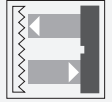


Retroreflective sensor

ML100-55/103/115b



- Miniature design
- Easy to use
- Full metal thread mounting
- Clearly visible LEDs for Power ON, switching state and weak signal indication
- Not sensitive to ambient light

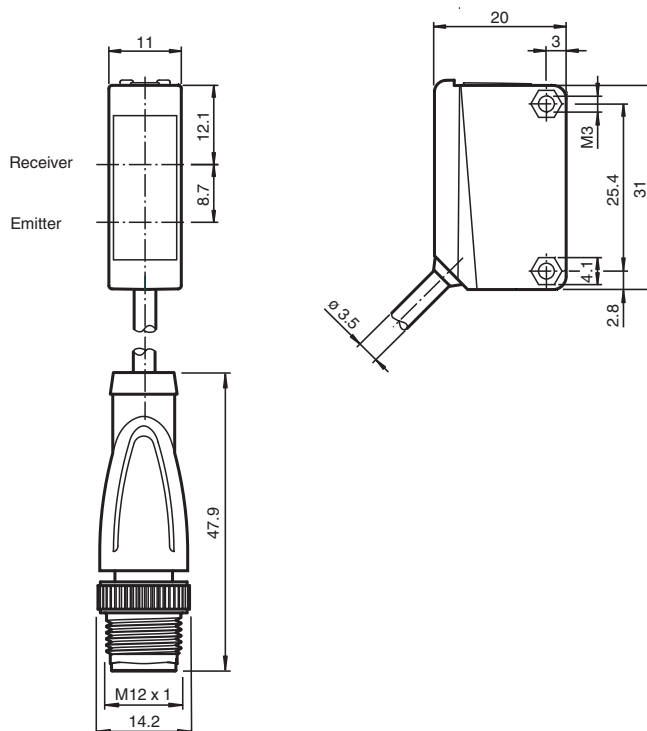
Retroreflective sensor with polarization filter, plastic housing, 5 m detection range, red light, sensitivity adjuster, light/dark on, DC version, PNP output, fixed cable with M12 plug



Function

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

Dimensions



Technical Data

General specifications

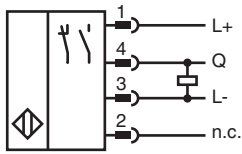
Effective detection range	0 ... 5 m
Reflector distance	0.01 ... 5 m
Threshold detection range	7 m
Reference target	H50 reflector

Technical Data

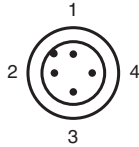
Light source	LED	
Light type	modulated visible red light	
Polarization filter	yes	
Diameter of the light spot	approx. 500 mm at a distance of 7 m	
Angle of divergence	approx. 4 °	
Optical face	frontal	
Ambient light limit	EN 60947-5-2:2007+A1:2012	
Functional safety related parameters		
MTTF _d	860 a	
Mission Time (T _M)	20 a	
Diagnostic Coverage (DC)	0 %	
Indicators/operating means		
Operation indicator	LED green: power on	
Function indicator	LED yellow: lights up when receiving the light beam ; flashes when falling short of the stability control; OFF when light beam is interrupted	
Control elements	sensitivity adjustment	
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	1000 Hz
Response time	0.5 ms	
Conformity		
Product standard	EN 60947-5-2	
Approvals and certificates		
EAC conformity	TR CU 020/2011	
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	300 mm fixed cable with 4-pin, M12 x 1 connector	
Material		
Housing	PC (Polycarbonate)	
Optical face	PMMA	
Mass	approx. 20 g	
Tightening torque, fastening screws	0.6 Nm	
Cable length	0.3 m	

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Connection



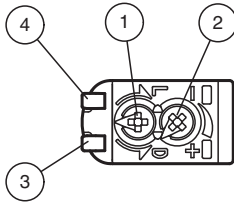
Connection Assignment



Wire colors in accordance with EN 60947-5-2

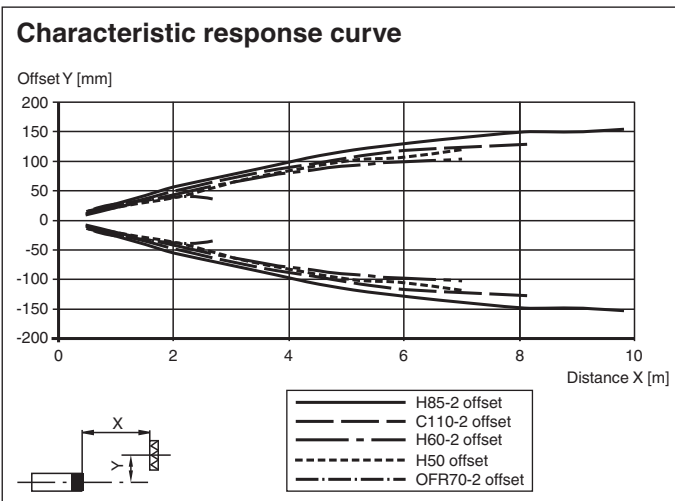
- 1 | BN (brown)
- 2 | WH (white)
- 3 | BU (blue)
- 4 | BK (black)

