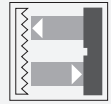# Retroreflective sensor

ML17-54/115b/136

- Compact series in universal housing for standard applications
- Miniature design
- Front mounting with M18-threads or side mounting holes
- 360° high visibility LEDs
- Time-saving mounting with quick clamp system
- Version with polarized filters detect shiny objects
- 4-in-1 output (push-pull)

Retroreflective sensor with polarization filter

Function

The ML17 sensor family offers diverse connection and installation options, which means that it can adapt to the most varied automation tasks.
In addition to the usual fitting method using M4 screws, these sensors can also be installed by means of M18 threaded insert.
All devices are equipped with a green Power On display and a yellow function display. These displays are arranged in such a way
that they are clearly visible from different directions.

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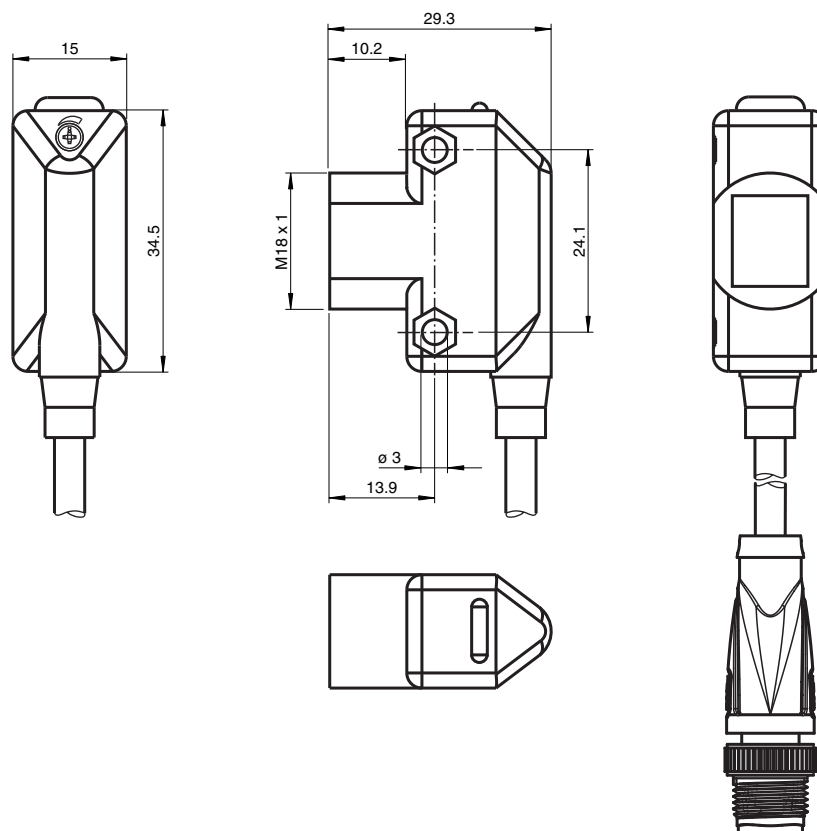
Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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Technical Data

General specifications

Effective detection range	0 ... 3.5 m
Reflector distance	50 ... 3500 mm
Threshold detection range	5 m
Reference target	FE-RR1 reflector
Light source	LED
Light type	modulated visible red light , 626 nm
Polarization filter	yes
Ambient light limit	≤ 10000 Lux

Indicators/operating means

Operation indicator	LED green
Function indicator	LED yellow, lights up with receiver lit
Control elements	sensitivity adjustment

Electrical specifications

Operating voltage	U_B	10 ... 30 V DC , class 2
Ripple		max. 10 %
No-load supply current	I_0	< 25 mA
Operating current	I_B	100 mA max per output
Time delay before availability	t_v	≤ 200 ms

