



# Retroreflective sensor

## OBR5000-18GK40A-E3-V1



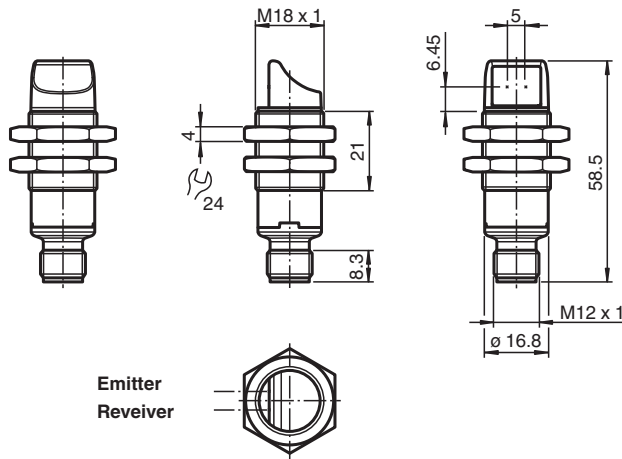
- Short design in M18 plastic housing
- Not sensitive to ambient light
- Degree of protection IP67
- Very high detection range



### 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

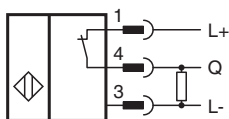
Effective detection range	0 ... 5 m
Reflector distance	0 ... 5 m
Threshold detection range	7 m
Reference target	reflector C110-2
Light source	LED
Light type	modulated visible red light
Polarization filter	yes
Diameter of the light spot	approx. 270 mm at 5 m
Opening angle	approx. 2.6 °
Optical face	lateral
Ambient light limit	EN 60947-5-2 40000 Lux

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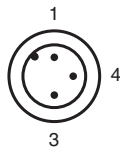
## Technical Data

Functional safety related parameters		
MTTF <sub>d</sub>		1552 a
Mission Time (T <sub>M</sub> )		20 a
Diagnostic Coverage (DC)		0 %
Indicators/operating means		
Operation indicator		LED green: on - power on flashing (4 Hz) - short circuit
Function indicator		Yellow LED: Permanently lit - light path clear Permanently off - object detected Flashing (4 Hz) - insufficient operating reserve
Electrical specifications		
Operating voltage	U <sub>B</sub>	10 ... 30 V DC
Ripple		max. 10 %
No-load supply current	I <sub>0</sub>	< 25 mA
Protection class		III
Output		
Switching type		Q - Pin4: PNP normally closed / light-on
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>	≤ 1.5 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		
Degree of protection		IP67
Connection		3-pin, M12 x 1 connector
Material		
Housing		PC (Polycarbonate)
Optical face		PMMA
Connector		Plastic
Mass		approx. 9 g
Dimensions		
Length		58.5 mm
Diameter		18 mm
Thread size		M18

## Connection



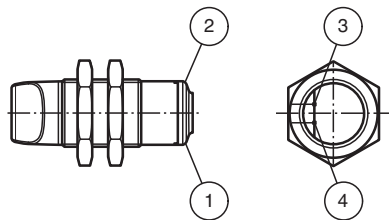
## Connection Assignment



Wire colors in accordance with EN 60947-5-2

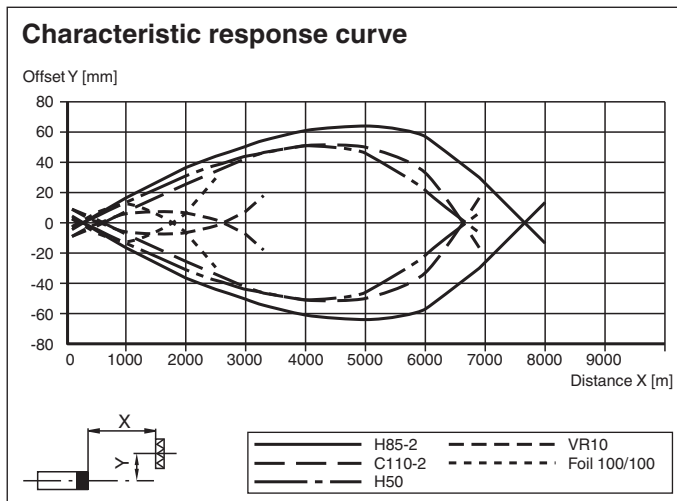
1	BN	(brown)
3	BU	(blue)
4	BK	(black)

