Dimensions

Model Number

ML8-55/103/115b

Retroreflective sensor

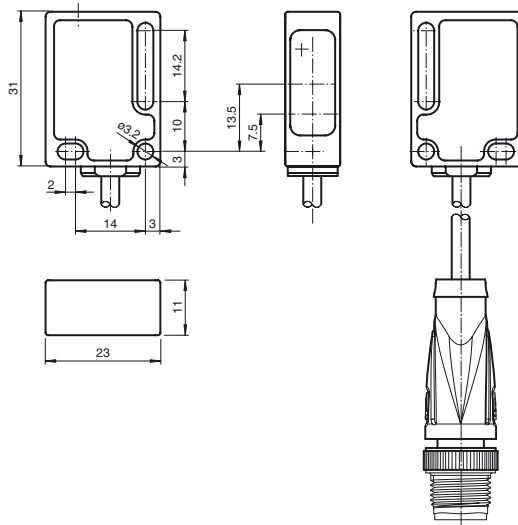with 0.3 m fixed cable and M12 connector, 4-pin

Features

- Cost-optimized series for standard tasks
- Miniature design
- Tamper-proof, no operating controls
- Yellow LED indicator behind the front panel
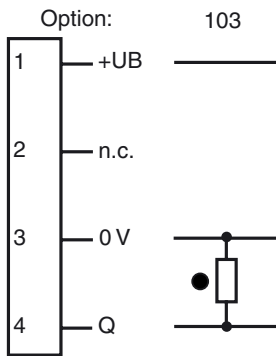- Flexible use with versatile mounting opportunities

Product information

Small, robust and reliable, the ML8 series of miniature sensors is particularly suitable for non-contact detection of objects in confined spaces. The LED indicator is located behind the lens and provides reliable information on the sensor's operating status. The LED is always visible, even if the sensor is completely embedded. Flexible mounting options and fixed preset detection ranges simplify setup and operation.
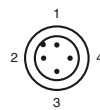
Electrical connection

Option: 103

1 — +UB
2 — n.c.
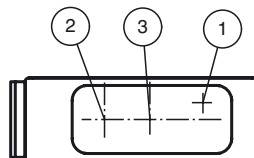3 — 0 V
4 — Q

○ = Light on
● = Dark on

Pinout

Wire colors in accordance with EN 60947-5-2

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

Indicators/operating means

1	Switching state	yellow
2	Emitter	
3	Receiver	

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

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Technical data

General specifications

Effective detection range	0 ... 3 m
Reflector distance	0.02 ... 3 m
Threshold detection range	3.5 m
Reference target	H85-2 reflector
Light source	LED
Light type	modulated visible red light
Polarization filter	yes
Diameter of the light spot	approx. 180 mm at a distance of 3.5 m
Angle of divergence	approx. 3 °
Ambient light limit	40000 Lux

Functional safety related parameters

$MTTF_d$		2340 a
Mission Time (T_M)		20 a
Diagnostic Coverage (DC)		0 %

Indicators/operating means

Function indicator	LED yellow: switching state

Electrical specifications

Operating voltage	U_B	10 ... 30 V DC , class 2
Ripple		max. 10 %
No-load supply current	I_0	< 12 mA

Output

Switching type		dark 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
Voltage drop	U_d	≤ 1.5 V DC
Response time		1.8 ms

