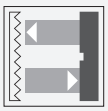


Retroreflective sensor

OBR4000-18GM60-E5-V1-1C

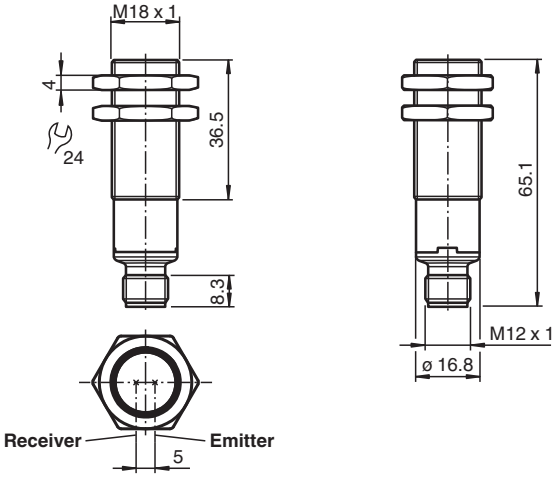


- Strong metallic housing in cylindrical shape M18 x 1
- Not sensitive to ambient light
- Degree of protection IP67
- Very high detection range

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

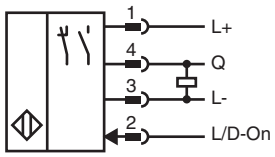
General specifications	
Effective detection range	0 ... 4 m
Reflector distance	0 ... 4 m
Threshold detection range	4.5 m
Reference target	H50 reflector
Light source	LED
Light type	modulated visible red light
Polarization filter	yes
Diameter of the light spot	approx. 190 mm at 4 m
Opening angle	approx.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

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Technical Data

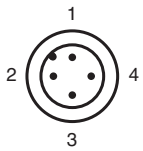
Functional safety related parameters		
$MTTF_d$		962 a
Mission Time (T_M)		20 a
Diagnostic Coverage (DC)		0 %
Indicators/operating means		
Operation indicator		LED green: on - power on flashing (4 Hz) - short circuit
Function indicator		Receiver: yellow LED permanently lit - output active permanently 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
Approvals and certificates		
UL approval		E87056 , cULus Listed , class 2 power supply , type rating 1
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



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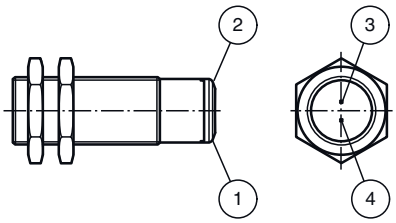
Connection Assignment



Wire colors in accordance with EN 60947-5-2

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

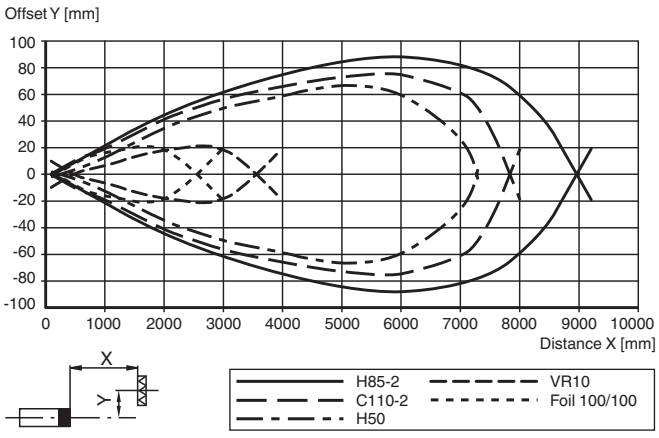
Indication



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

Characteristic Curve

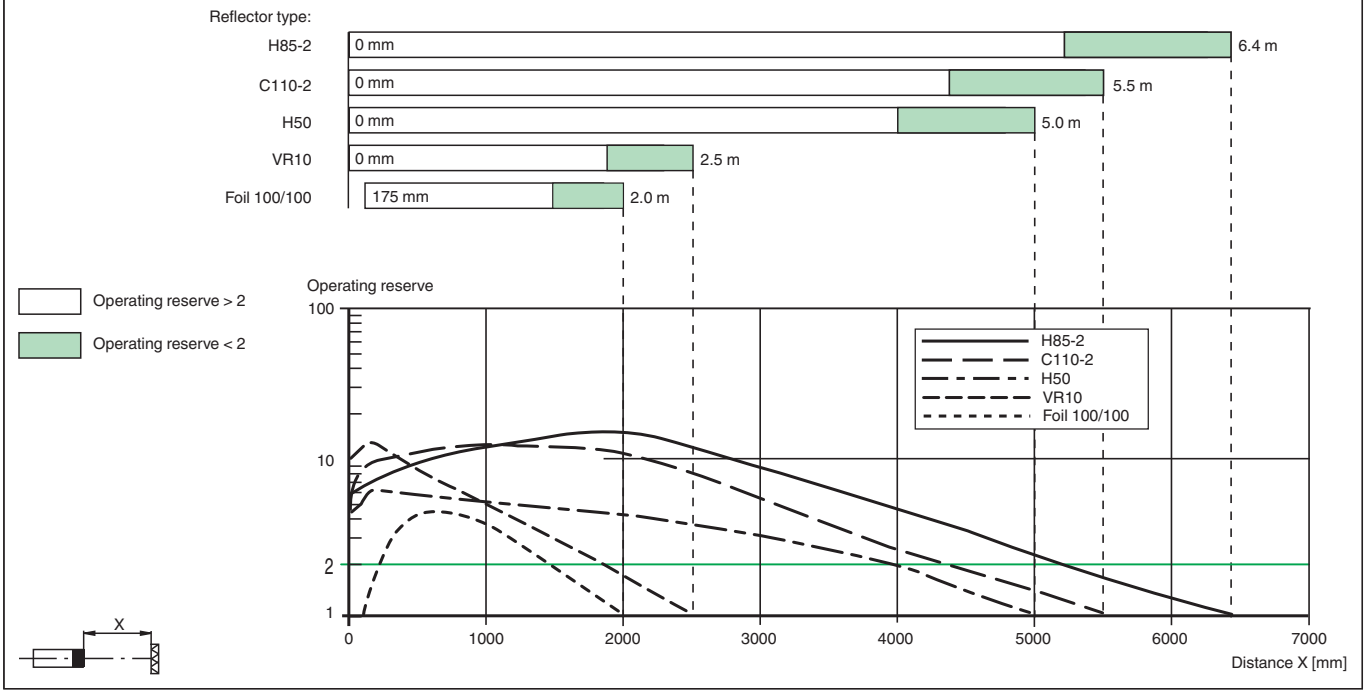
Characteristic response curve



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Characteristic Curve

Relative received light strength



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