid

V31-GM-2M-PUR

Female cordset single-ended, M8, 4-pin, PUR cable

V31-WM-2M-PUR

Female cordset single-ended, M8, 4-pin, PUR cable

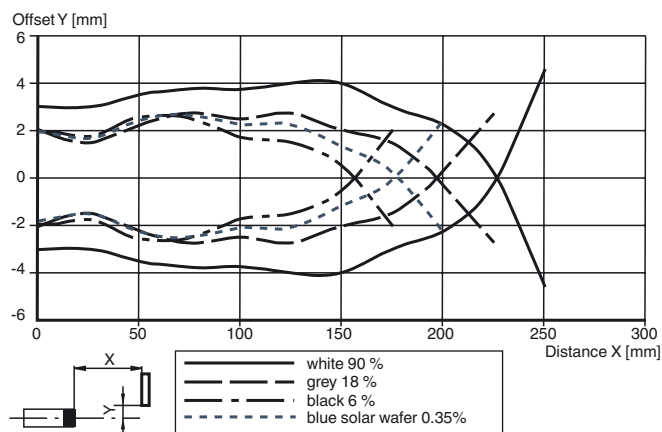
OMH-ML100-S1

Mounting bracket

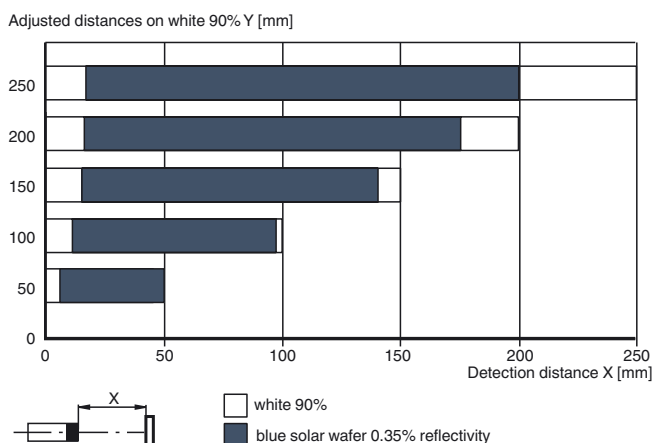
Other suitable accessories can be found at www.pepperl-fuchs.com

Curves/Diagrams

Characteristic response curve



Detection range of blue solar wafer



Difference in detection distance