Conformity

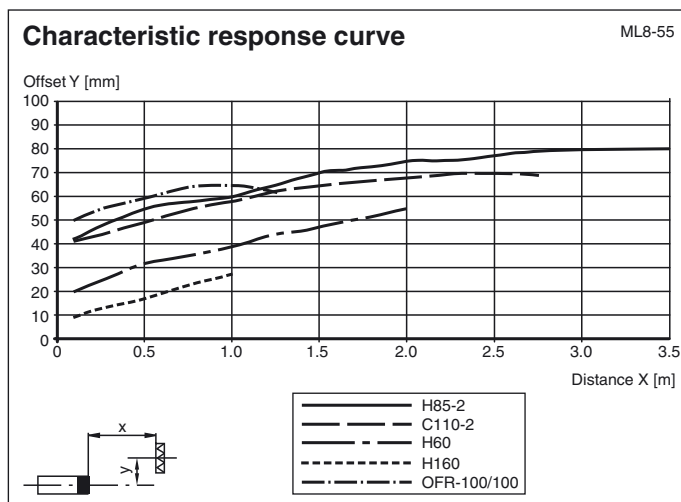|	
Product standard	EN 60947-5-2

Ambient conditions

Ambient temperature	-20 ... 60 °C (-4 ... 140 °F)
Storage temperature	-40 ... 75 °C (-40 ... 167 °F)

Mechanical specifications

Housing width	23 mm
Housing height	31 mm
Housing depth	11 mm
Degree of protection	IP67
Connection	fixed cable 300 mm with M12 x 1 connector , 4-pin
Material	
Housing	PC (glass-fiber-reinforced Makrolon)
Optical face	PMMA
Mass	approx. 50 g

Approvals and certificates

Protection class	II, rated voltage ≤ 250 V AC with pollution degree 1-2 according to IEC 60664-1
UL approval	cULus Listed, Class 2 Power Source, Type 1 enclosure
CCC approval	CCC approval / marking not required for products rated ≤36 V

Curves/Diagrams

Characteristic response curve — ML8-55

Legend:
- H85-2
- C110-2
- H60
- H160
- OFR-100/100

Accessories

Montagekit OMH-ML7-01
Mounting set consisting of bracket OMH-ML-01 sheet OMH-ML7-03, and fastening material

Montagekit OMH-ML7-02
Mounting set consisting of bracket OMH-ML-02 sheet OMH-ML7-03, and fastening material

OMH-ML7-01
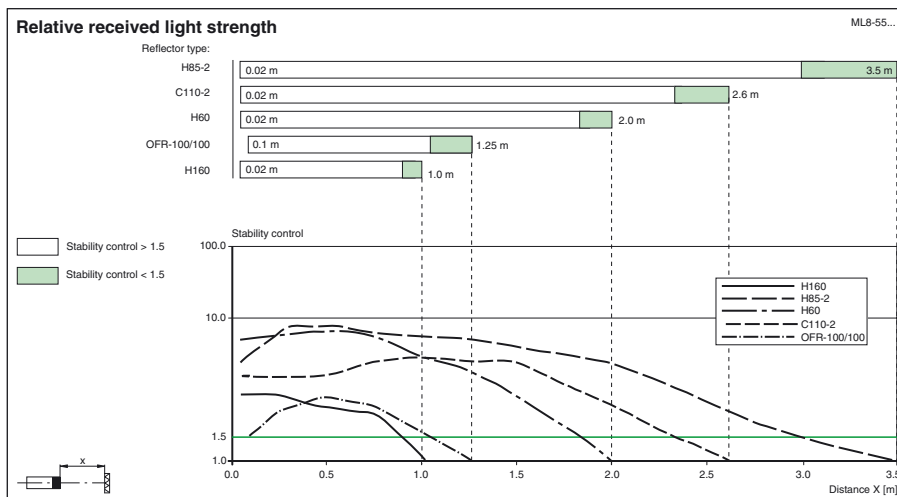Mounting aid for ML7 and ML8 series, Mounting bracket

OMH-ML7-02
Mounting aid for ML7 and ML8 series, Mounting bracket

OMH-ML7-03
Mounting aid for ML7 and ML8 series, Fixing plate

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

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

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Relative received light strength

ML8-55...

Reflector type:

H85-2	0.02 m	3.5 m
C110-2	0.02 m	2.6 m
H60	0.02 m	2.0 m
OFR-100/100	0.1 m	1.25 m
H160	0.02 m	1.0 m

☐ Stability control > 1.5

▨ Stability control < 1.5

Stability control

Legend:
- H160
- H85-2
- H60
- C110-2
- OFR-100/100

Distance X [m]

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

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