



Convergent beam sensor

ML100-8-HGU-100-BU/103/115/162



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

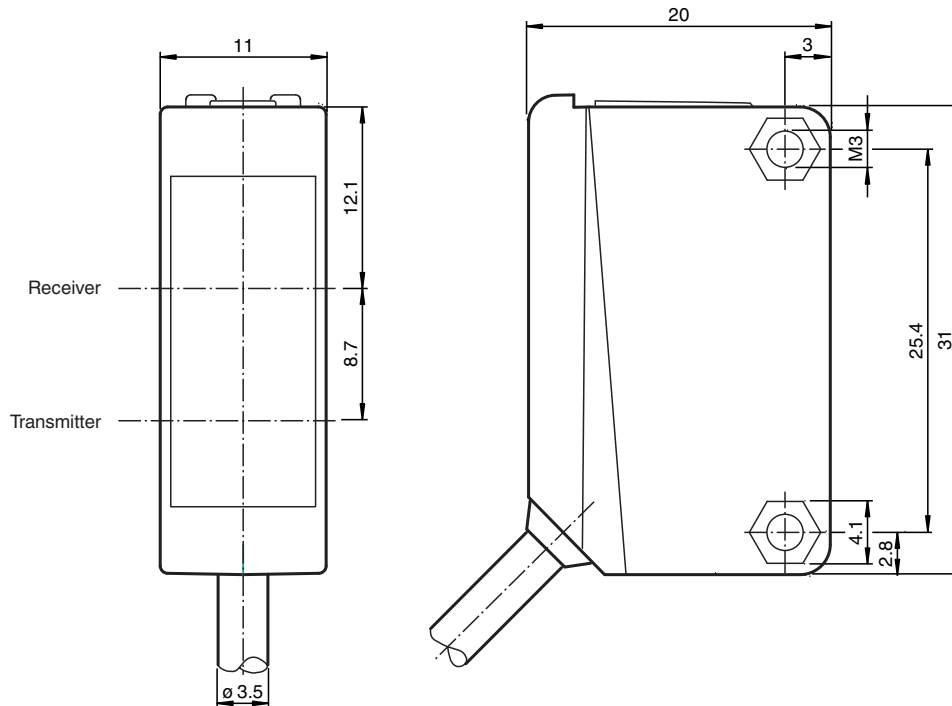
Convergent beam sensor, 100 mm adjustable detection range, blue light, light/dark on, PNP output, fixed cable



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



Release date: 2023-03-28 Date of issue: 2023-03-28 Filename: 70127461_eng.pdf

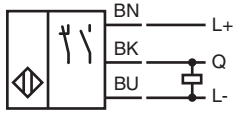
Technical Data

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			2 m fixed cable
Material			
Housing			PC (Polycarbonate)
Optical face			PMMA
Mass			approx. 50 g

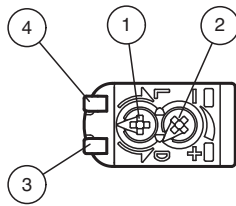
Technical Data

Tightening torque, fastening screws	0.6 Nm
Cable length	2 m

Connection



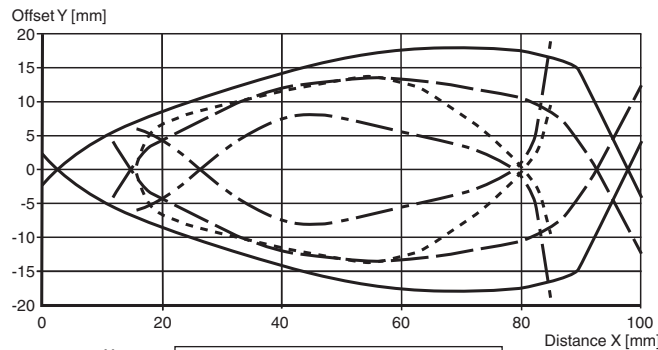
Assembly



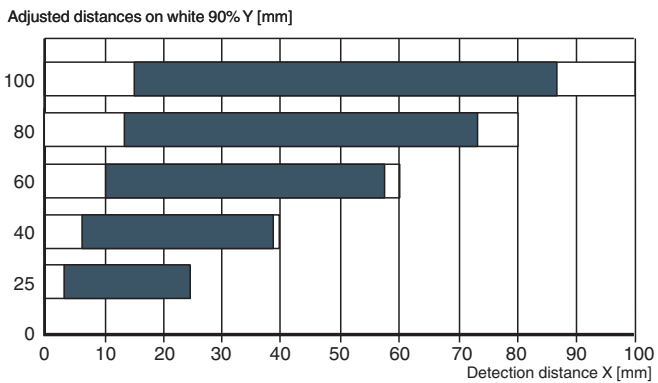
1	Light-Dark-switching	
2	Sensitivity adjuster	
3	Signal display	yellow
4	Operating display	green

Characteristic Curve

Characteristic response curve

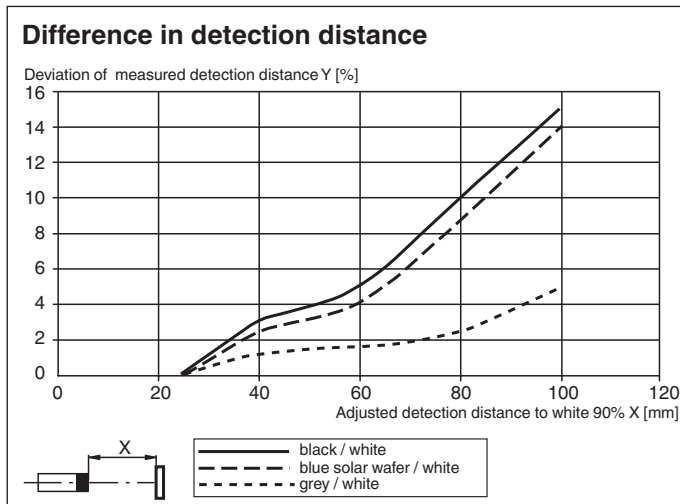


Detection range of blue solar wafer



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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-ML100-01	Mounting aid for ML100 series, mounting bracket
	OMH-ML100-02	Mounting aid for ML100 series, mounting bracket
	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
	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
	OMH-ML100-S1	Mounting bracket