

Convergent beam sensor

ML100-8-HGU-100-A0H3/102/115

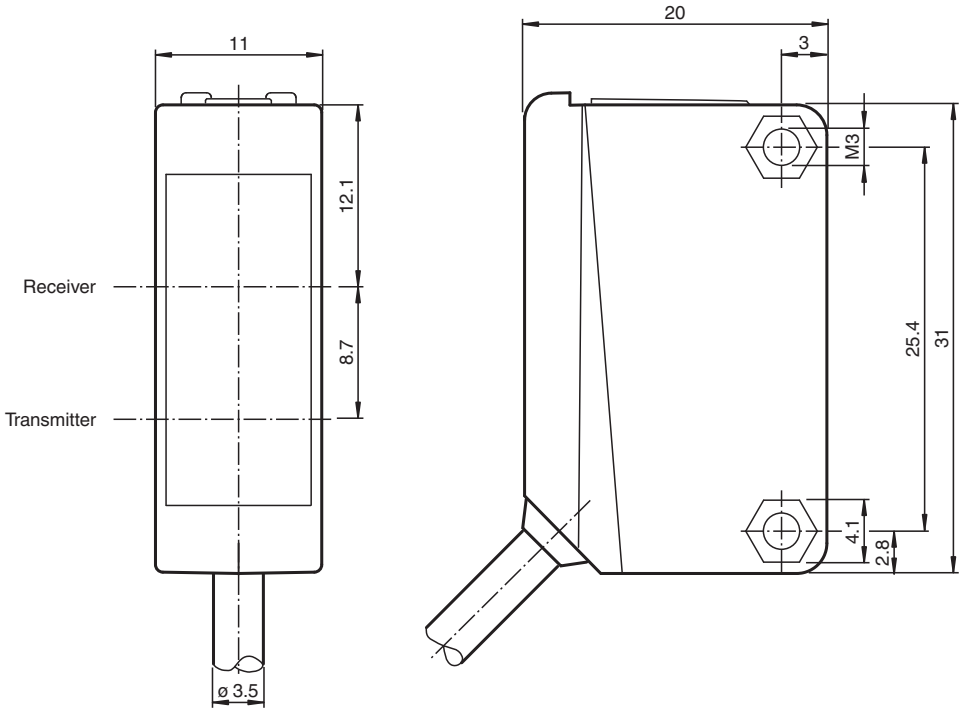
- Miniature design
- Diffuse mode sensor with long, narrow light spot
- Easy to use
- Very bright, highly visible light spot
- Full metal thread mounting
- Preset to 33 mm sensing range

Convergent mode sensor, 100 mm adjustable detection range, red 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	10 ... 100 mm
Adjustment range	30 ... 100 mm
Reference target	standard black, 100 mm x 100 mm

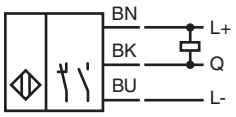
Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70175646_eng.pdf

Technical Data

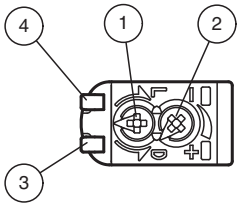
Light source		LED
Light type		modulated visible red light
Polarization filter		no
Diameter of the light spot		approx. 6 mm x 60 mm at 100 mm
Opening angle		Emitter: 3.5 ° vertical ; 30 ° horizontal
Optical face		frontal
Ambient light limit		EN 60947-5-2:2007+A1:2012
Functional safety related parameters		
$MTTF_d$		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 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
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		
Degree of protection		IP67
Connection		2 m fixed cable
Material		
Housing		PC (Polycarbonate)
Optical face		PMMA
Mass		approx. 50 g
Tightening torque, fastening screws		0.6 Nm
Dimensions		
Height		31 mm
Width		11 mm
Depth		20 mm
Cable length		2 m

Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70175646_eng.pdf

Connection



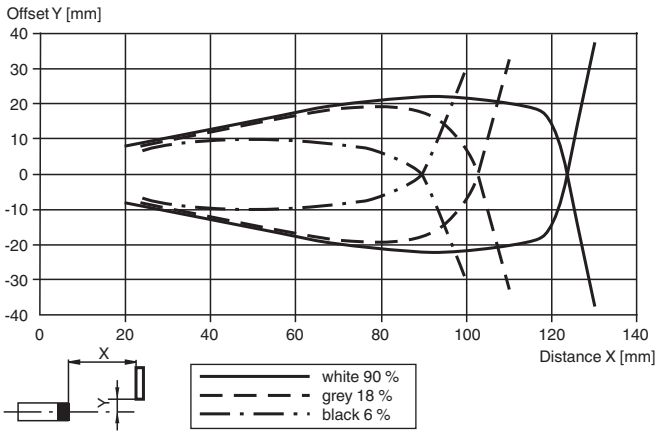
Assembly



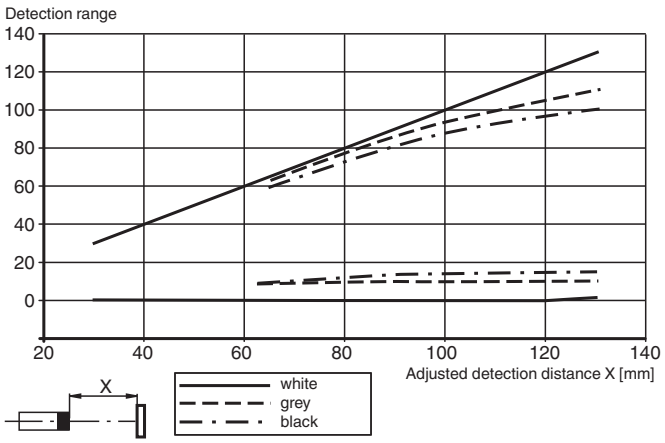
1	Light-Dark-switching	
2	Sensitivity adjuster	
3	Signal display	yellow
4	Operating display	green

Characteristic Curve

Characteristic response curve



Detection range



Release date: 2024-05-21 Date of issue: 2024-05-21 Filename: 70175646_eng.pdf