

Through-beam sensors, in a metal housing



- Robust die-cast zinc housing
- Light reserve warning indicator
- Dual transistor outputs, NPN or PNP
- Short-circuit protection, reverse polarity protection, and power-up output suppression
- Test input
- Connections: Cable, 2 meter
Connector, M8
Connector, Torson, on 20 cm long cable (option)
- EMC tested according to IEC 801 and EN50081-1/EN 50082-2



Product designation ¹⁾

Output
Connection
Range adjustment

Optical data ²⁾

Max. range
Emitter

Electrical data ²⁾

Supply voltage U_s
Allowable ripple
Current consumption (without load)
Max. load current I_L
Residual voltage
Max. switching frequency
Test input: emitter on emitter off
Test input inverse: emitter on emitter off

Environmental data

Sealing
Temperature T_A (operating and storage)
Weight

Emitter		Receiver			
ORS 2KA 101 I1	ORS 2KA 501 I1	ORE 2NA 140 I1	ORE 2NA 540 I1	ORE 2PA 140 I1	ORE 2PA 540 I1
		NPN (light- and dark-on)		PNP (light- and dark-on)	
Cable 2 m	Connector M8	Cable 2 m	Connector M8	Cable 2 m	Connector M8
Yes		No			
8 m					
Infrared-LED, 880 nm, pulsed					
10...45 VDC					
+/- 10% of U_s					
< 25 mA		< 20 mA			
		250 mA			
		< 1,6 V			
		1000 Hz			
> 8 V or open < 1,5 V					
open or < 1,5 V > 8 V					
IP 67					
-20...+60 °C					
ca. 150 g	ca. 85 g	ca. 150 g	ca. 85 g	ca. 150 g	ca. 85 g

1) For product designation of sensors with options see designation code on page 67.
2) When not otherwise noted, all technical data at $T_A = 25\text{ °C}$ and $U_s = 24\text{ V}$.

10...45 VDC

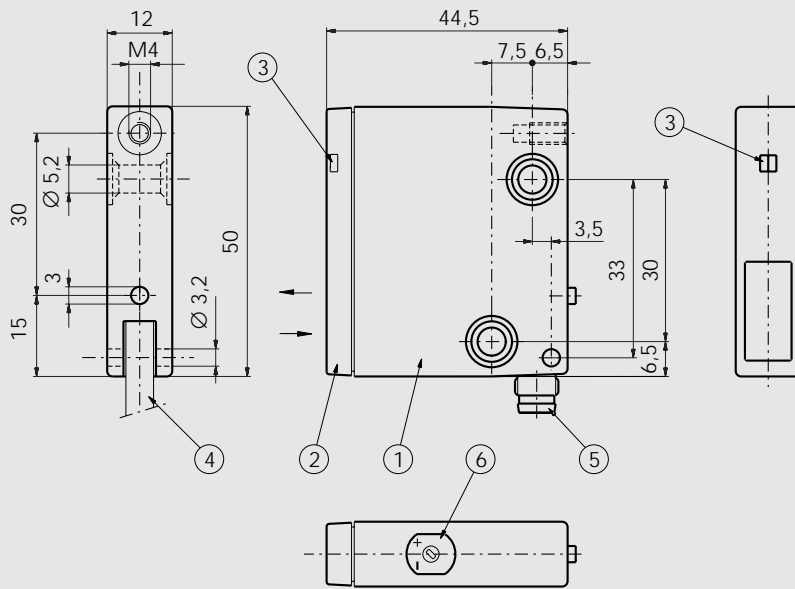
NPN / PNP
light-on and
dark-on output



8 m

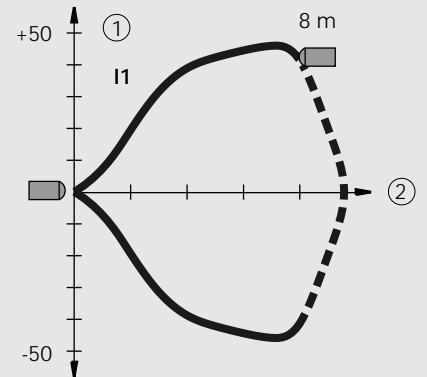
ORS/ORE

Dimensions (50 mm x 44,5 mm x 12 mm)



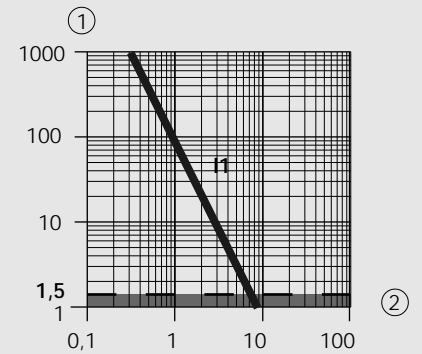
- ① Housing
- ② Lens/filter
- ③ Emitter: operation indicator
Receiver: function indicator
- ④ Cable
- ⑤ Connector M8
- ⑥ Range adjustment

Optical diagrams



Typical beam diameter

- ① Diameter in (cm)
- ② Range in (m)

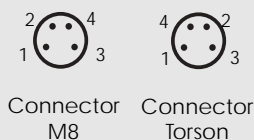
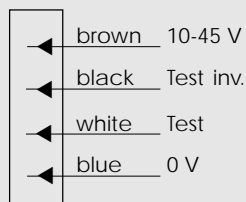


Typical excess gain curve

- ① Gain factor
- ② Range in (m)

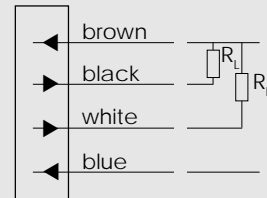
Wiring diagram

Emitter



Receiver

NPN-output



Connection for connector M8	Wire color
1	brown
2	white
3	blue
4	black

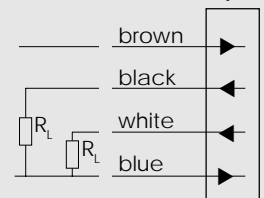
⊕ Supply voltage 10...45 V

Light-on output

Dark-on output

⊖ Supply voltage

PNP-output



Light-on output:
Output energized when no object is present.

Dark-on output:
Output energized when object is present.