



Retroreflective sensor
with 4-pin, M8 x 1 connector

- Miniature design
- Easy to use
- Visible red light
- 45° connector

The ML300 series has a robust miniature housing and all the standard functional principles. Of particular note are the sensors with analog output, which return a value proportional to the distance. The 45° plug/cable connection ensures flexible mounting. An LED indicates a weak signal, e.g. due to dirt.

Option: 127

1 — $+UB$

2 — $\bar{Q}$

3 — $0V$

4 — Q

○ = Light on
● = Dark on

Wire colors in accordance with EN 60947-5-2

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

A circular diagram representing a terminal block cross-section. It features four terminals arranged in a square pattern, labeled 1, 2, 3, and 4. Terminal 1 is at the bottom-left, 2 is at the top-left, 3 is at the bottom-right, and 4 is at the top-right. Each terminal is represented by a small circle with a dot in the center.

The diagram illustrates the front and back views of a card reader. The front view (left) shows a rectangular device with a central display area divided into four quadrants by a horizontal and vertical line. Callout 1 points to the top-left quadrant, and callout 2 points to the bottom-left quadrant. The back view (right) shows the same device from the reverse side, featuring a rectangular area with four circular components. Callout 3 points to the top-left circle, callout 4 points to the top-right circle, callout 5 points to the bottom-left circle, and callout 6 points to the bottom-right circle.

1	Receiver	
2	Emitter	
3	Switching state	yellow
4	Stability control	green
5	Sensitivity adjustment	

Technical data**General specifications**

Effective detection range	0 ... 6 m
Reflector distance	0.03 ... 6 m
Threshold detection range	7 m
Reference target	H85-2 reflector
Light source	LED
Light type	modulated visible red light , 660 nm
Polarization filter	yes
Diameter of the light spot	approx. 300 mm at 4 m
Angle of divergence	approx. 3 °
Ambient light limit	
Continuous light	10000 Lux
Modulated light	5000 Lux
Accessories provided	Mounting bracket OMH-ML300-01 Screwdriver

Indicators/operating means

Function indicator	LED yellow: lights up when output is active LED green: Sufficient stability control
Control elements	sensitivity adjustment

Electrical specifications

Operating voltage	U_B	10 ... 30 V DC
Ripple		max. 20 %
No-load supply current	I_0	max. 20 mA

Output

Switching type	light on / dark on	
Signal output	2 NPN outputs, complementary, short-circuit proof, reverse-polarity protection, open collector	
Switching voltage	max. 30 V DC	
Switching current	max. 0.1 A	
Voltage drop	U _d	≤ 2 V DC
Switching frequency	f	1000 Hz
Response time	0.5 ms	

Conformity

Product standard	EN 60947-5-2
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Ambient conditions

Ambient temperature	-25 ... 55 °C (-13 ... 131 °F)
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Mechanical specifications

Housing width	30 mm
Housing height	30 mm
Housing depth	15 mm
Degree of protection	IP67
Connection	M8 x 1 connector, 4-pin
Material	
Housing	PBT
Optical face	glass pane
Connector	metal
Mass	18 g

Compliance with standards and directives

Standard conformity	
Shock and impact resistance	EN 60947-5-7 30 g, 11 ms, all axes
Vibration resistance	EN 60947-5-7, 10-55 Hz/1.5 mm amplitude, all axes

Approvals and certificates

CCC approval	CCC approval / marking not required for products rated ≤ 36 V
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Accessories**OMH-ML300-01**

Bracket for mounting ML300 series sensors

OMH-ML300-02

Bracket for mounting ML300 series sensors on a 35 mm DIN rail

V31-GM-2M-PVC

Female cordset single-ended, M8, 4-pin, PVC cable

V31-WM-2M-PVC

Female cordset single-ended, M8, 4-pin, PVC cable

V31-WM-2M-PUR

Female cordset single-ended, M8, 4-pin, PUR cable

V31-GM-2M-PUR

Female cordset single-ended, M8, 4-pin, PUR cable

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-H50

Reflector, rectangular 51 mm x 61 mm, mounting holes, fixing strap

REF-H60-2

Reflector with mounting holes

REF-VR10-2

Reflector, rectangular 60 mm x 19 mm, mounting holes

OFR-100/100

Reflective tape 100 mm x 100 mm

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

Curves/Diagrams

