



Model Number

ML300-P-12m-IR/76b/82d/95/103

Thru-beam sensor
with 4-pin, M8 x 1 connector

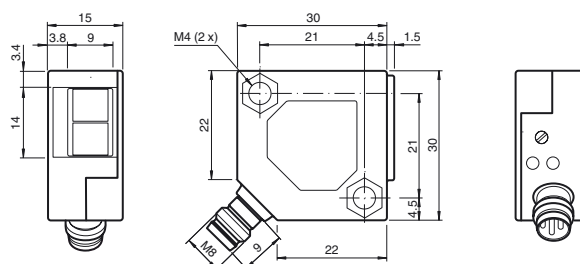
Features

- Miniature design
- Easy to use
- Infrared light
- High operating range
- 45° connector

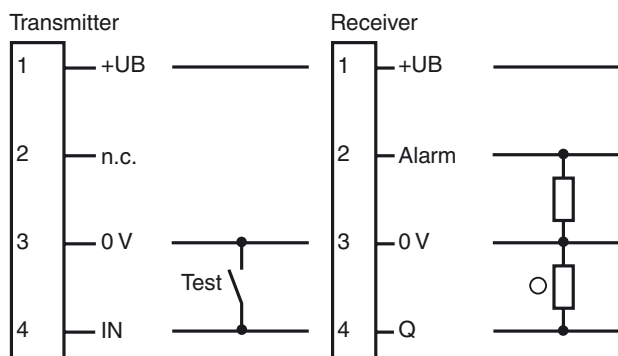
Product information

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.

Dimensions



Electrical connection



○ = Light on
● = Dark on

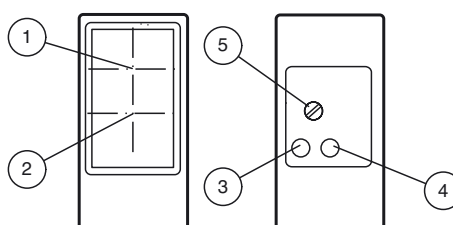
Pinout



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

Technical data

System components

Emitter	ML300-T-12m-IR/76b/95
Receiver	ML300-R-12m-IR/25/82d/95/103

General specifications

Effective detection range	0 ... 12 m
Threshold detection range	14 m
Light source	IREd
Light type	modulated infrared light 880 nm
Diameter of the light spot	approx. 4 m at 12 m
Angle of divergence	approx. 7 °
Ambient light limit	
Continuous light	10000 Lux
Modulated light	5000 Lux

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	Emitter: ≤ 15 mA Receiver: ≤ 10 mA

Input

Test input	emitter: 1 test input, not activated: < 4 V, activated: > 8 V or open
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Output

Pre-fault indication output	1 PNP, inactive when falling short of the stability control , open collector , short-circuit protected, reverse polarity protected , 100 mA max
Switching type	light on
Signal output	1 PNP output, short-circuit protected, reverse polarity protected, 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	35 g (emitter and receiver)

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-GM-5M-PUR

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

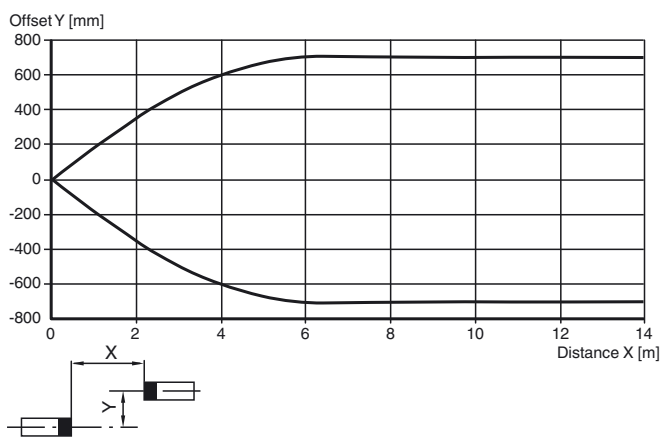
V31-WM-5M-PUR

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

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

Curves/Diagrams

Characteristic response curve



Relative received light strength

