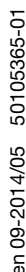


PRK 3B Standard



10 - 30 V
DC

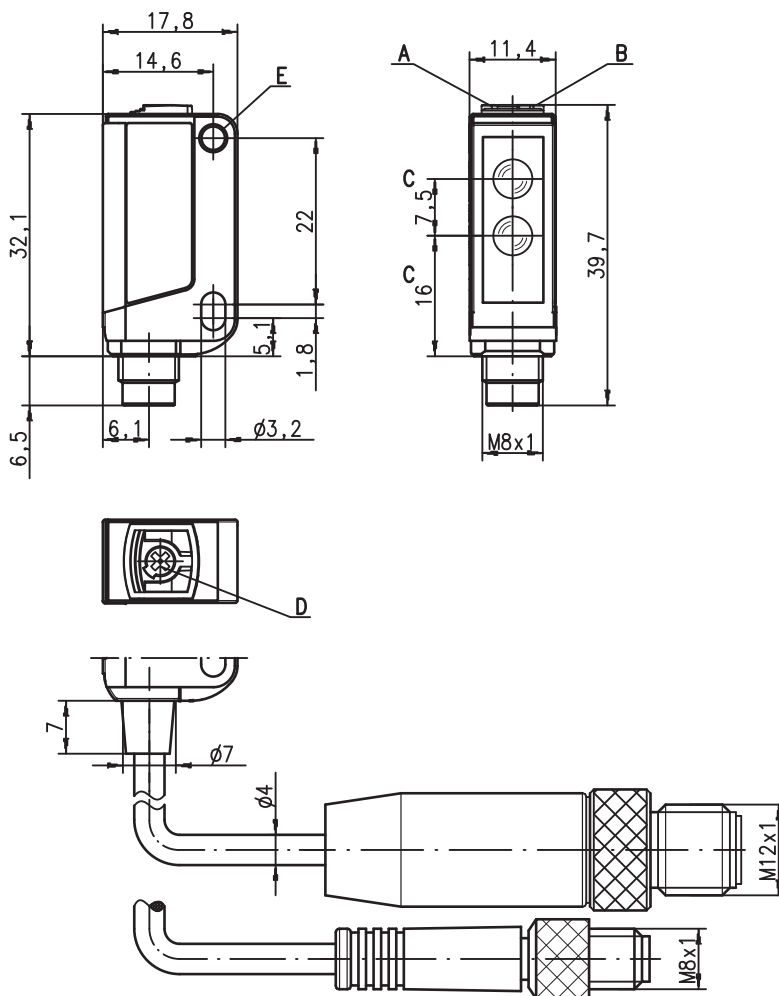


- 



(available separately)

- ## Dimensioned drawing



- ## Electrical connection

10-30V DC +	1	br/BN
OUT 2	2	ws/WH
GND	3	bl/BU
OUT 1	4	sw/BK

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

10-30V DC +	1	br/BN
GND	3	bl/BU
OUT 1	4	sw/BK

Specifications

Optical data

Typ. op. range limit (TK(S) 100x100) ¹⁾	0.02 ... 6m
Operating range ²⁾	see tables
Light source ³⁾	LED (modulated light)
Wavelength	620nm (visible red light, polarized)

Timing

Switching frequency	200Hz ... 1500Hz (see order guide)
Response time	2.5 ms ... 0.5 ms
Delay before start-up	≤ 300 ms

Electrical data

Operating voltage U_B ⁴⁾	10 ... 30VDC (incl. residual ripple)
Residual ripple	≤ 15% of U_B
Open-circuit current	≤ 14mA
Switching output	.../66 ⁵⁾ 2 push-pull switching outputs pin 2: PNP dark switching, NPN light switching pin 4: PNP light switching, NPN dark switching
	.../6 ⁵⁾ 1 push-pull switching output pin 4: PNP light switching, NPN dark switching
	.../6D ⁵⁾ 1 push-pull switching output pin 4: PNP dark switching, NPN light switching
	.../44D 2 PNP switching outputs, complementary
	.../4 1 PNP switching output light switching, 1 warning output
	.../4D 1 PNP switching output dark switching, pin 2: not connected ⁶⁾
	.../22D 2 NPN switching outputs, complementary
Function characteristics	light/dark switching
Signal voltage high/low	≥ ($U_B - 2V$) ≤ 2V
Output current	max. 100mA
Operating range	permanently set or adjustable, see order guide

Indicators

Green LED	ready
Yellow LED	light path free
Yellow LED, flashing	light path free, no performance reserve