Output

Switching type		light/dark on
Signal output		2 push-pull (4 in 1)outputs, short-circuit protected, reverse polarity protected, overvoltage protected
Switching voltage		max. 30 V DC
Switching current		max. 100 mA
Voltage drop	U_d	≤ 2 V DC
Switching frequency	f	500 Hz
Response time		≤ 1 ms

Conformity

Product standard	EN 60947-5-2

Approvals and certificates

UL approval	cULus
CCC approval	CCC approval / marking not required for products rated ≤36 V

Ambient conditions

Ambient temperature	-20 ... 55 °C (-4 ... 131 °F)
Storage temperature	-20 ... 70 °C (-4 ... 158 °F)

Mechanical specifications

Housing width	15 mm
Housing height	34.5 mm
Degree of protection	IP67
Connection	150 mm PVC cable with 4-pin, M12 connector
Material	
Housing	ABS
Optical face	Acrylic
Mass	approx. 23 g

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Connection Assignment

```
1 ──── +UB

2 ──── Q̄

3 ──── 0 V

4 ──── Q
```
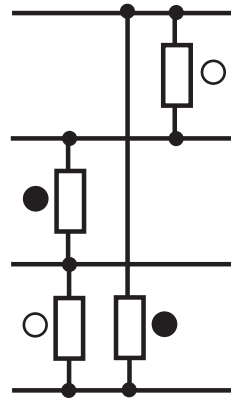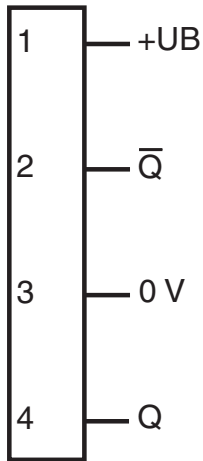
○ = Light on
● = Dark on

Connection Assignment

```
        1
   2  ( •• )  4
        3
```
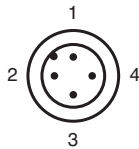
Wire colors in accordance with EN 60947-5-2

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

Assembly
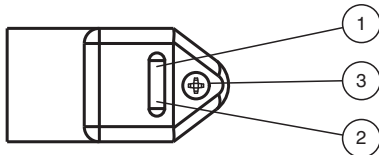
1	Signal display	yellow
2	Operating display	green
3	Sensitivity adjustment	

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Characteristic Curve

Characteristic response curve

Offset Y [mm]

Distance X [m]

H85-2
FE-RR1
H50
H160

Relative received light strength

ML17-54...

Reflector type:

H85-2	0.1 m	5 m
FE-RR1	0.1 m	4.6 m
H50	0.1 m	4.4 m
H160	0.1 m	2.6 m

☐ Stability control > 1.6

▨ Stability control < 1.6

Stability control

H85-2
FE-RR1
H50
H160

Distance X [m]

