Dimensions

Model Number

ML300-55-2m-RT/59/98/102

Retroreflective sensor
with 3-pin, M8 x 1 connector

Features

- Miniature design
- Easy to use
- Visible red light
- 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.
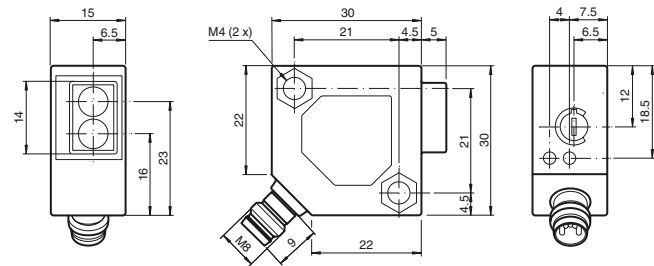
Electrical connection
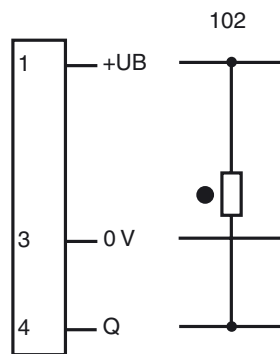
○ = Light on
● = Dark on

Pinout

Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
3	BU	(blue)
4	BK	(black)

Indicators/operating means
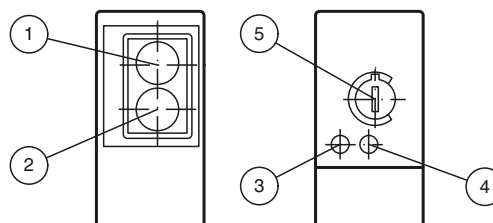
1	Receiver	
2	Emitter	
3	Switching state	yellow
4	Stability control	green
5	Sensitivity adjustment	

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

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Technical data

General specifications

Effective detection range	0 ... 2 m
Reflector distance	0.02 ... 2 m
Threshold detection range	3.5 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. 200 mm at 2 m
Angle of divergence	approx. 6 °
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. 10 %
No-load supply current	I_0	max. 20 mA

Output

Switching type		dark on
Signal output		1 NPN 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

Ambient conditions

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

Mechanical specifications

Housing width	30 mm
Housing height	30 mm
Housing depth	15 mm
Degree of protection	IP65
Connection	M8 x 1 connector, 3-pin
Material	
Housing	ABS
Optical face	plastic
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

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

V3-GM-2M-PVC
Female cordset single-ended, M8, 3-pin, PVC cable

V3-WM-2M-PVC
Female cordset single-ended, M8, 3-pin, PVC cable

V3-WM-2M-PUR
Female cordset single-ended, M8, 3-pin, PUR cable

REF-H85-2
Reflector, rectangular 84.5 mm x 84.5 mm, mounting holes

REF-C110-2
Reflector, round ø 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

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

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Curves/Diagrams

Characteristic response curve

Offset Y [mm]

Distance X [m]

	H85-2		VR10-2
	C110-2		H60-2
	H50		ORF100 x 100

Relative received light strength

Reflector type:

H85-2	0.02 m	3.5 m
C110-2	0.02 m	3.0 m
H50	0.02 m	2.1 m
H60-2	0.02 m	1.9 m
ORF100 x 100	0.04 m	1.4 m
VR10-2	0.02 m	0.9 m

Stability control > 2

Stability control < 2

Stability control

	H85-2
	C110-2
	H50
	VR10-2
	H60-2
	ORF100 x 100

Distance X [m]

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