



Retroreflective sensor OBR4000-18GM60-E5-V1-1C



- Strong metallic housing in cylindrical shape M18 x 1
- Not sensitive to ambient light
- Degree of protection IP67
- Very high detection range



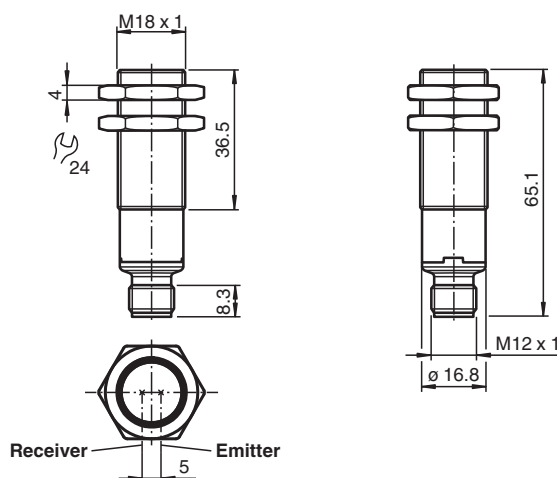
Function

The optical sensors of this series have an M18 threaded housing that is optionally available in plastic or metal.

The sensors are robust and versatile.

Focusing on the essential requirements simplifies selection and commissioning, saving time and costs.

Dimensions



Technical Data

General specifications

Effective detection range	0 ... 4 m
Reflector distance	0 ... 4 m
Threshold detection range	4.5 m
Reference target	H50 reflector
Light source	LED
Light type	modulated visible red light
Polarization filter	yes
Diameter of the light spot	approx. 190 mm at 4 m
Opening angle	approx. 2.6 °
Optical face	frontal
Ambient light limit	EN 60947-5-2 10000 Lux

Technical Data

Functional safety related parameters

MTTF _d	962 a
Mission Time (T _M)	20 a
Diagnostic Coverage (DC)	0 %

Indicators/operating means

Operation indicator	LED green: on - power on flashing (4 Hz) - short circuit
Function indicator	Receiver: yellow LED permanently lit - output active permanently off - output inactive flashing (4 Hz) - insufficient operating reserve
Control elements	light/dark on electrically switchable

Electrical specifications

Operating voltage	U _B	10 ... 30 V DC
Ripple		max. 10 %
No-load supply current	I ₀	< 25 mA
Protection class		III

Output

Switching type		The switching type of the sensor is adjustable. The default setting is: Q - Pin4: PNP output / dark-on L/D-On - Pin2: Low-active input
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 DC
Switching frequency	f	500 Hz
Response time		≤ 1 ms

Conformity

Product standard	EN 60947-5-2
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Approvals and certificates

UL approval	E87056 , cULus Listed , class 2 power supply , type rating 1
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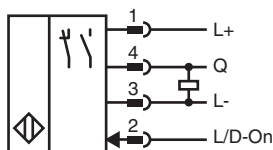
Ambient conditions

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

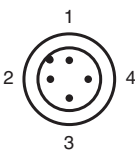
Mechanical specifications

Housing length	65.1 mm
Degree of protection	IP67
Connection	4-pin, M12 x 1 connector
Material	
Housing	brass, nickel-plated
Optical face	PMMA
Connector	plastic
Mass	approx. 23 g

Connection



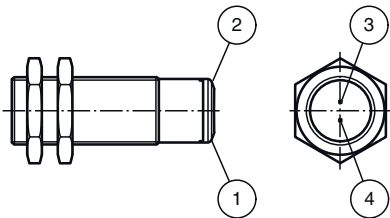
Connection Assignment



Wire colors in accordance with EN 60947-5-2

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

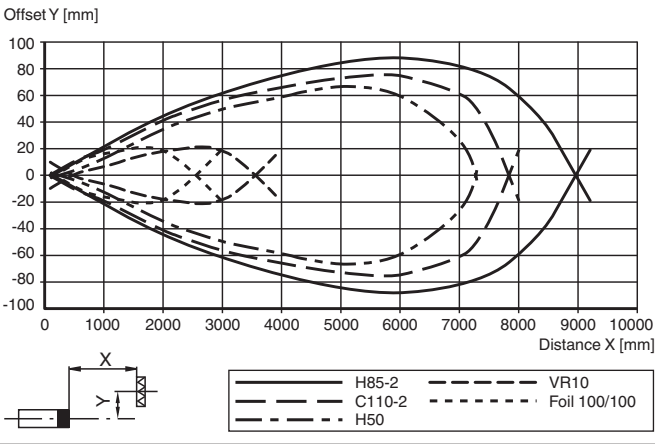
Indication



1	Operating display	green
2	Signal display	yellow
3	Emitter	
4	Receiver	

Characteristic Curve

Characteristic response curve



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Characteristic Curve

