

Retro-reflective sensors, straight optics, M18 housing



- Combined surface and bore mounting
- Light reserve warning indicator
- Dual transistor outputs, NPN or PNP
- Test input (option)
- Short-circuit protection, reverse polarity protection, and power-up output suppression
- Connections: Straight cable, 2 meter
Connector, M12
Right angle cable, 2 meter (option)
Connector, Torson (option)
- EMC tested according to IEC 801 and EN50081-1/EN 50082-2



Product designation¹⁾

Output
Connection
Range adjustment

Optical data²⁾

Range
Emitter

Electrical data²⁾

Supply voltage U_s
Allowable ripple
Current consumption (without load)
Max. load current I_L
Residual voltage
Max. switching frequency

Environmental data

Sealing
Temperature T_A (operating and storage)
Weight

OMR 1NA 100 G3	OMR 1NA 400 G3	OMR 1PA 100 G3	OMR 1PA 400 G3
NPN (light- and dark-on)		PNP (light- and dark-on)	
Cable 2 m	Connector M12	Cable 2 m	Connector M12
Yes			
0,1...3 m (retroreflector OZR 001)			
Infrared-LED, 890 nm, pulsed			
10...30 VDC			
+/- 10% of U_s			
< 15 mA			
200 mA			
< 1,6 V			
1000 Hz			
IP 67			
-20...+90 °C (↔ Tech. explanation)			
ca. 90 g	ca. 20 g	ca. 90 g	ca. 20 g

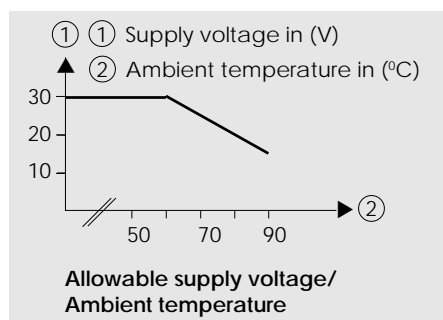
Option¹⁾

Test input: emitter on
emitter off

+ U_s or open	
< 1,5 V	< $U_s - 8 V$

1) For product designation of sensors with options see designation code on page 47.
2) When not otherwise noted, all technical data at $T_A = 25\text{ °C}$ and $U_s = 24 V$.

Technical explanation



← Allowable supply voltage as a function of ambient temperature

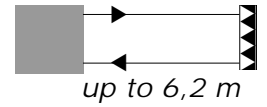
The specified operating temperature is only usable if the supply voltage is reduced at higher temperatures (↔ Diagram "Allowable supply voltage/Ambient temperature").

Retro-reflector ●	Range	Retro-reflector ■	Range	Retro-reflective tape	Range
OZR 001	0.08 – 3.0 m	OZR 101	0.04 – 4.7 m	OZR 201*	0.15 – 0.9 m
OZR 002	0.03 – 2.6 m	OZR 102	0.05 – 1.7 m	OZR 202	0.20 – 2.3 m
OZR 003	0.05 – 1.0 m	OZR 103	0.03 – 3.7 m	OZR 203	0.20 – 1.7 m
		OZR 104	0.03 – 6.2 m	OZR 204*	0.20 – 1.4 m
				OZR 205*	0.20 – 2.0 m

