

Retroreflective sensor

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

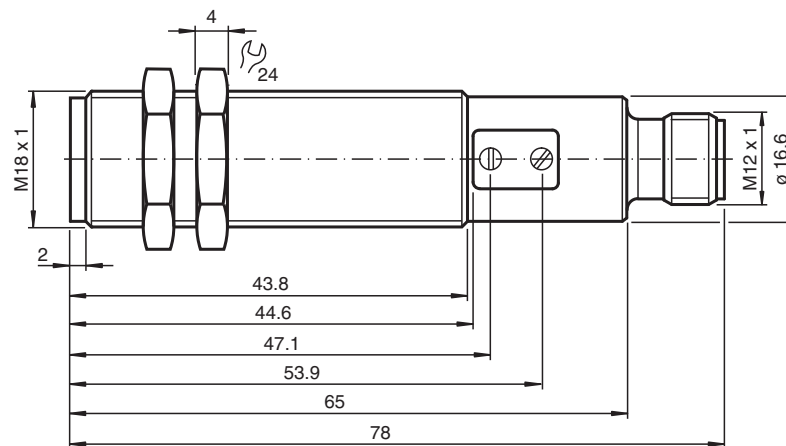


- M18 threaded housing made of brass, nickel plated
- Visible red light, pulsed LASER light
- Array control panel with highly visible LED display
- Flashing power on LED in case of short-circuit
- Multiple device installation possible, no mutual interference (no cross-talk)
- Not sensitive to ambient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

Retroreflective sensor with polarization filter



Dimensions



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
Opening angle	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
------------------	--------------

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

EAC conformity	TR CU 020/2011
UL approval	cULus Listed, Type 1 enclosure
CCC approval	CCC approval / marking not required for products rated ≤36 V

Ambient conditions

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

Release date: 2022-08-08 Date of issue: 2022-08-08 Filename: 800182_eng.pdf

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

Pepperl+Fuchs Group
www.pepperl-fuchs.com

USA: +1 330 486 0001
fa-info@us.pepperl-fuchs.com

Germany: +49 621 776 1111
fa-info@de.pepperl-fuchs.com

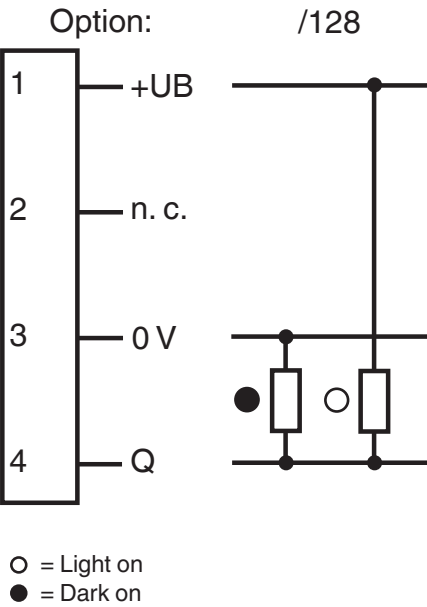
Singapore: +65 6779 9091
fa-info@sg.pepperl-fuchs.com