Application

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

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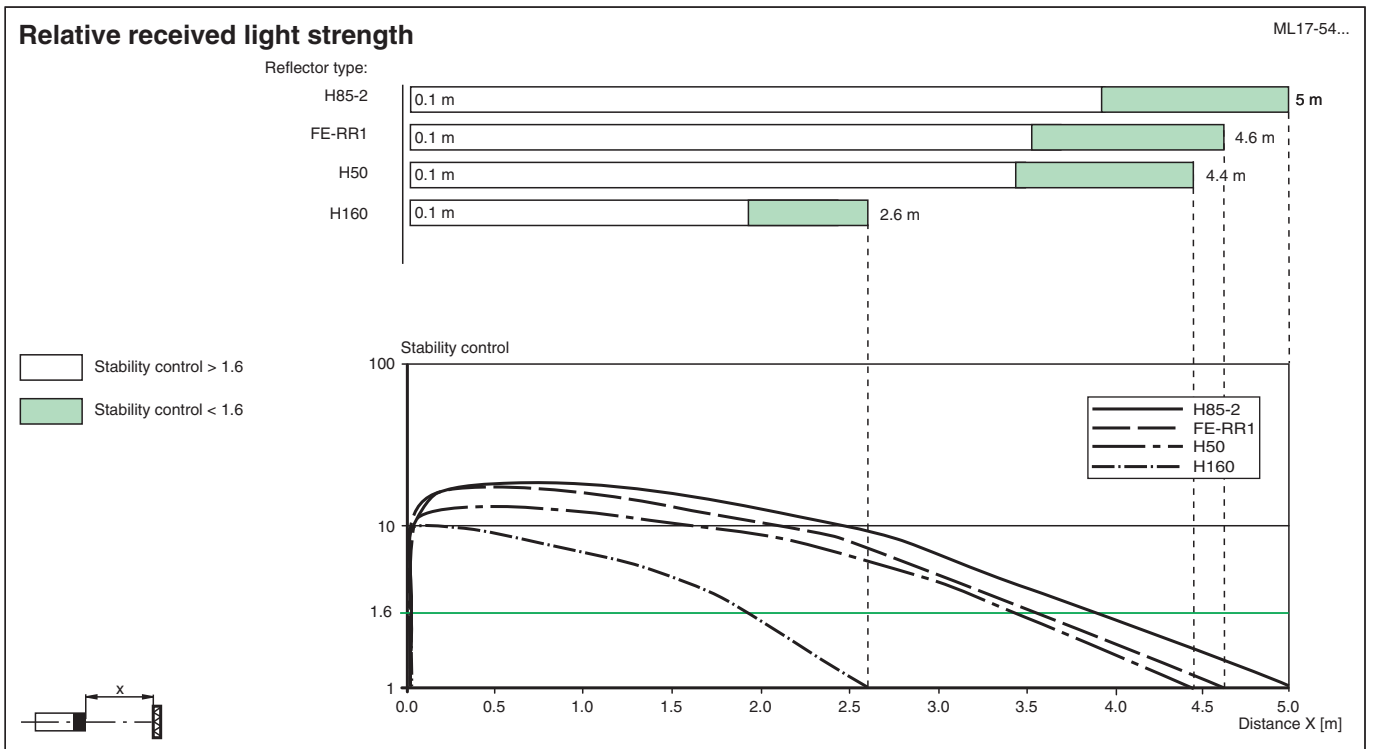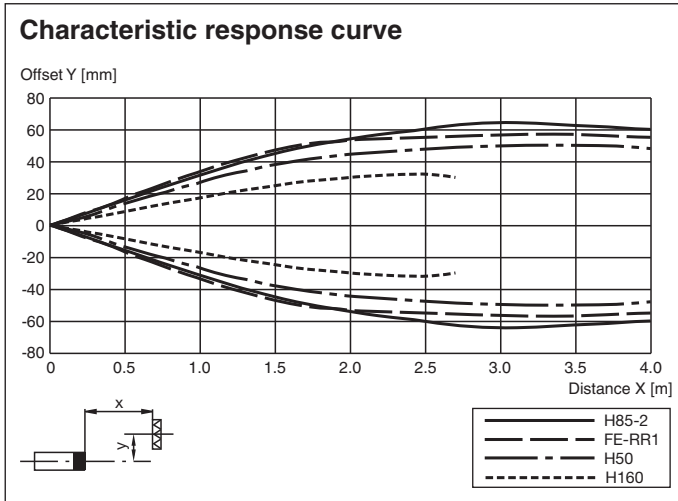
Accessories

	OMH-ML17	Mounting bracket
	OMH-ML17-1	Mounting bracket
	V1-G-2M-PUR	Female cordset, M12, 4-pin, PUR cable
	V1-W-2M-PUR	Female cordset, M12, 4-pin, PUR cable

Release date: 2020-07-22 Date of issue: 2020-07-22 Filename: 905793_eng.pdf

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

- Presence monitoring
- Target sensors
- Congestion monitoring
- Track loading
- Completeness checks

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