* 30 cm long

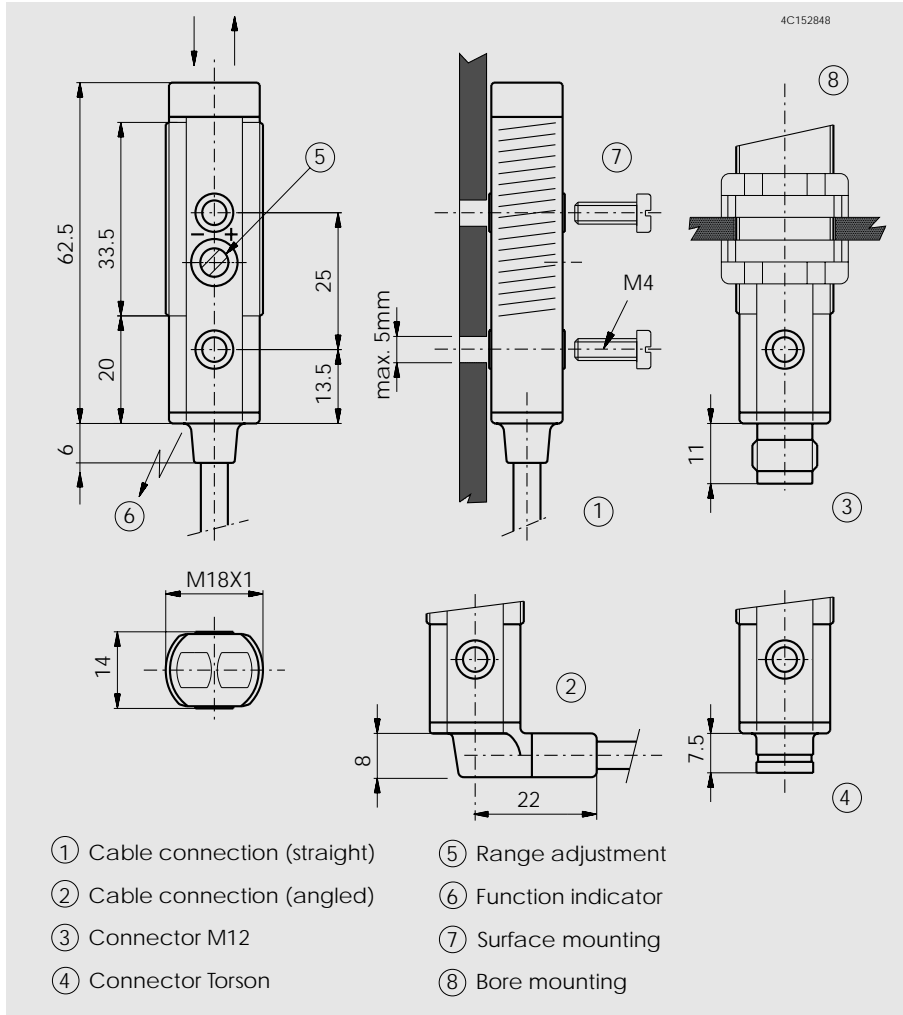
10...30 VDC

NPN / PNP
light-on and
dark-on output



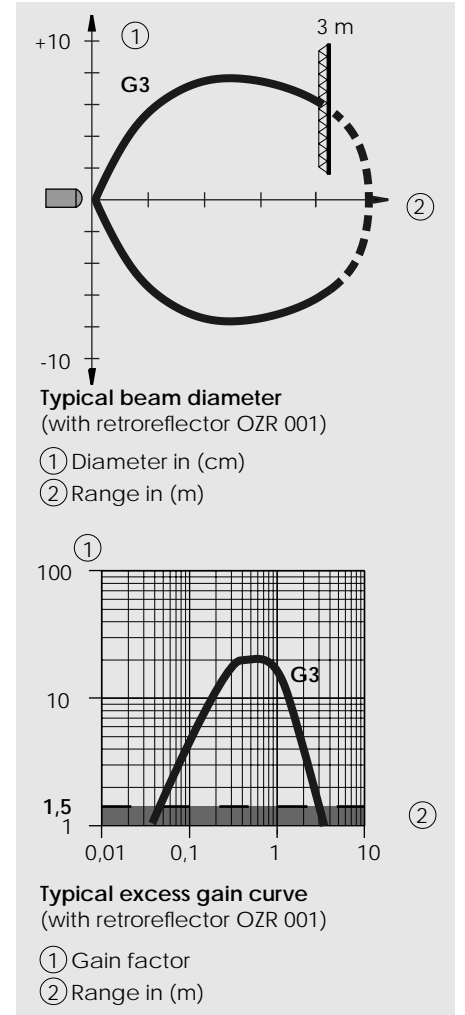
OMR straight optics

Dimensions (62,5 mm, M18 x 1)