 **PEPPERL+FUCHS**

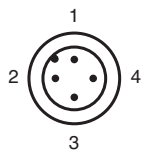
Technical Data

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

Connection Assignment



Connection Assignment

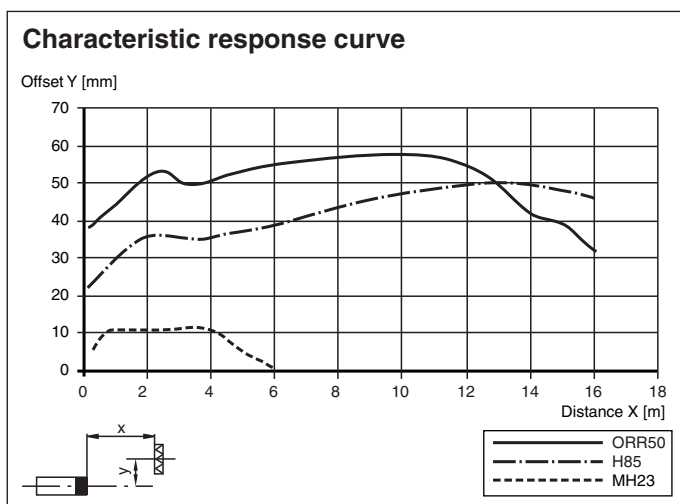


Wire colors in accordance with EN 60947-5-2

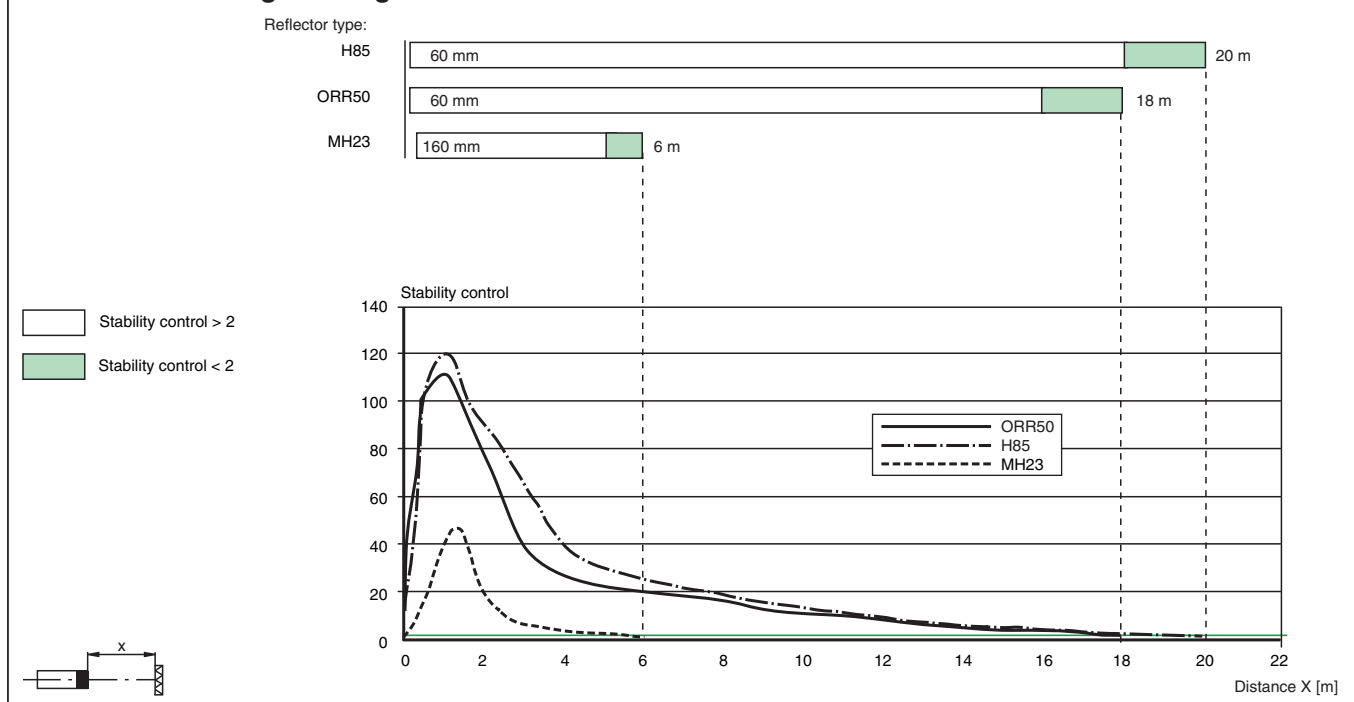
1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)

Release date: 2022-08-08 Date of issue: 2022-08-08 Filename: 800182_eng.pdf

Characteristic Curve



Relative received light strength



Safety Information

Laser Class 1 Information

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.

Accessories

	OMH-VL18	Mounting Bracket with swivel nut
	BF 18	Mounting flange, 18 mm
	BF 18-F	Plastic mounting adapter, 18 mm

Accessories

	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-H100	Reflector, rectangular 122 mm x 99.35 mm, mounting holes
	REF-H85-2	Reflector, rectangular 84.5 mm x 84.5 mm, mounting holes
	REF-H50	Reflector, rectangular 51 mm x 61 mm, mounting holes, fixing strap