



Model Number

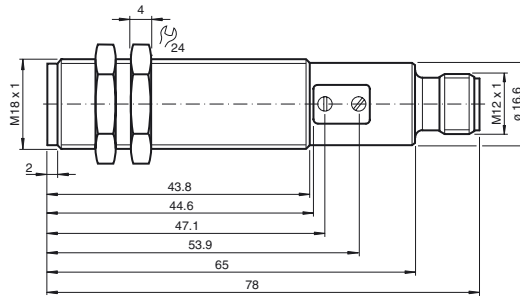
VL18-54-M-LAS/32/40a/82b/118

Retroreflective sensor
with M12, 4-pin metal connector

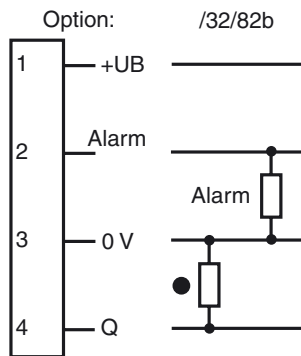
Features

- M18 threaded housing made of brass, nickel plated
- Visible red light, pulsed LASER light
- Array control panel with highly visible LED display
- Flashing power on LED in case of short-circuit
- Multiple device installation possible, no mutual interference (no cross-talk)
- Not sensitive to ambient light, even with switched energy saving lamps
- Protection class II

Dimensions

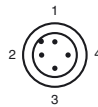


Electrical connection



○ = 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) |

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

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Technical data**General specifications**

| | |
|----------------------------|---------------------------------------|
| Effective detection range | 0 ... 18 m |
| Reflector distance | 0.06 ... 18 m |
| Threshold detection range | 20 m |
| Reference target | H85 reflector |
| Light source | laser diode |
| Light type | modulated visible red light |
| Polarization filter | yes |
| Laser nominal ratings | |
| Note | LASER LIGHT , DO NOT STARE INTO BEAM |
| Laser class | 1 |
| Wave length | 655 nm |
| Beam divergence | 7.5 mrad |
| Pulse length | 4 μ s |
| Repetition rate | 11.91 kHz |
| max. pulse energy | 2.25 nJ |
| Diameter of the light spot | 150 mm x 100 mm at a distance of 12 m |
| Angle of divergence | 1 ° |
| Optical face | frontal |
| Ambient light limit | 30000 Lux |
| Hysteresis | H < 15 % |

Functional safety related parameters

| | |
|--------------------------------|-------|
| MTTF _d | 700 a |
| Mission Time (T _M) | 20 a |
| Diagnostic Coverage (DC) | 0 % |

Indicators/operating means

| | |
|---------------------|---|
| Operation indicator | LED green, flashes in case of short-circuit |
| Function indicator | LED yellow, light with free light beam , flashes when falling short of the stability control , OFF when light beam is interrupted |
| Control elements | Sensitivity adjuster, light/dark switch |

Electrical specifications

| | | |
|------------------------|----------------|--|
| Operating voltage | U _B | 10 ... 30 V DC , class 2 |
| No-load supply current | I ₀ | < 20 mA |
| Protection class | | II , rated voltage \leq 50 V AC with pollution degree 1-2 according to IEC 60664-1 |

Output

| | | |
|-----------------------------|---|-----------------|
| Pre-fault indication output | 1 PNP, inactive when falling short of the stability control | |
| Switching type | light/dark on, switchable | |
| Signal output | 1 PNP output, short-circuit protected, reverse polarity protected, open collector | |
| Switching voltage | 30 V DC | |
| Switching current | max. 200 mA | |
| Voltage drop | U _d | \leq 2.5 V DC |
| Switching frequency | f | 500 Hz |
| Response time | | 1 ms |

Ambient conditions

| | |
|---------------------|--------------------------------|
| Ambient temperature | -25 ... 55 °C (-13 ... 131 °F) |
| Storage temperature | -30 ... 70 °C (-22 ... 158 °F) |

Mechanical specifications

| | |
|----------------------|--------------------------|
| Degree of protection | IP67 |
| Connection | 4-pin, M12 x 1 connector |
| Material | |
| Housing | brass, nickel-plated |
| Optical face | PMMA |
| Mass | 60 g |