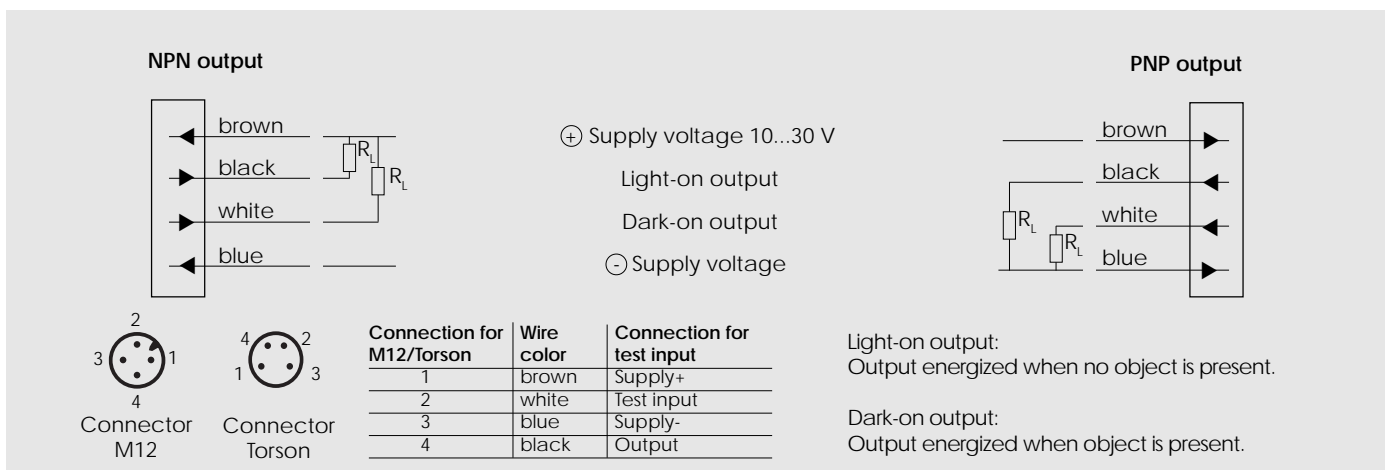


- ① Cable connection (straight)
- ② Cable connection (angled)
- ③ Connector M12
- ④ Connector Torson
- ⑤ Range adjustment
- ⑥ Function indicator
- ⑦ Surface mounting
- ⑧ Bore mounting

Optical diagrams



Wiring diagram



Retro-reflective sensors, right angle optics, M18 housing



- Combined surface and bore mounting
- Light reserve warning output
- Dual transistor outputs, NPN or PNP
- Test input (option)
- Short-circuit protection, reverse polarity protection, and power-up output suppression
- Connections: Straight cable, 2 meter
Connector, M12
Right angle cable, 2 meter (option)
Connector, Torson (option)
- EMC tested according to IEC 801 and EN50081-1/EN 50082-2



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Range
Emitter

Electrical data²⁾

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Allowable ripple
Current consumption (without load)
Max. load current I_L
Residual voltage
Max. switching frequency

Environmental data

Sealing
Temperature T_A (operating and storage)
Weight

Option¹⁾

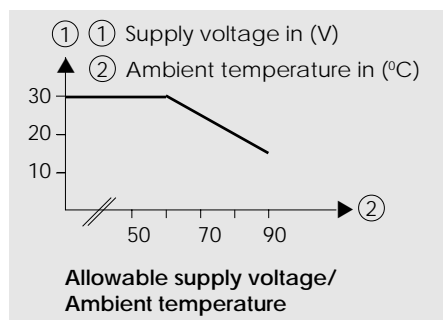
Test input: emitter on
emitter off

OMR 1NA 100 W3	OMR 1NA 400 W3	OMR 1PA 100 W3	OMR 1PA 400 W3
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Cable 2 m	Connector M12	Cable 2 m	Connector M12
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10...30 VDC			
+/- 10% of U_s			
< 15 mA			
200 mA			
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1000 Hz			
IP 67			
-20...+90 °C (☛ Tech. explanation)			
ca. 95 g	ca. 25 g	ca. 95 g	ca. 25 g

+ U_s or open	
< 1,5 V	< U_s - 8 V

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2) When not otherwise noted, all technical data at $T_A = 25\text{ °C}$ and $U_s = 24\text{ V}$.

Technical explanation



☛ Allowable supply voltage as a function of ambient temperature

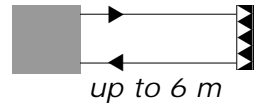
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OZR 002	0.06 – 2.7 m	OZR 102	0.06 – 1.6 m	OZR 202	0.25 – 2.3 m
OZR 003	0.06 – 1.4 m	OZR 103	0.05 – 3.7 m	OZR 203	0.20 – 1.7 m
		OZR 104	0.05 – 6.0 m	OZR 204*	0.20 – 1.0 m
				OZR 205*	0.20 – 1.7 m

