



Model Number

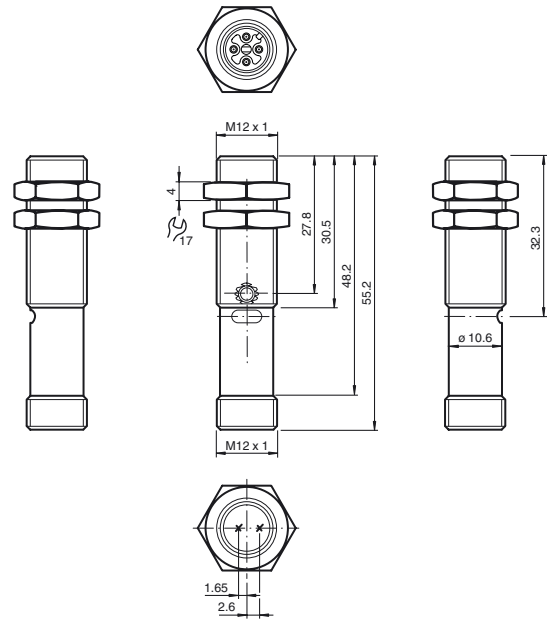
OBR2500-12GM40-E5-V1

Retroreflective sensor
with 4-pin, M12 x 1 connector

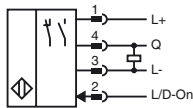
Features

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

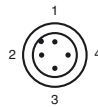
Dimensions



Electrical connection



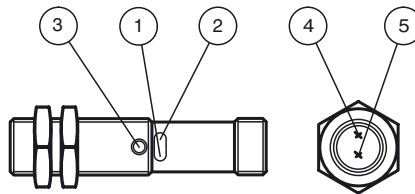
Pinout



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	

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 _d	800 a
Mission Time (T _M)	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 _B	10 ... 30 V DC , class 2
Ripple		10 %
No-load supply current	I ₀	≤ 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 _d	≤ 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

