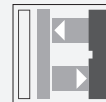




Convergent beam sensor

ML100-8-HGU-100-BU/95/103/162



- Miniature design
- Diffuse mode sensor with long, narrow light spot
- Easy to use
- Very bright, highly visible light spot
- Full metal thread mounting

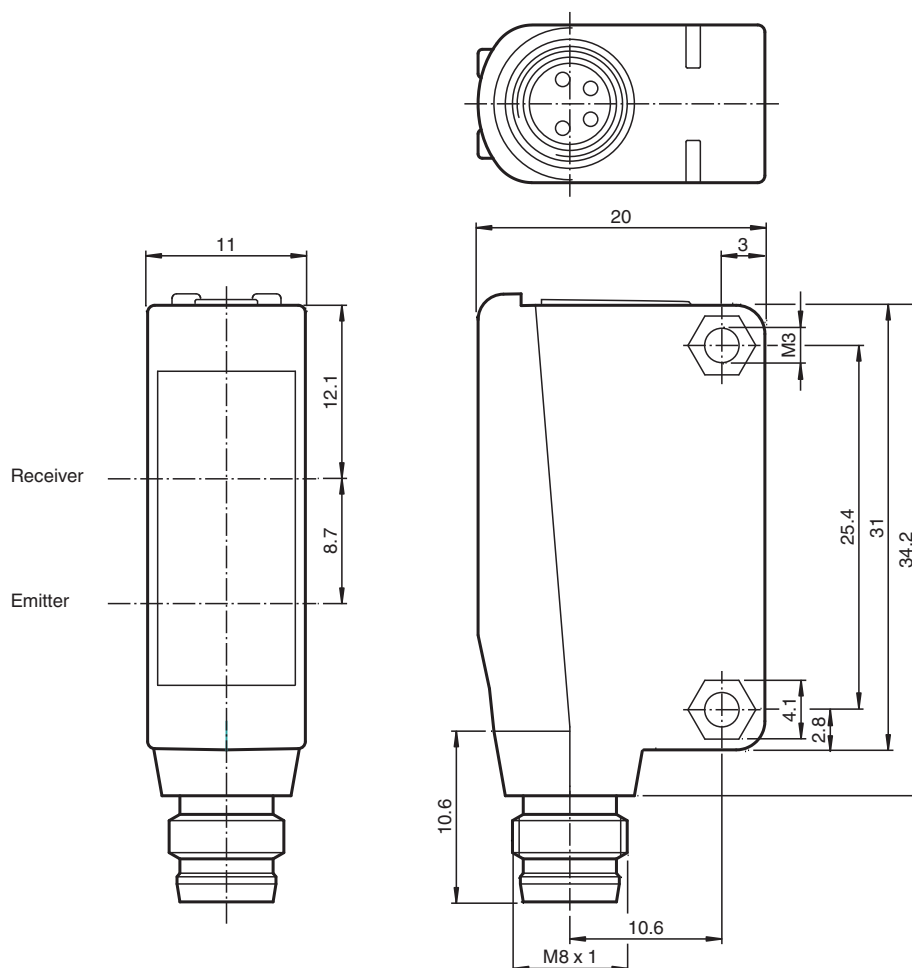
Convergent beam sensor, 100 mm adjustable detection range, blue light, light/dark on, PNP output, M8 plug



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



Release date: 2023-03-28 Date of issue: 2023-03-28 Filename: 70127463_eng.pdf

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

Pepperl+Fuchs Group
www.pepperl-fuchs.com

USA: +1 330 486 0001
fa-info@us.pepperl-fuchs.com

Germany: +49 621 776 1111
fa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091
fa-info@sg.pepperl-fuchs.com

PEPPERL+FUCHS

Technical Data

General specifications

Detection range	10 ... 100 mm
Adjustment range	30 ... 100 mm
Reference target	standard black, 100 mm x 100 mm
Light source	LED
Light type	modulated visible blue light
Polarization filter	no
Black-white difference (6 %/90 %)	< 20 % at 100 mm, < 10 % at 75 mm, < 5 % at 50 mm
Diameter of the light spot	approx. 6 mm x 60 mm at 100 mm
Opening angle	Emitter: 3.5 ° vertical ; 30 ° horizontal
Optical face	frontal
Ambient light limit	EN 60947-5-2:2007+A1:2012

Functional safety related parameters

MTTF _d	860 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
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

