







Model Number

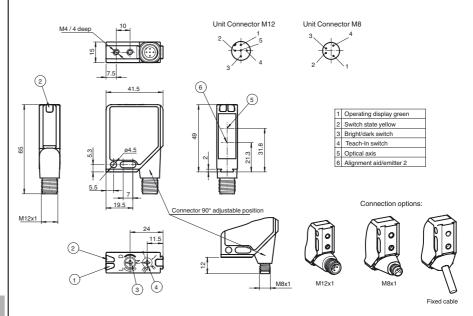
M12/MV12-F1/76b/82b/95/128

Thru-beam sensor with 4-pin M8 connector, 90° adjustable position

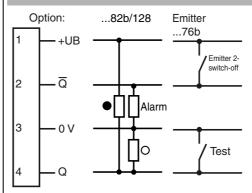
Features

- Series of sensors in a widely used standard housing
- TEACH-IN switch for setting the contrast detection levels
- Automatic adjustment in case of soiling in contrast detection mode
- High level of stability thanks to the metal housing frame
- Resistant against noise: reliable operation under all conditions

Dimensions



Electrical connection



- O = Light on
- = Dark on

Pinout



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Technical data		
System components		
Emitter		M12-F1/76b/95
Receiver		MV12-F1/82b/95/128
General specifications		
Effective detection range		0 16 m
Threshold detection range		25 m
Light source		2 LED
Light type		modulated visible red light , 660 nm min. 12 mm
Target size Alignment aid		LED red in receiver
Diameter of the light spot		approx. 420 mm at a distance of 16 m
Angle of divergence		1.5 °
Ambient light limit		
Continuous light		40000 Lux
Modulated light		5000 Lux
Functional safety related parame	ters	
MTTF _d		570 a
Mission Time (T _M)		20 a
Diagnostic Coverage (DC)		90 %
Indicators/operating means		
Operating display		LED green, flashes in case of short-circuit
Function display		2 LEDs yellow for switching state, stability control, TEACH-IN and contrast detection mode
Controls		rotary switch for light/dark, 5-step switch for contrast recognitio
Controlo		adjustment
Contrast detection levels		15 % - clear glass bottles
		25 % - plastic foils 40 % - colored glass or opaque materials
		adjustable by TEACH-IN key or external wire
Electrical specifications		,
Operating voltage	U_{B}	10 30 V DC
Ripple		max. 10 %
No-load supply current	I ₀	Emitter: ≤ 35 mA
		Receiver: ≤ 45 mA
Input		
Test input		emitter deactivation at 0 V
Output		4 DND in a time when level fells below from the second of the
Pre-fault indication output		1 PNP, inactive when level falls below function reserve after approx. 5 s.
		Immediately inactive if the beam is interrupted 4 times during the
		flashtime.
Switching type		light/dark on, switchable
Signal output		1 push-pull (4 in 1) output, short-circuit protected, reverse pola- rity protected
Switching voltage		max. 30 V DC
Switching current		max. 0.2 A
Voltage drop	U _d	≤ 2.5 V DC
Switching frequency	f	1000 Hz
Response time		0.5 ms
Ambient conditions		
Ambient temperature		-40 60 °C (-40 140 °F)
Storage temperature		-40 75 °C (-40 167 °F)
Mechanical specifications		
Protection degree		IP67
Connection		4-pin M8 metal connector, 90° rotatable
Material		
Housing		Frame: nickel plated, die cast zinc, Laterals: glass-fiber reinforced plastic PC
		Plastic pane
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Optical face Mass		120 g (emitter and receiver)
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Accessories

OMH-MLV12-HWG

Mounting bracket for series MLV12 sensors

OMH-MLV12-HWK

Mounting bracket for series MLV12 sensors

OMH-K01

dove tail mounting clamp

OMH-K02

dove tail mounting clamp

OMH-K03

dove tail mounting clamp

OMH-06

Mounting aid for round steel ø 12 mm or sheet 1.5 mm ... 3 mm

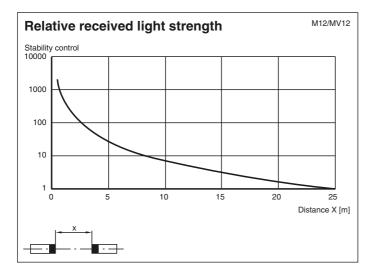
V31-WM-2M-PUR

4-pin, M8 socket, PUR cable

V31-GM-2M-PUR

4-pin, M8 socket, PUR cable

Other suitable accessories can be found at www.pepperl-fuchs.com



Notes

Alignment

In switching position "N" senders and recipients align to:

Yellow LED lights up constantly, red LED is off.

TEACH-IN

- Switch position "N" (standard operation):
- LEDs are lit when the light beam is unobstructed, they flash when the value falls short of the function reserve and switch off when the beam is interrupted.
- Switch position "T" (Teach-in mode):
 After 1 s, the LED flashes slowly (approx. 1.5 Hz). The sensor is now ready to be set for a specific contrast detection value via the mechanical switch (pos. I, II or III).
- Switch positions "I", "II" and "III" (contrast detection mode) Contrast recognition values: I for 15 %, II for 25 %, III for 40 %
 - 1. LED permanently lit: light path unobstructed
- LED off: element to be sensed detected
 LED flashes rapidly: detection failure, excessive soiling, function reserve too low.