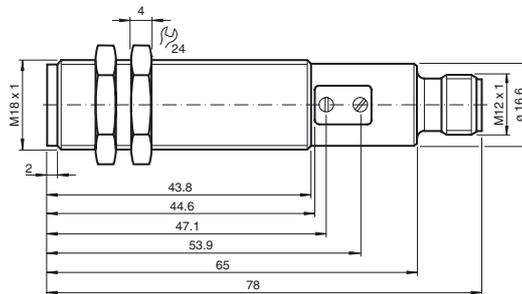## Dimensions

Model Number

VL18-54-M/32/40a/82b/118
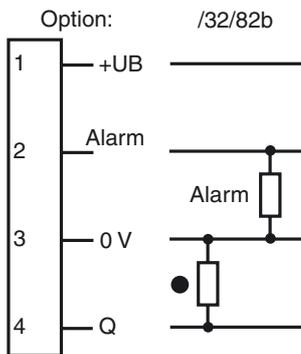
Retroreflective sensor
with 4-pin, M12 x 1 connector

Features

- Array control panel with highly visible LED display

- Flashing power on LED in case of short-circuit

- Multiple device installation possible, no mutual interference (no cross-talk)

- Not sensitive to ambient light, even with switched energy saving lamps
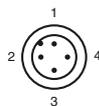
- Protection class II

Electrical connection

Option: /32/82b
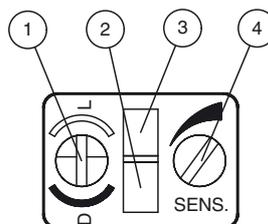

○ = Light on
● = Dark on

Pinout

Wire colors in accordance with EN 60947-5-2

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

Indicators/operating means

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

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		200 mm at a distance of 3500 mm
Angle of divergence		3 °
Optical face		frontal
Ambient light limit		30000 Lux ; according to EN 60947-5-2:2007
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	< 25 mA
Protection class		II , rated voltage ≤ 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	≤ 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
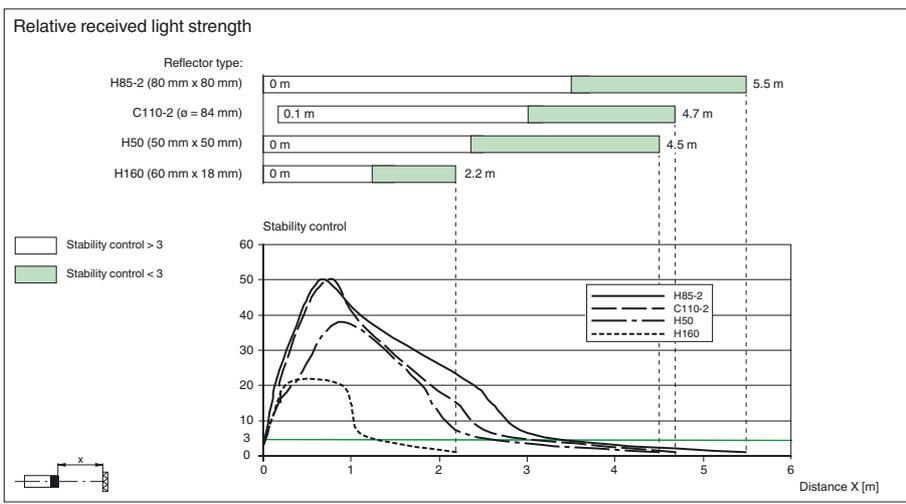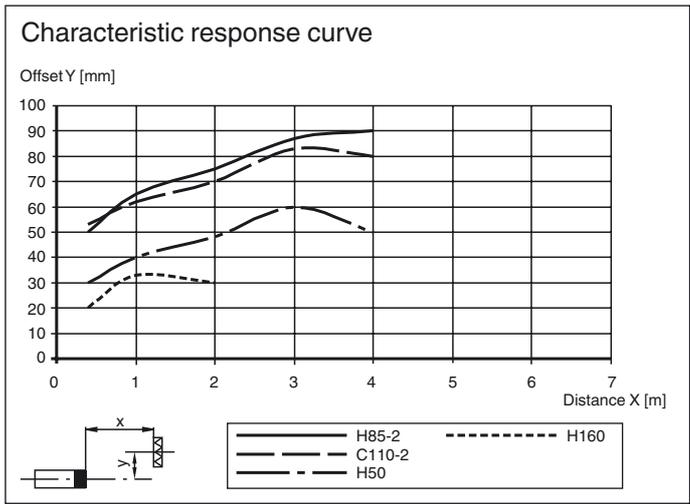
BF 18
Mounting flange, 18 mm

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

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

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Curves/Diagrams

Characteristic response curve

Offset Y [mm]

—— H85-2	----- H160
— — C110-2	
—·— H50	

Distance X [m]

Relative received light strength

Reflector type:

Reflector	Range
H85-2 (80 mm x 80 mm)	0 m — 5.5 m
C110-2 (ø = 84 mm)	0.1 m — 4.7 m
H50 (50 mm x 50 mm)	0 m — 4.5 m
H160 (60 mm x 18 mm)	0 m — 2.2 m

☐ Stability control > 3

▨ Stability control < 3

Stability control

—— H85-2
— — C110-2
—·— H50
----- H160

Distance X [m]

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

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