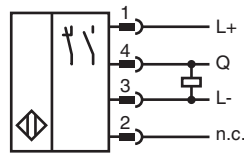
Housing width	11 mm
Housing height	31 mm
Housing depth	20 mm
Degree of protection	IP67
Connection	Connector M8 x 1 , 4-pin
Material	
Housing	PC (Polycarbonate)
Optical face	PMMA
Mass	approx. 10 g

Release date: 2023-03-28 Date of issue: 2023-03-28 Filename: 70127463_eng.pdf

Technical Data

Tightening torque, fastening screws	0.6 Nm
-------------------------------------	--------

Connection



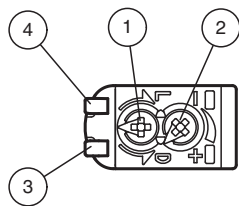
Connection Assignment



Wire colors in accordance with EN 60947-5-2

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

Assembly

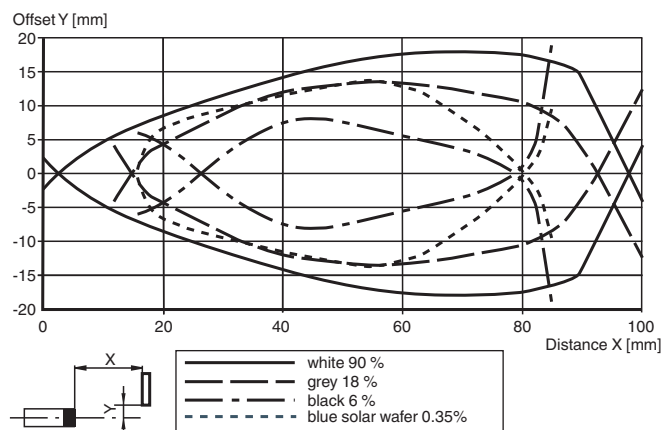


1	Light-Dark-switching	
2	Sensitivity adjuster	
3	Signal display	yellow
4	Operating display	green

Release date: 2023-03-28 Date of issue: 2023-03-28 Filename: 70127463_eng.pdf

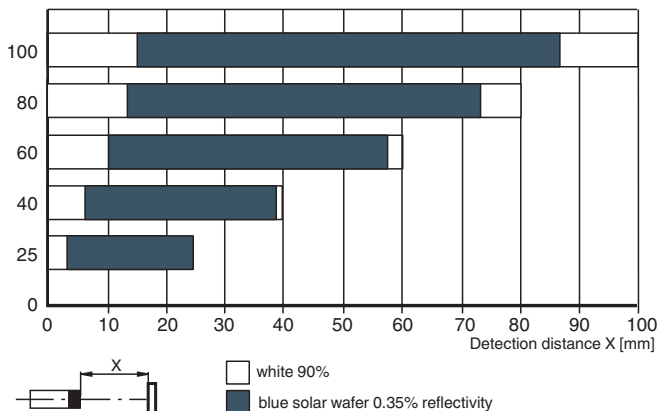
Characteristic Curve

Characteristic response curve



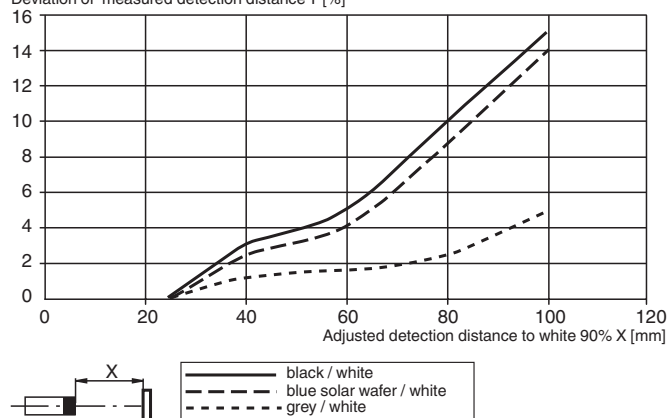
Detection range of blue solar wafer

Adjusted distances on white 90% Y [mm]



Difference in detection distance

Deviation of measured detection distance Y [%]



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

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

Pepperl+Fuchs Group
www.pepperl-fuchs.com

USA: +1 330 486 0001
fa-info@us.pepperl-fuchs.com

Germany: +49 621 776 1111
fa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091
fa-info@sg.pepperl-fuchs.com

 **PEPPERL+FUCHS**

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