Background suppression sensor
ML100-8-H-350-RT/33/103/115b

- Miniature design
- Easy to use
- Very bright, highly visible light spot
- Full metal thread mounting
- Highly visible LEDs for Power ON and switching state
- Not sensitive to ambient light

Triangulation sensor with background suppression, 350 mm adjustable detection range, red light, light/dark on, pnp output, fixed cable with M12 plug

CE c(UL)us LISTED EAC UKCA

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
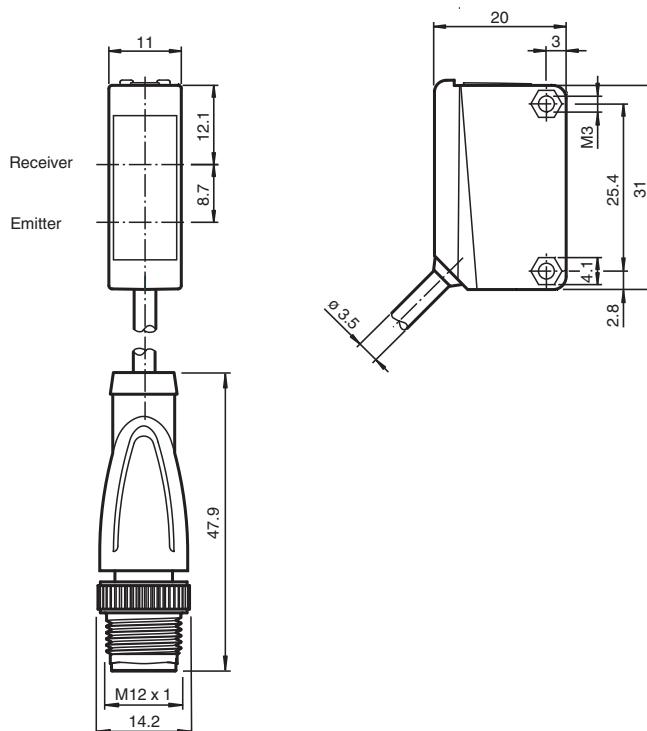
Technical Data

General specifications

Detection range	5 ... 350 mm
Detection range min.	5 ... 30 mm
Detection range max.	5 ... 350 mm
Adjustment range	30 ... 350 mm

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

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Technical Data

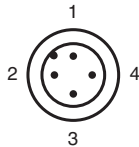|		
Reference target		standard white, 100 mm x 100 mm
Light source		LED
Light type		modulated visible red light
Polarization filter		no
Black-white difference (6 %/90 %)		< 18 % at 350 mm
Diameter of the light spot		approx. 20 mm at a distance of 350 mm
Opening angle		approx. 4 °
Optical face		frontal
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 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
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		2 m fixed cable with 4-pin, M12 x 1 connector
Material		
Housing		PC (Polycarbonate)
Optical face		PMMA
Mass		approx. 60 g
Tightening torque, fastening screws		0.6 Nm
Cable length		2 m

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Connection

1	L+
4	Q
3	L-
2	n.c.

Connection Assignment

Wire colors in accordance with EN 60947-5-2

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

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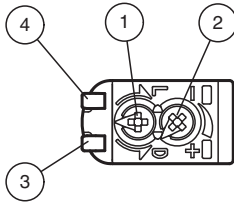
1	Light-Dark-switching	
2	Sensitivity adjuster	
3	Signal display	yellow
4	Operating display	green

Characteristic Curve
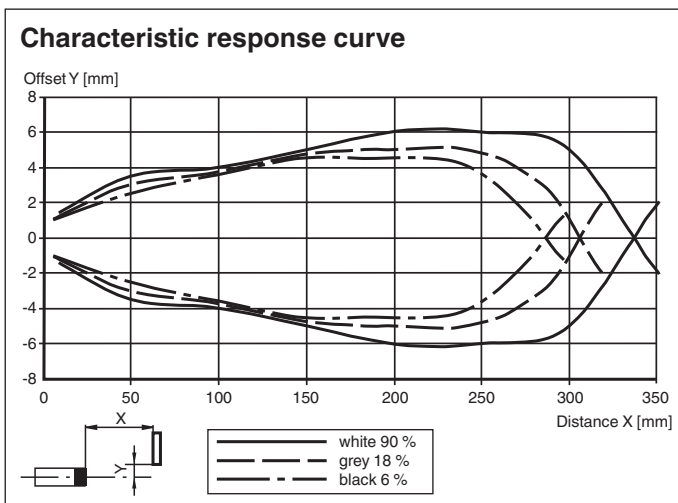
Characteristic response curve

Offset Y [mm]

Distance X [mm]

white 90 %
grey 18 %
black 6 %

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Difference in detection distance

Deviation of measured detection distance X [%]

Adjusted detection distance X [mm]

black / white
grey / white
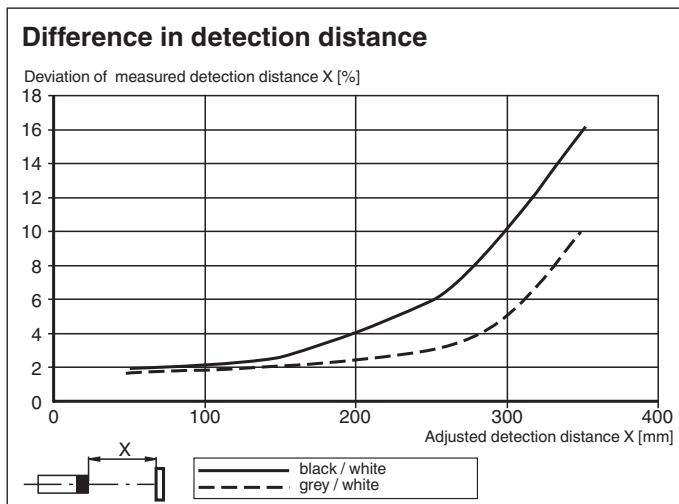
Accessories

	OMH-ML100-09	Mounting aid for round steel ø 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 ø 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

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