



### Model Number

**ML300-P-12m-IR/76b/95/127**

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

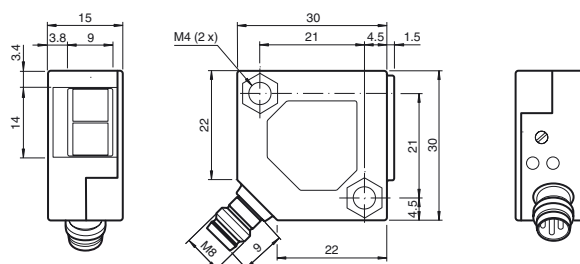
### Features

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

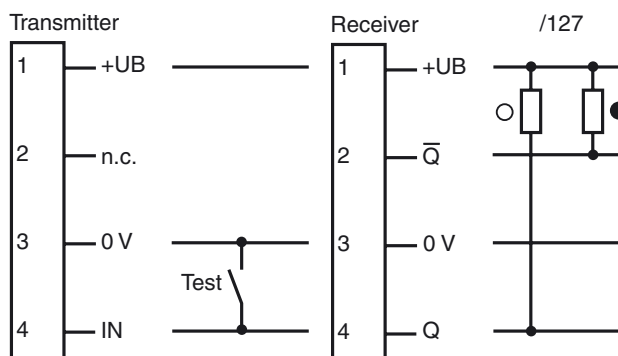
### Product information

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

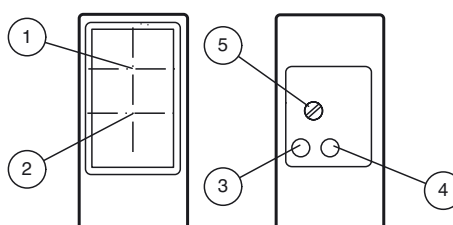
### Pinout



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/25/95/127

### 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

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 <sub>d</sub>	≤ 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

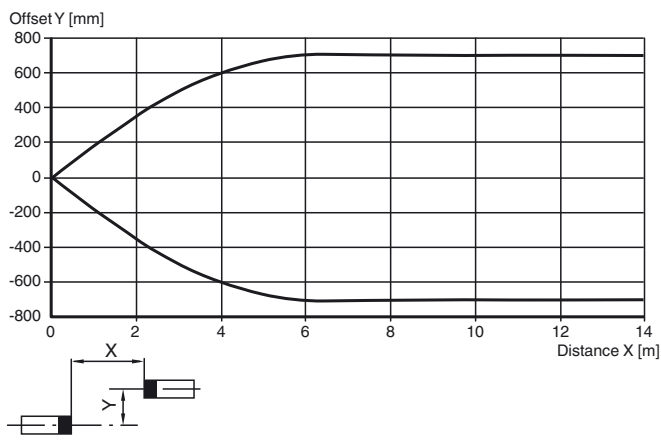
Female cordset single-ended, M8, 4-pin, PUR cable

Other suitable accessories can be found at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)



## Curves/Diagrams

## Characteristic response curve



## Relative received light strength

