

RKR 3B Gloss

Retro-reflective photoelectric sensor

en 08-2013/03 50106778



0.02 ... 5m
0.02 ... 7m



- Retro-reflective photoelectric sensor with visible red light
- High performance reserve
- Small and compact construction with robust plastic housing, protection class IP 67 for industrial application
- Fast alignment through *brightVision*®
- A²LS - Active Ambient Light Suppression
- PNP/NPN switching outputs
- High switching frequency for detection of fast events
- Special version for glossy objects, e.g. metallic surfaces

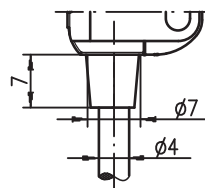
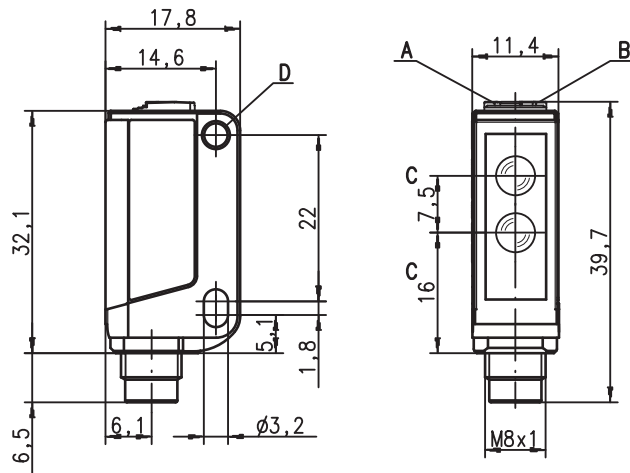


Accessories:

(available separately)

- Mounting systems (BT 3...)
- Reflectors
- Reflective tapes

Dimensioned drawing



- A** Green indicator diode
- B** Yellow indicator diode
- C** Optical axis
- D** Attachment sleeve

Electrical connection

Cable, 4-wire

10-30V DC +	br/BN
OUT 2	ws/WH
GND	bl/BU
OUT 1	sw/BK

We reserve the right to make changes •

Specifications

Optical data	RKR 3B/...D.01...	RKR 3B/66.11
Typ. op. range limit (TK(S) 100x100) ¹⁾	0.02 ... 5m	0.02 ... 7m
Operating range ²⁾	see tables	
Light source ³⁾	LED (modulated light)	
Wavelength	620nm (visible red light, not polarized)	
Timing		
Switching frequency	1,500Hz	1,000Hz
Response time	0.33ms	0.5ms
Delay before start-up	≤ 300ms	
Electrical data		
Operating voltage U _B ⁴⁾	10 ... 30VDC (incl. residual ripple)	
Residual ripple	≤ 15% of U _B	
Open-circuit current	≤ 14mA	
Switching output	.../44D	2 PNP switching outputs OUT 1 (black): dark switching, n.o. OUT 2(white): light switching, n.c.
	.../22D	2 NPN switching outputs OUT 1 (black): dark switching, n.o. OUT 2(white): light switching, n.c.
	.../66 ⁵⁾	2 push-pull switching outputs OUT 2 (ws/WH): PNP dark switching, NPN light switching OUT 1 (sw/BK): PNP light switching, NPN dark switching light/dark switching ⁶⁾
Function characteristics		≥ (U _B -2V)/≤ 2V
Signal voltage high/low		max. 100mA
Output current		fixed setting
Operating range		
Indicators		
Green LED	ready	
Yellow LED	light path free	
Mechanical data		
Housing ⁷⁾	plastic (PC-ABS); 1 attachment sleeve, nickel-plated steel	
Optics cover ⁸⁾	plastic (PMMA)	
Weight	with 2m cable: 50g	
Connection type	2m cable (cross section 4x0.20mm ²)	
Environmental data		
Ambient temp. (operation/storage)	-30°C ... +55°C/-30°C ... +70°C	
Protective circuit ⁹⁾	2, 3	
VDE safety class	III	
Protection class	IP 67	
Light source	free group (in accordance with EN 62471)	
Standards applied	IEC 60947-5-2	
Certifications	UL 508 ⁴⁾	

- 1) Typ. operating range limit: max. attainable range without performance reserve
- 2) Operating range: recommended range with performance reserve
- 3) Average life expectancy 100,000h at an ambient temperature of 25°C
- 4) For UL applications: for use in class 2 circuits according to NEC only
- 5) The push-pull switching outputs must not be connected in parallel
- 6) Dark switching = n.o. / light switching = n.c.
- 7) Patent Pending Publ. No. US 7,476,848 B2
- 8) Patent Pending Publ. No. US 2009/0101791 A1
- 9) 2=polarity reversal protection, 3=short-circuit protection for all transistor outputs

Approved purpose:

This product may only be used by qualified personnel and must only be used for the approved purpose. This sensor is not a safety sensor and is not to be used for the protection of persons.

Tables

RKR 3B/...D.01...

Reflectors	Operating range
1 TK(S) 100x100	0.02 ... 4.0m
2 Tape 4 50x50	0.02 ... 1.2m
1 0,02	4 5
2 0,02 1,2 1,6	

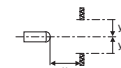
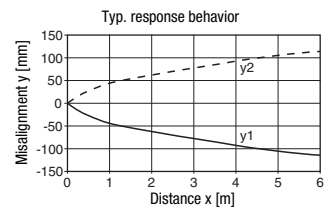
RKR 3B/66.11

Reflectors	Operating range
1 TK(S) 100x100	0.02 ... 6.5m
2 Tape 4 50x50	0.02 ... 2.5m
1 0,02	6,5 7
2 0,02 2,5 3	

Operating range [m]
 Typ. operating range limit [m]
 TK ... = adhesive
 TKS ... = screw type

Diagrams

Only RKR 3B/...D.01...

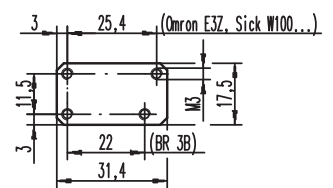


Remarks

Adapter plate:

BT 3.2 (part no. 50103844)

for alternate mounting on 25.4mm hole spacing (Omron E3Z, Sick W100...):









Mounting system:



- ① = BT 3 (part no. 50060511)
- ②+③ = BT 3.1 ¹⁾ (part no. 50105585)
- ①+②+③ = BT 3B (part no. 50105546)

1) Packaging unit: PU = 10 pcs.

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Order guide

Selection table				Order code →	RKR 3B/44D.01 Part No. 50106511	RKR 3B/22D.01 Part No. 50106512	RKR 3B/44D.01, 160-AMP Part No. 50109491	RKR 3B/66.11 Part No. 50109023	RKR 3B/22.11 Art.-Nr. 50118015
Equipment ↓									
Output 1 (OUT 1)	PNP transistor output		light switching, n.c.	○					
			dark switching, n.o.	●	●		●		
	NPN transistor output		light switching, n.c.	○					●
			dark switching, n.o.	●		●			
	Push-pull transistor output		PNP light switching	○				●	
			NPN dark switching	●				●	
Output 2 (OUT 2)	PNP transistor output		light switching, n.c.	○	●		●		
			dark switching, n.o.	●					
	NPN transistor output		light switching, n.c.	○		●			
			dark switching, n.o.	●					●
	Push-pull transistor output		PNP, dark switching	●				●	
			NPN, light-switching	○				●	
Connection	cable 2,000 mm		4-wire		●	●		●	●
	cable 160 mm with AMP connector		4-wire				●		
Configuration	permanently set to maximum range				●	●	●	●	●

