

RKR 3B Gloss

Retro-reflective photoelectric sensor

en 09-2014/05 50106778-01



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

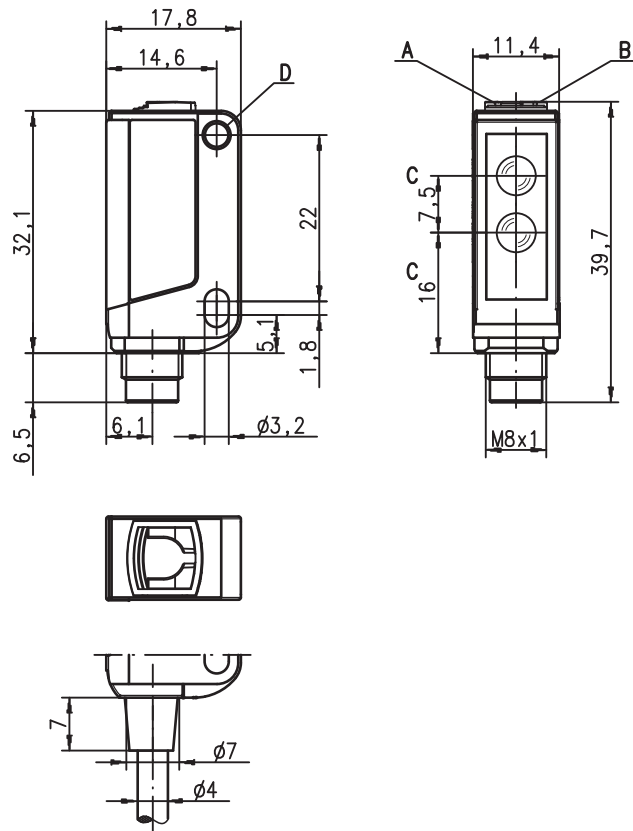


Accessories:

(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 • DS_RKR3BGlanz_en_50106778_01.fm

Specifications

Optical data

Typ. op. range limit (TK(S) 100x100) ¹⁾
Operating range ²⁾
Light source ³⁾
Wavelength

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

0.02 ... 5m
see tables
LED (modulated light)
620nm (visible red light, not polarized)

RKR 3B/66.11

0.02 ... 7m

Timing

Switching frequency
Response time
Delay before start-up

1,500Hz
0.33ms
≤ 300ms

1,000Hz
0.5ms

Electrical data

Operating voltage U_B ⁴⁾
Residual ripple
Open-circuit current
Switching output

.../44D

.../22D

.../66 ⁵⁾

10 ... 30VDC (incl. residual ripple)
≤ 15% of U_B
≤ 14mA
2 PNP switching outputs
OUT 1 (black): dark switching, n.o.
OUT 2(white): light switching, n.c.
2 NPN switching outputs
OUT 1 (black): dark switching, n.o.
OUT 2(white): light switching, n.c.
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 switching⁶⁾
≥ ($U_B - 2V$)/≤ 2V
max. 100mA
fixed setting

Function characteristics
Signal voltage high/low
Output current
Operating range

Indicators

Green LED
Yellow LED

ready
light path free

Mechanical data

Housing
Optics cover
Weight
Connection type

plastic (PC-ABS); 1 attachment sleeve, nickel-plated steel
plastic (PMMA)
with 2m cable: 50g
2m cable (cross section 4x0.20mm²)

Environmental data

Ambient temp. (operation/storage)
Protective circuit ⁷⁾
VDE safety class
Protection class
Light source
Standards applied
Certifications

-30°C ... +55°C/-30°C ... +70°C
2, 3
III
IP 67
free group (in accordance with EN 62471)
IEC 60947-5-2
UL 508, C22.2 No.14-13 ⁴⁾ ⁸⁾

- 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) 2=polarity reversal protection, 3=short-circuit protection for all transistor outputs
- 8) These proximity switches shall be used with UL Listed Cable assemblies rated 30V, 0.5A min, in the field installation, or equivalent (categories: CYJV/CYJV7 or PVVA/PVVA7)

Operate in accordance with intended use!

- ⚠ This product is not a safety sensor and is not intended as personnel protection.
- ⚠ The product may only be put into operation by competent persons.
- ⚠ Only use the product in accordance with the intended use.

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	

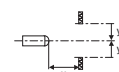
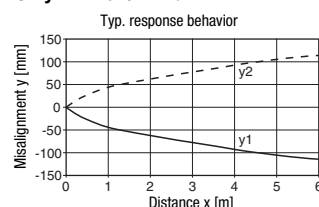
RKR 3B/66.11

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...

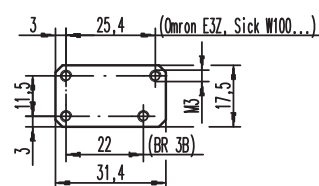


Remarks

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 →					
Equipment ↓					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
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				●	●	●	●	●