* 30 cm long

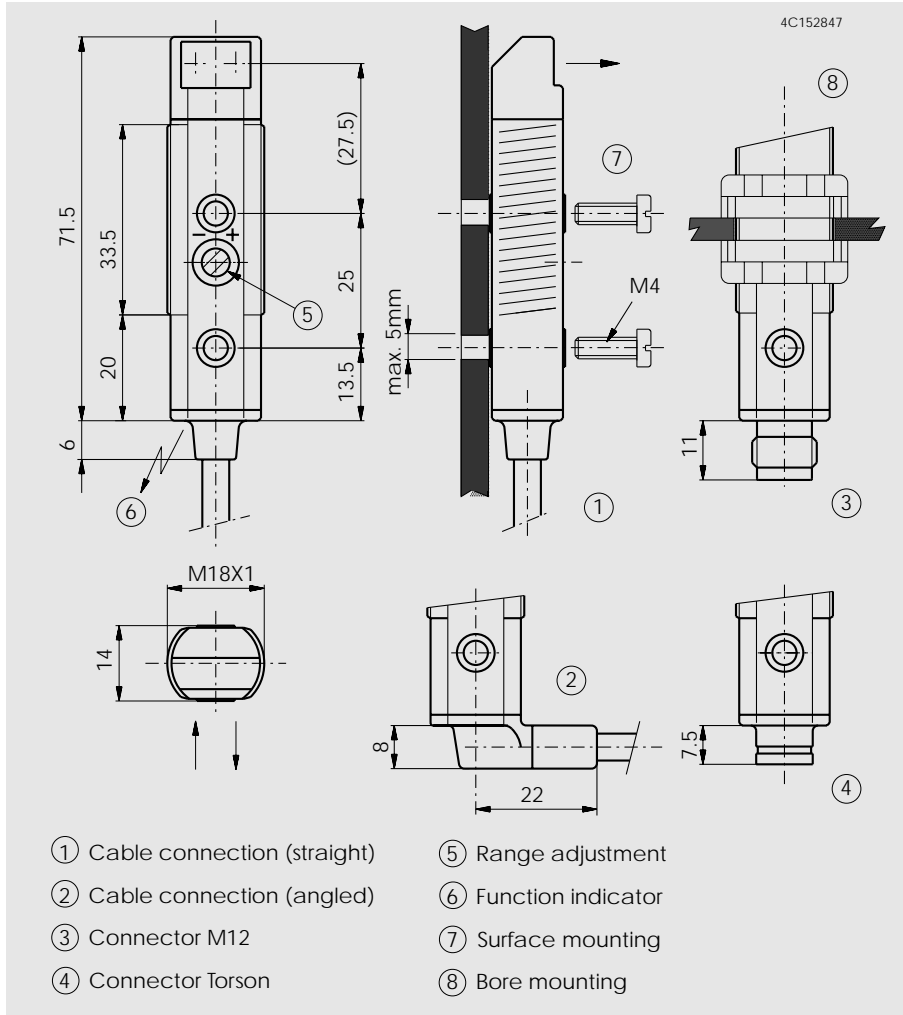
10...30 VDC

NPN / PNP
light-on and
dark-on output

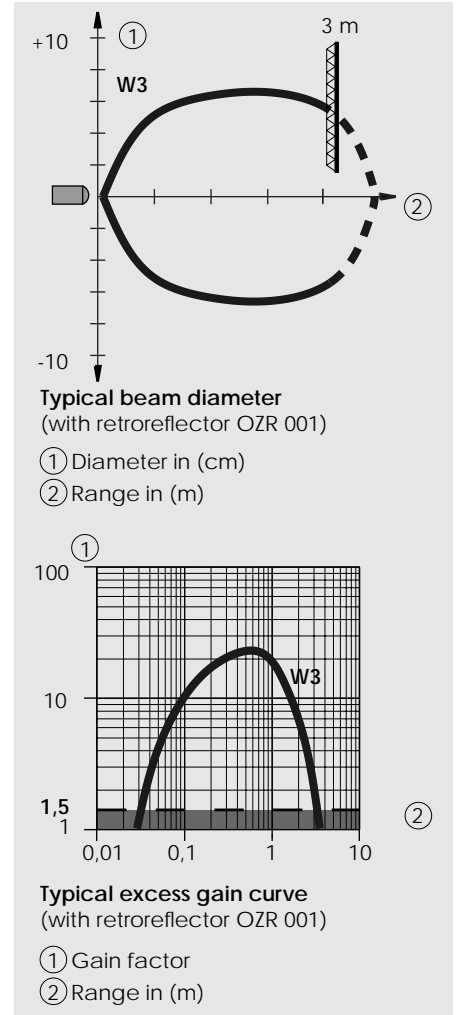


OMR right angle optics

Dimensions (71,5 mm, M18 x 1)



Optical diagrams



Wiring diagram

