



# Retroreflective sensor

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

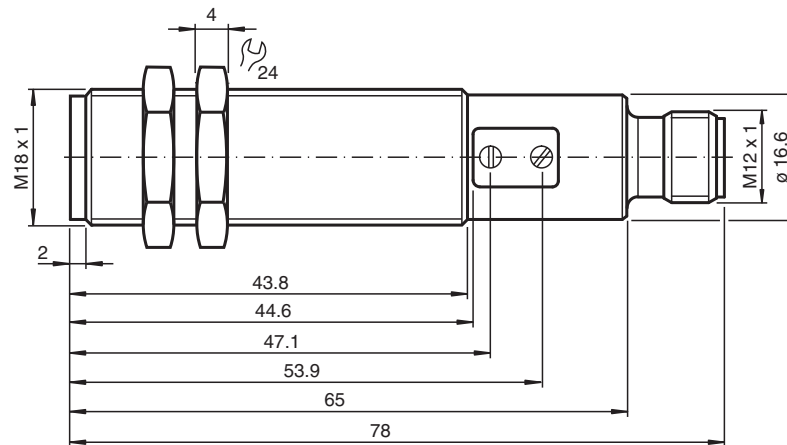


- Array control panel with highly visible LED display
- Flashing power on LED in case of short-circuit
- Multiple device installation possible, no mutual interference (no cross-talk)
- Not sensitive to ambient light, even with switched energy saving lamps
- Protection class II

Retroreflective sensor with polarization filter



### Dimensions



### Technical Data

#### General specifications

Effective detection range	0 ... 3.5 m
Threshold detection range	4 m

Release date: 2022-08-08 Date of issue: 2022-08-08 Filename: 800112\_eng.pdf

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

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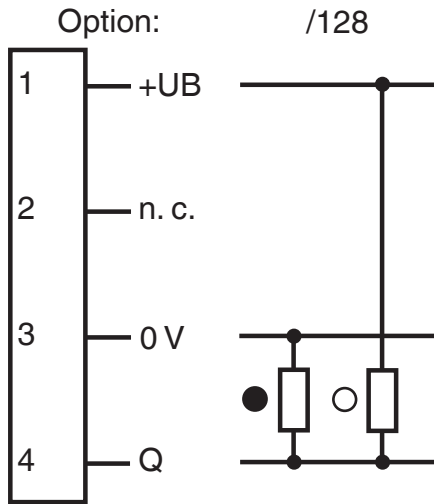
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## Technical Data

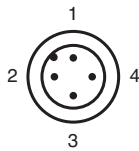
Reference target	H50 reflector	
Light source	LED	
Light type	modulated visible red light , 632 nm	
Polarization filter	yes	
Diameter of the light spot	200 mm at a distance of 3500 mm	
Opening angle	3 °	
Optical face	frontal	
Ambient light limit	30000 Lux ; according to EN 60947-5-2:2007	
Hysteresis	H	< 15 %
<b>Functional safety related parameters</b>		
MTTF <sub>d</sub>	700 a	
Mission Time (T <sub>M</sub> )	20 a	
Diagnostic Coverage (DC)	0 %	
<b>Indicators/operating means</b>		
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	
<b>Electrical specifications</b>		
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	
<b>Output</b>		
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	
<b>Conformity</b>		
Product standard	EN 60947-5-2	
<b>Approvals and certificates</b>		
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	
<b>Ambient conditions</b>		
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)	
Storage temperature	-30 ... 70 °C (-22 ... 158 °F)	
Relative humidity	90 % , noncondensing	
<b>Mechanical specifications</b>		
Degree of protection	IP67	
Connection	4-pin, M12 x 1 connector	
<b>Material</b>		
Housing	brass, nickel-plated	
Optical face	PMMA	
Mass	60 g	