## Indication



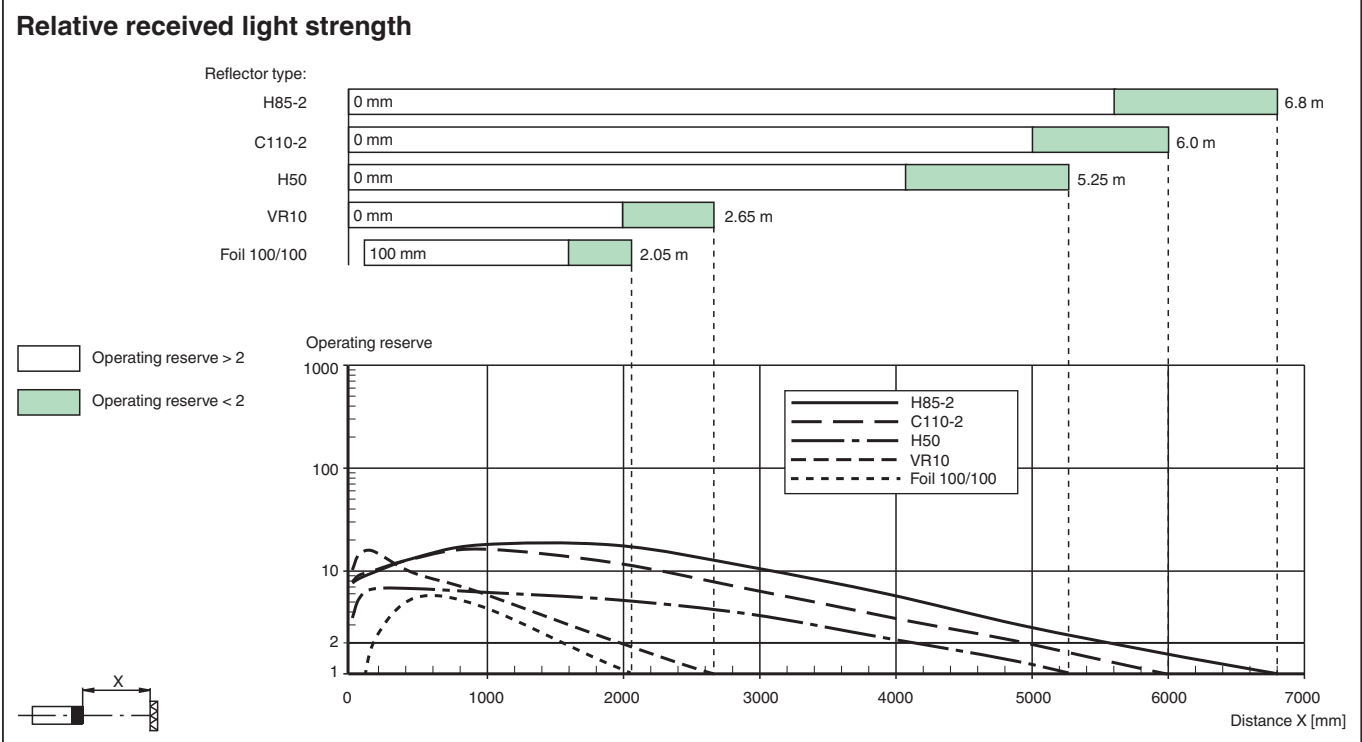
1	Operating display	green
2	Signal display	yellow
3	Emitter	
4	Receiver	

## Characteristic Curve



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