Model Number

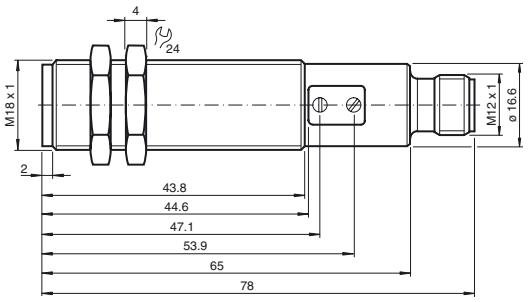
VL18-54-M-LAS/40a/118/128

Retroreflective sensor
with 4-pin, M12 x 1 connector

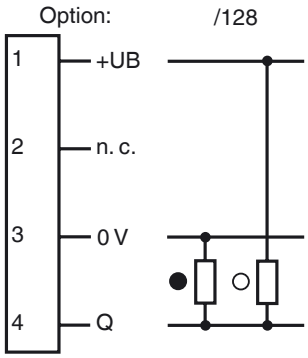
Features

- 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

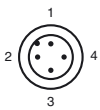


Electrical connection



○ = 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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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 µs
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 ≤ 50 V AC with pollution degree 1-2 according to IEC 60664-1
Output		
Switching type		light/dark on, switchable
Signal output		Push-pull (4 in 1) output short-circuit protected overvoltage protected
Switching voltage		max. 30 V DC
Switching current		max. 200 mA
Voltage drop	U_d	≤ 2.5 V DC
Switching frequency	f	500 Hz
Response time		1 ms
Conformity		
Product standard		EN 60947-5-2
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		
Standard conformity		
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 ≤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

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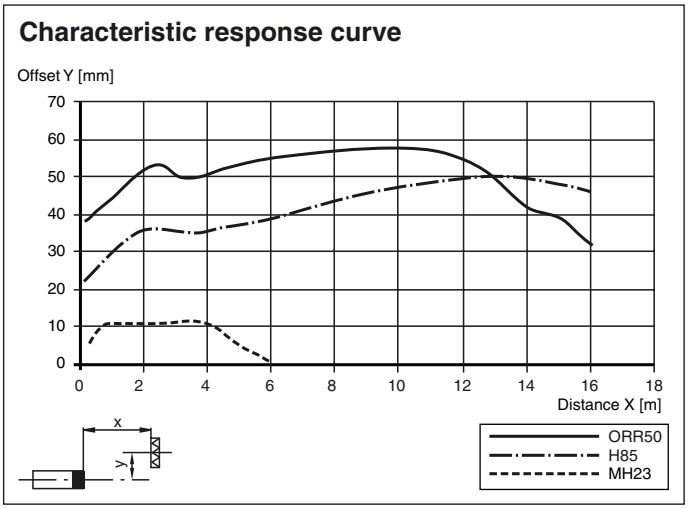
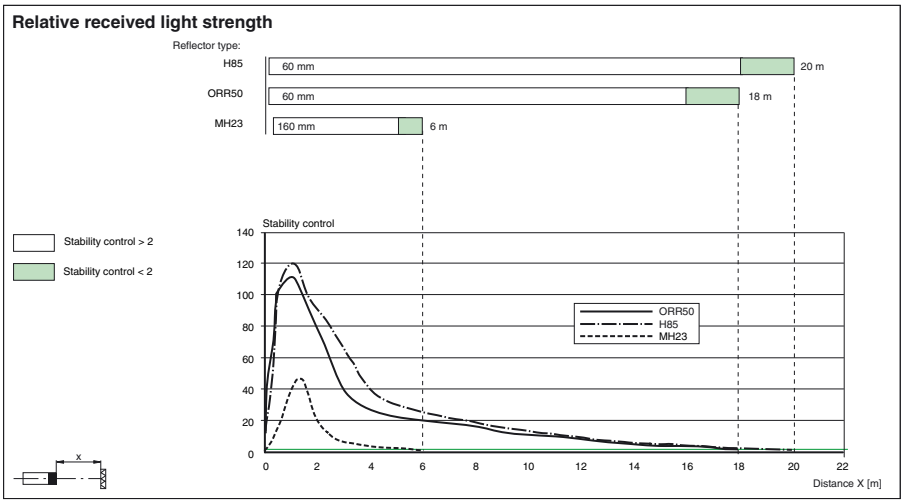
Curves/Diagrams





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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