Compliance with standards and directives

| | |
|----------------------|--|
| Directive conformity | EMC Directive 2004/108/EC |
| Standard conformity | |
| Product standard | EN 60947-5-2:2007 IEC 60947-5-2:2007 |
| Laser class | IEC 60825-1:2007 Complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007 |

Approvals and certificates

| | |
|--------------|--|
| UL approval | cULus Listed, Type 1 enclosure |
| CCC approval | CCC approval / marking not required for products rated \leq 36 V |

Accessories**OMH-VL18**

Mounting Bracket with swivel nut

BF 18

Mounting flange, 18 mm

BF 18-F

Plastic mounting adapter, 18 mm

BF 5-30

Universal mounting bracket for cylindrical sensors with a diameter of 5 ... 30 mm

REF-MH23

Reflector with Micro-structure, rectangular 23 mm x 13.8 mm, diagonal mounting hole

REF-H85

Reflector, rectangular 84.5 mm x 84.5 mm, mounting holes

REF-H100

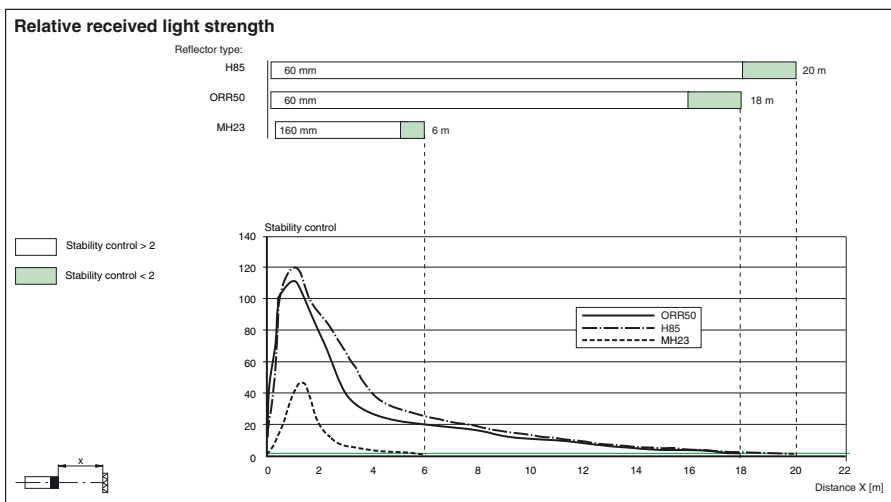
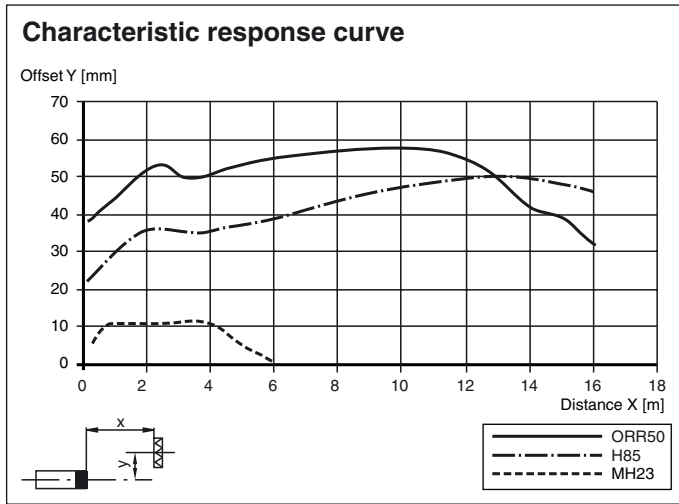
Reflector, rectangular 122 mm x 99.35 mm, mounting holes

ORR50

Reflector, rectangular 50.9 mm x 50.9 mm, mounting holes, fixing strap

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

Curves/Diagrams



Laser notice laser class 1

- The irradiation can lead to irritation especially in a dark environment. Do not point at people!
- Maintenance and repairs should only be carried out by authorized service personnel!
- Attach the device so that the warning is clearly visible and readable.
- The warning accompanies the device and should be attached in immediate proximity to the device.
- Caution – Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

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