



**Model Number**

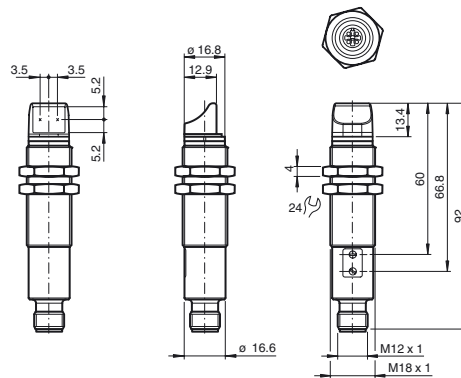
**VL18-54-MS/40a/118/128**

Retroreflective sensor  
with 4-pin, M12 x 1 connector

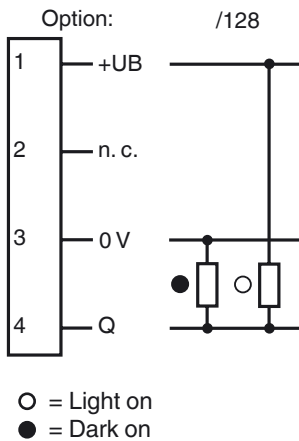
**Features**

- Array control panel with highly visible LED display
- Flashing power on LED in case of short-circuit
- Optical face lateral, flush to the housing
- Multiple device installation possible, no mutual interference (no cross-talk)
- Not sensitive to ambient light, even with switched energy saving lamps
- Protection class II

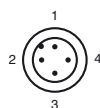
**Dimensions**



**Electrical connection**



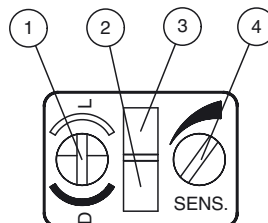
**Pinout**



Wire colors in accordance with EN 60947-5-2

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

**Indicators/operating means**



1	Light/dark switch
2	Operating display green
3	Switch state yellow
4	Sensitivity adjustment

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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 ... 3.5 m
Threshold detection range	4 m
Reference target	H50 reflector
Light source	LED
Light type	modulated visible red light , 632 nm
Polarization filter	yes
Diameter of the light spot	160 mm at a distance of 3500 mm
Angle of divergence	3 °
Optical face	lateral
Ambient light limit	30000 Lux ; according to EN 60947-5-2:2007
Hysteresis	H < 15 %

**Functional safety related parameters**

MTTF <sub>d</sub>	700 a
Mission Time (T <sub>M</sub> )	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 <sub>B</sub>	10 ... 30 V DC , class 2
No-load supply current	I <sub>0</sub>	< 25 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	30 V DC	
Switching current	max. 200 mA	
Voltage drop	U <sub>d</sub>	≤ 2.5 V DC
Switching frequency	f	500 Hz
Response time		1 ms

**Ambient conditions**

Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Storage temperature	-30 ... 70 °C (-22 ... 158 °F)
Relative humidity	90 % , noncondensing

**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

**Approvals and certificates**

UL approval	cULus Listed, Type 1 enclosure
CCC approval	CCC approval / marking not required for products rated ≤36 V

**Accessories****CPZ18B03**

Mounting Bracket with swivel nut

**BF 18**

Mounting flange, 18 mm

**BF 18-F**

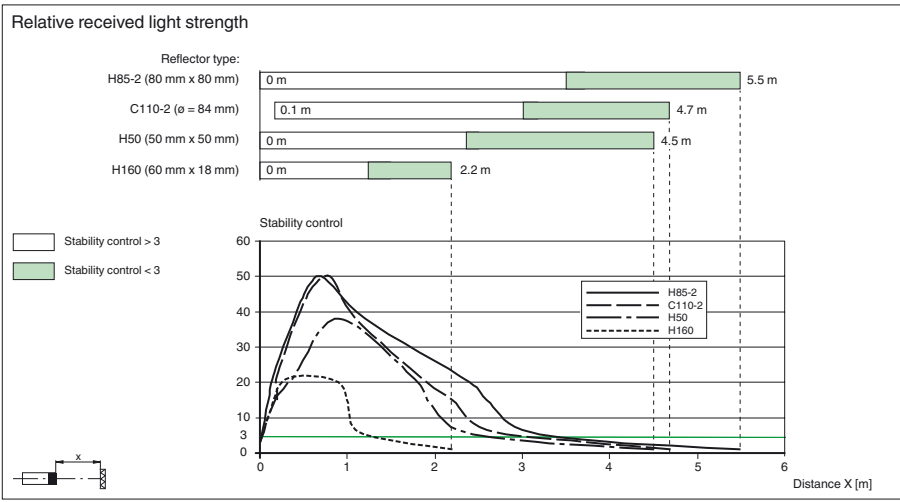
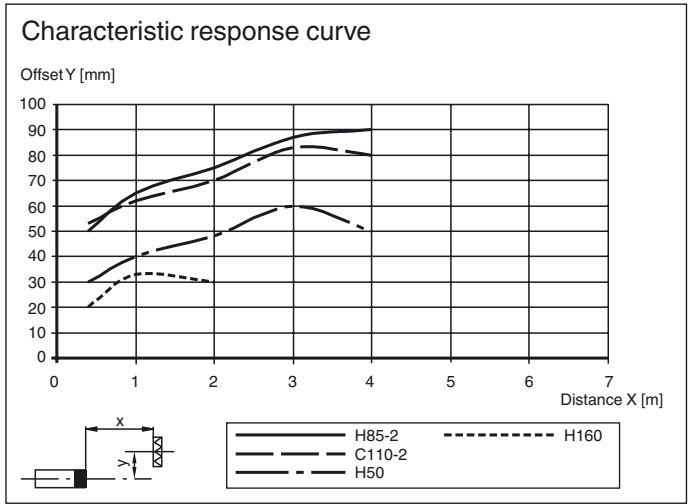
Plastic mounting adapter, 18 mm

**BF 5-30**

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

Other suitable accessories can be found at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

Curves/Diagrams



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