



**Model Number**

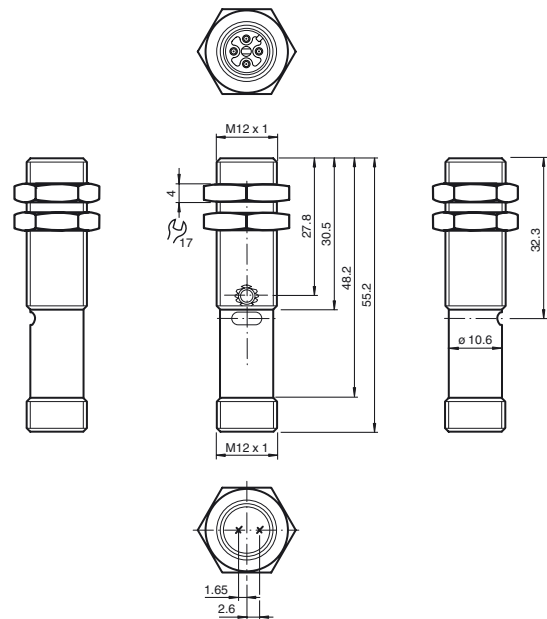
**OBR2500-12GM40-E5-V1**

Retroreflective sensor  
with 4-pin, M12 x 1 connector

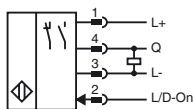
**Features**

- Robust M12 threaded housing
- Less space required
- Glare protected with polarization filter
- Light/dark ON, programmable
- Degree of protection IP67

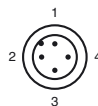
**Dimensions**



**Electrical connection**



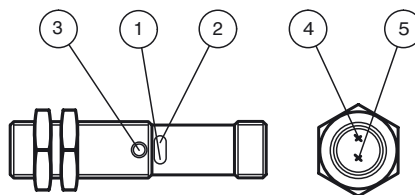
**Pinout**



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	Operating display	green
2	Signal display	yellow
3	Potentiometer	
4	Emitter	
5	Receiver	

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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 ... 2500 mm
Reflector distance	50 ... 2500 mm
Threshold detection range	3000 mm
Reference target	H50 reflector
Light source	LED
Light type	red , 640 nm
Polarization filter	yes
Angle deviation	+/- 2 °
Diameter of the light spot	approx. 150 mm at a distance of 2500 mm
Angle of divergence	approx. 3.5 °
Optical face	frontal
Ambient light limit	EN 60947-5-2 20000 Lux

**Functional safety related parameters**

MTTF <sub>d</sub>	800 a
Mission Time (T <sub>M</sub> )	20 a
Diagnostic Coverage (DC)	0 %

**Indicators/operating means**

Operation indicator	LED green: Power on
Function indicator	LED yellow: lights up when receiving the light beam ; flashes when falling short of the stability control; OFF when light beam is interrupted
Control elements	sensitivity adjustment

**Electrical specifications**

Operating voltage	U <sub>B</sub>	10 ... 30 V DC , class 2
Ripple		10 %
No-load supply current	I <sub>0</sub>	≤ 15 mA

**Input**

Control input	light on +UB dark on: 0 V
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**Output**

Switching type	light/dark on electrically switchable	
Signal output	1 PNP output, short-circuit protected, reverse polarity protected, open collector	
Switching voltage	max. 30 V DC	
Switching current	max. 100 mA , resistive load	
Voltage drop	U <sub>d</sub>	≤ 2 V
Switching frequency	f	≤ 1000 Hz
Response time		0.5 ms

**Ambient conditions**

Ambient temperature	-30 ... 60 °C (-22 ... 140 °F)
Storage temperature	-40 ... 70 °C (-40 ... 158 °F)

**Mechanical specifications**

Degree of protection	IP67
Connection	4-pin, M12 x 1 connector
Material	
Housing	brass, nickel-plated
Optical face	PMMA
Mass	approx. 15 g

**Compliance with standards and directives**

Directive conformity	
EMC Directive 2004/108/EC	EN 60947-5-2:2007
Standard conformity	
Standards	UL 508

**Approvals and certificates**

UL approval	cULus Listed, Class 2 Power Source, Type 1 enclosure
CCC approval	CCC approval / marking not required for products rated ≤36 V
Approvals	CE, cULus Listed 57M3 (Only in association with UL Class 2 power supply; Type 1 enclosure)

**Accessories****BF 12**

Mounting flange, 12 mm

**BF 12-F**

Mounting flange with dead stop, 12 mm

**BF 5-30**

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

**V1-G-2M-PUR**

Female cordset, M12, 4-pin, PUR cable

**V1-W-2M-PUR**

Female cordset, M12, 4-pin, PUR cable

**REF-H50**

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

**REF-VR10**

Reflector, rectangular 60 mm x 19 mm, mounting holes

**REF-H85-2**

Reflector, rectangular 84.5 mm x 84.5 mm, mounting holes

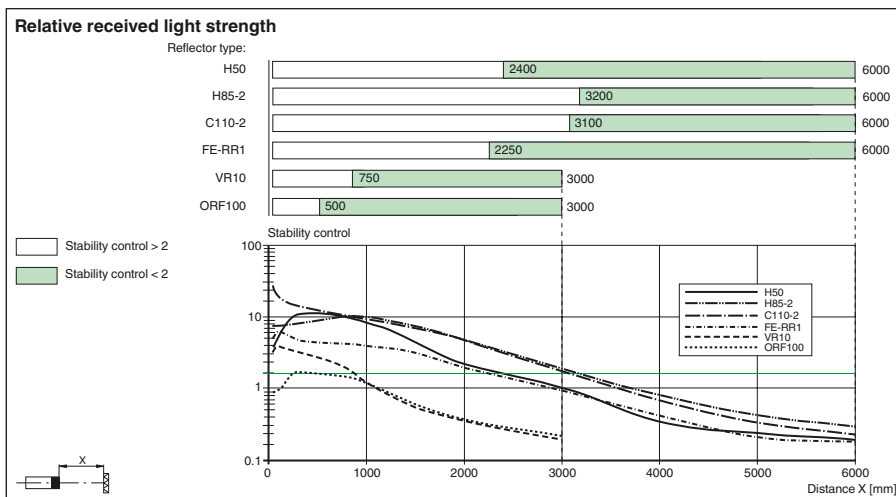
**REF-C110-2**

Reflector, round ø 84 mm, central mounting hole

**OFR-100/100**

Reflective tape 100 mm x 100 mm

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



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