**Connection Assignment**



○ = Light on  
● = Dark on

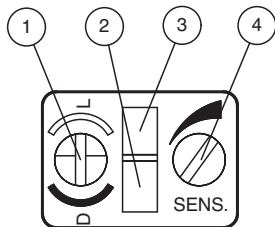
**Connection Assignment**



Wire colors in accordance with EN 60947-5-2

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

**Assembly**

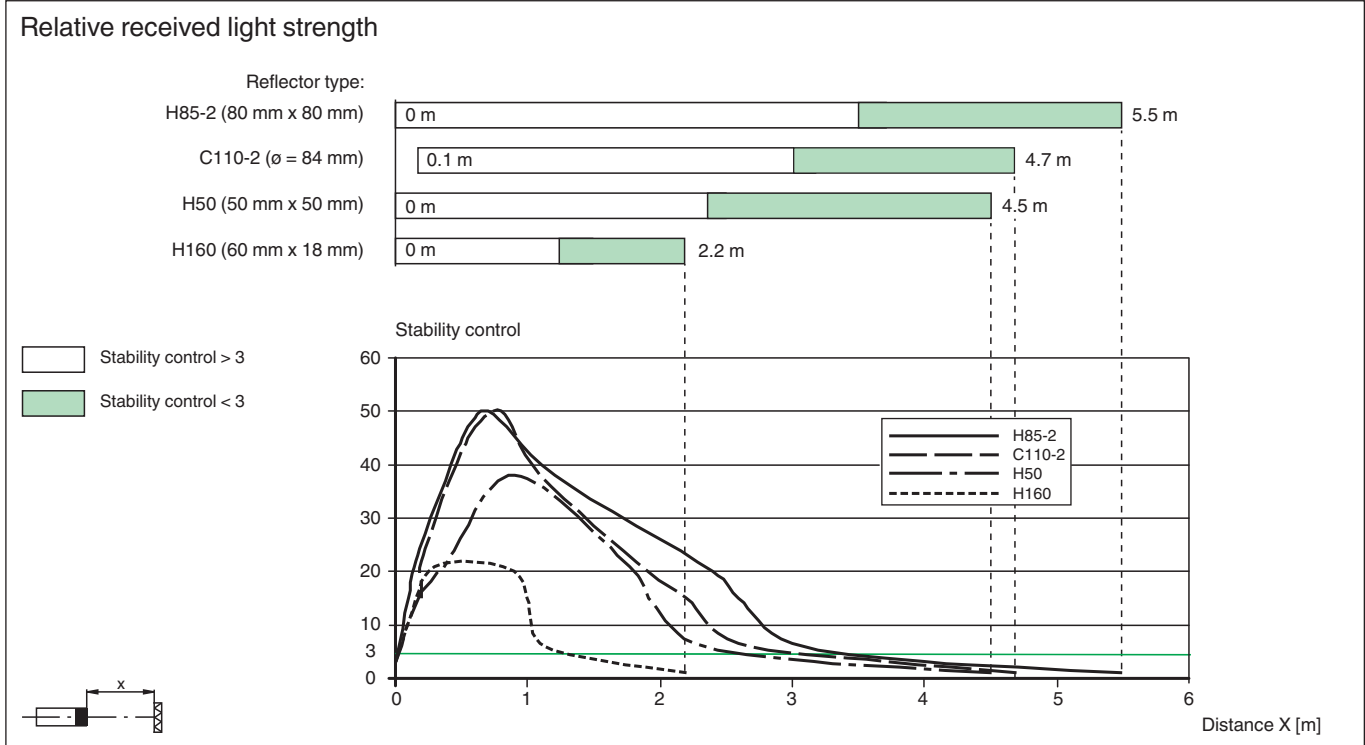
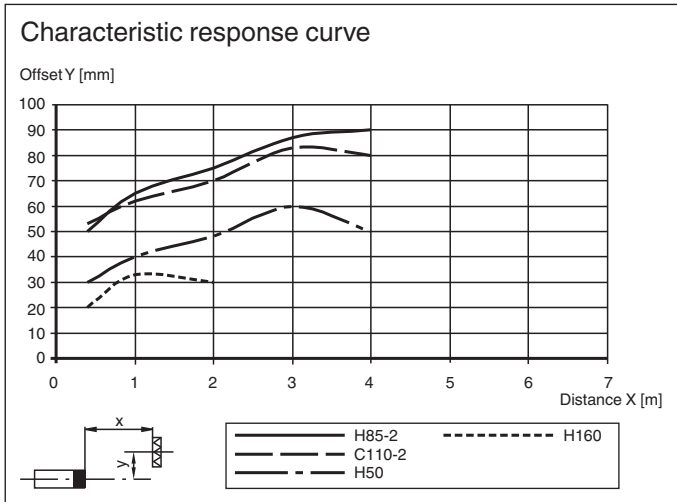


1	Light/dark switch	
2	Operating display	green
3	Switch state	yellow
4	Sensitivity adjustment	

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**Characteristic Curve**



**Accessories**

	<b>CPZ18B03</b>	Mounting Bracket with swivel nut
	<b>BF 18</b>	Mounting flange, 18 mm
	<b>BF 18-F</b>	Plastic mounting adapter, 18 mm
	<b>BF 5-30</b>	Universal mounting bracket for cylindrical sensors with a diameter of 5 ... 30 mm
	<b>REF-H85-2</b>	Reflector, rectangular 84.5 mm x 84.5 mm, mounting holes

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## Accessories



**REF-H50**

Reflector, rectangular 51 mm x 61 mm, mounting holes, fixing strap

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