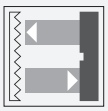
Retroreflective sensor
OBR5000-18GM40A-E0



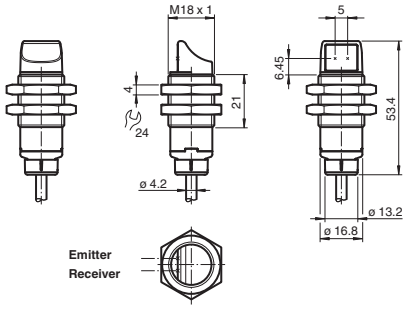
- Strong metallic housing in cylindrical shape M18 x 1
- Not sensitive to ambient light
- Degree of protection IP67
- Very high detection range

Retroreflective sensor

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
Functional safety related parameters		

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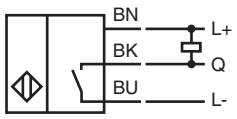
Technical Data

$MTTF_d$		1552 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		Yellow LED: Permanently lit - light path clear Permanently off - object detected Flashing (4 Hz) - insufficient operating reserve
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		Q - Pin4: NPN normally open / dark-on
Signal output		1 NPN 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	≤ 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		2 m fixed cable
Material		
Housing		brass, nickel-plated
Optical face		PMMA
Cable		PVC
Mass		approx. 62 g

Connection



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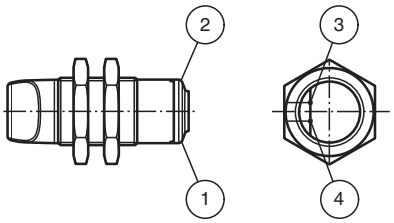
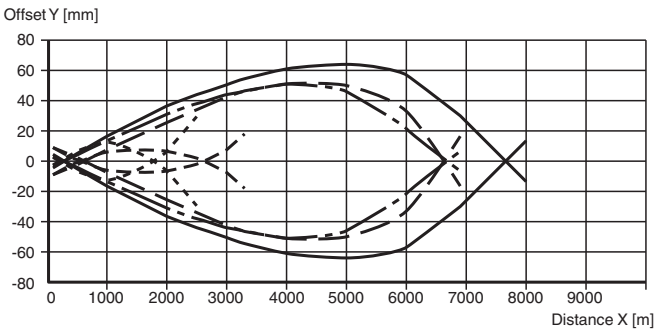
Indication



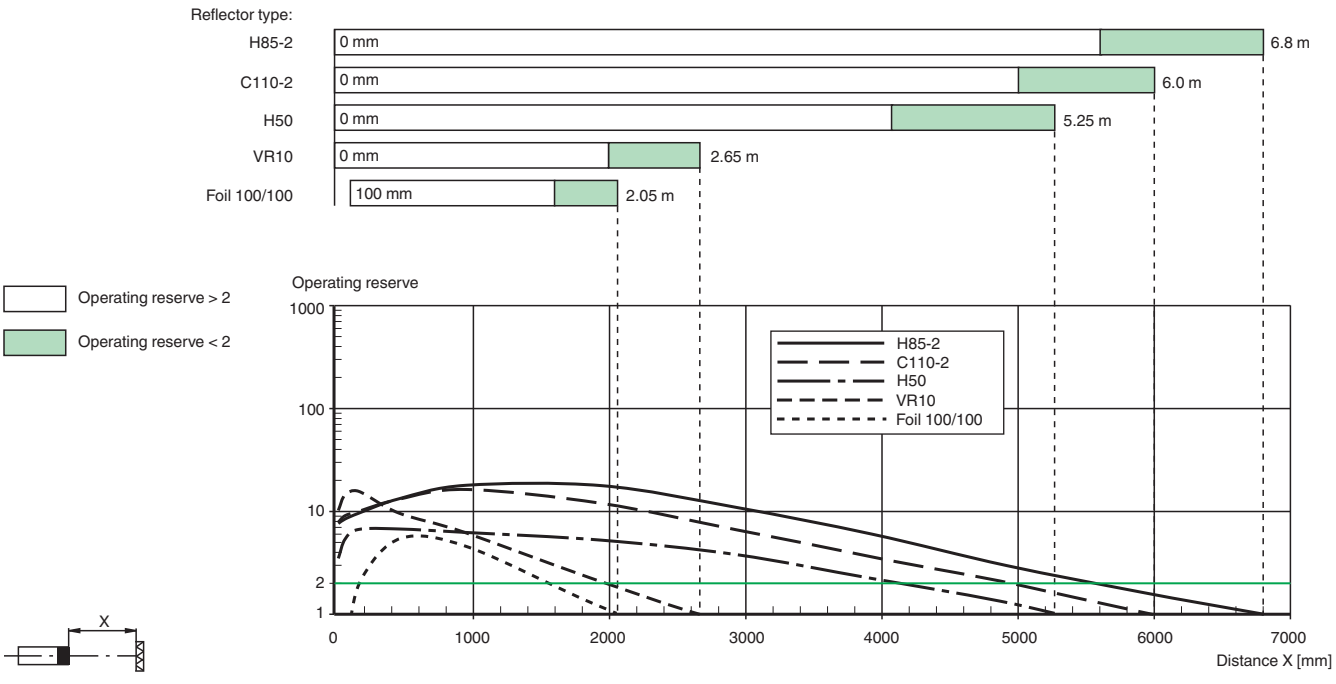
1	Operating display	green
2	Signal display	yellow
3	Emitter	
4	Receiver	

Characteristic Curve

Characteristic response curve



Relative received light strength



Accessories

	BF 18	Mounting flange, 18 mm
	CPZ18B03	Mounting Bracket with swivel nut

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Accessories

	BF 18-F	Plastic mounting adapter, 18 mm
	BF 5-30	Universal mounting bracket for cylindrical sensors with a diameter of 5 ... 30 mm
	OMH-04	Mounting aid for round steel ø 12 mm or sheet 1.5 mm ... 3 mm
	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
	REF-H50	Reflector, rectangular 51 mm x 61 mm, mounting holes, fixing strap
	REF-VR10	Reflector, rectangular 60 mm x 19 mm, mounting holes
	OFR-100/100	Reflective tape 100 mm x 100 mm

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