Assembly



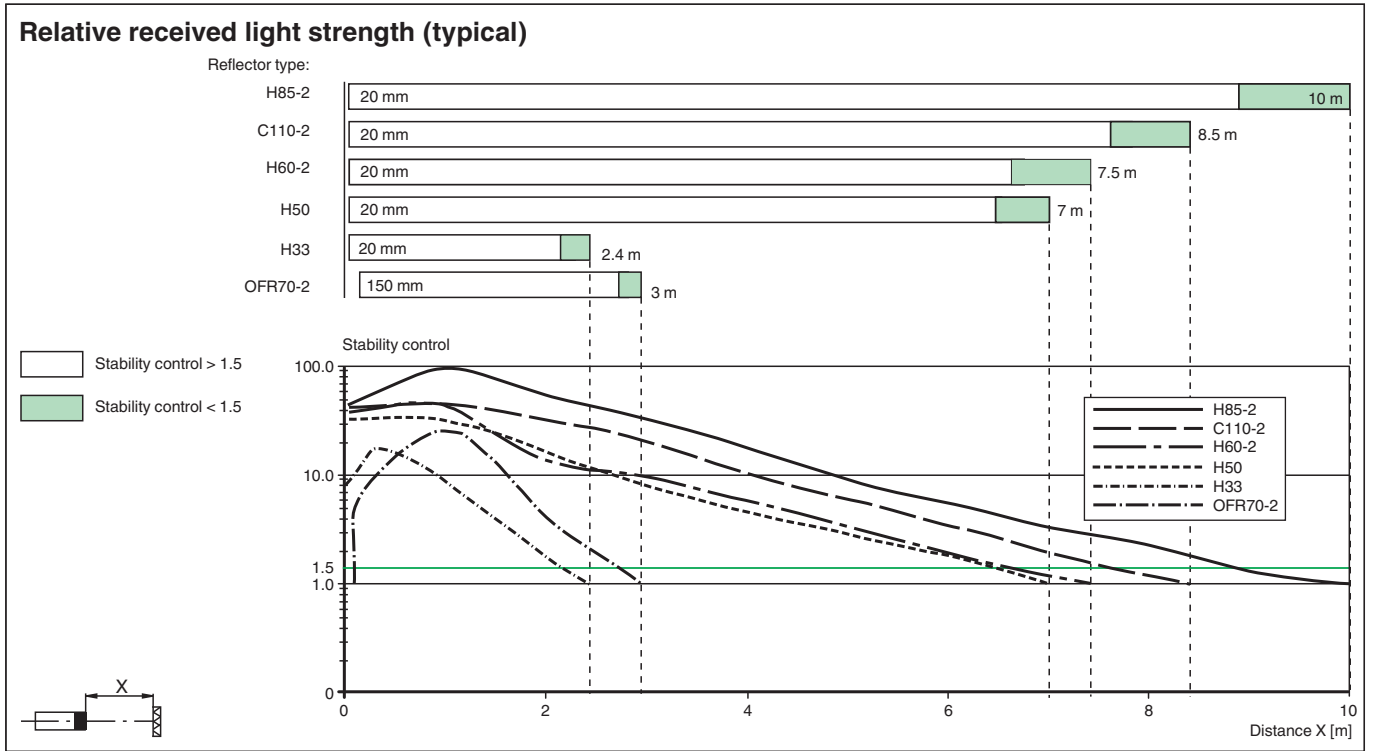
1	Light-Dark-switching	
2	Sensitivity adjuster	
3	Signal display	yellow
4	Operating display	green

Characteristic Curve



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







Accessories

	OMH-ML100-09	Mounting aid for round steel \varnothing 12 mm or sheet 1.5 mm ... 3 mm
	OMH-F10-ML100	Mounting aid for ML100 series
	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-10	Mounting aid
	REF-H85-2	Reflector, rectangular 84.5 mm x 84.5 mm, mounting holes
	REF-C110-2	Reflector, round \varnothing 84 mm, central mounting hole
	REF-H60-2	Reflector with mounting holes
	REF-H50	Reflector, rectangular 51 mm x 61 mm, mounting holes, fixing strap

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Accessories

	REF-H33	Reflector with screw fixing
	OFR-70-2	Reflective tape 70 mm x 70 mm
	OMH-ML100-S1	Mounting bracket
	OMH-ML100-08	Mounting aid for ML100 series, Snap-in