Mechanical data

Housing	plastic (PC-ABS); 1 attachment sleeve, nickel-plated steel
Optics cover	plastic (PMMA)
Weight	with connector: 10g with 200mm cable and connector: 20g with 2m cable: 50g 2m cable (cross section 4x0.20mm ²), connector M8 metal, 0.2m cable with connector M8 or M12
Connection type	

Environmental data

Ambient temp. (operation/storage)	-30°C ... +55°C/-30°C ... +70°C
Protective circuit ⁷⁾	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, C22.2 No.14-13 ⁴⁾ ⁸⁾

Options

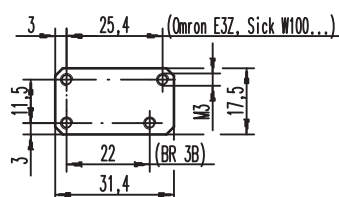
Warning output autoControl warn	PNP transistor, counting principle
Signal voltage high/low	≥ ($U_B - 2V$) ≤ 2V
Output current	max. 100mA

- 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) Pin 2: unassigned, hence especially suitable for the connection to AS-interface I/O coupling modules
- 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)

Remarks

Adapter plate:

BT 3.2 (part no. 50103844) for alternate mounting on 25.4mm hole spacing (Omron E3Z, Sick W100...)



Tables

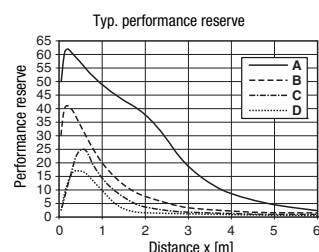
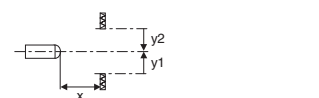
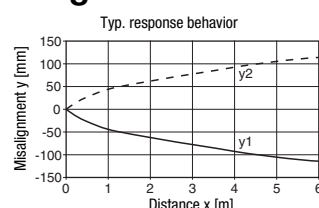
Reflectors			Operating range	
1	TK(S)	100x100	0.02 ... 5.0m	
2	TK	40x60	0.02 ... 3.0m	
3	TK	20x40	0.02 ... 1.5m	
4	Tape 4	50x50	0.1 ... 1.2m	

1	0,02			5	6
2	0,02		3	3,6	
3	0,02	1,5		2	
4	0,1	1,2	1,6		

Operating range [m]
Typ. operating range limit [m]

TK ... = adhesive
TKS ... = screw type

Diagrams



- A TK 100x100
- B TKS 40x60
- C TKS 20x40
- D Tape 4: 50x50

Remarks

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.

PRK 3B Standard Retro-reflective photoelectric sensors with polarisation filter

Order guide

Selection table					Order code →																				
Equipment ↓					PRK 3B/66 Part No. 50104693	PRK 3B/66-S8 Part No. 50104694	PRK 3B/66, 200-S8 Part No. 50104695	PRK 3B/66, 200-S12 Part No. 50104696	PRK 3B/66.1 on request	PRK 3B/66.1-S8 Part No. 50106078	PRK 3B/66.1, 200-S8 on request	PRK 3B/66.1, 200-S12 on request	PRK 3B/44D.01 Part No. 50106513	PRK 3B/22D.01 Part No. 50106514	PRK 3B/4D-S8 on request	IPRK 3B/4-S8 on request	PRK 3B/6-S8.3 Part No. 50109581	PRK 3B/6, 200-S8.3 on request	PRK 3B/6D-S8.3 on request	PRK 3B/6D, 200-S8.3 on request	PRK 3B/6.01-S8 Part No. 50106015	PRK 3B/44D.01, 160-AMP Part No. 50109490	PRK 3B/22D.01, 160-AMP on request	PRK 3B/22D.01, 5000 Part No. 50108309	
Output 1 (OUT 1)	push-pull switching output		light switching	○	●	●	●	●	●	●	●	●					●	●			●				
			dark switching	●																●					
	PNP transistor output		light switching	○									●		●				●				●		
			dark switching	●																					
	NPN transistor output		light switching	○											●									●	●
			dark switching	●											●										
Output 2 (OUT 2)	push-pull switching output		light switching	○		●	●	●	●	●	●	●													
			dark switching	●																					
	PNP transistor output		light switching	○									●										●		
			dark switching	●																					
	NPN transistor output		light switching	○										●									●	●	
			dark switching	●																					
	warning output (PNP transistor)		light switching	○													●								
Connection	cable 2000mm		4-wire		●				●				●	●											
	cable 5000mm		4-wire																				●		
	M8 connector, metal		3-pin														●		●						
	M8 connector, metal		4-pin			●				●					●	●									
	M8 connector, metal, snap-on		4-pin																		●				
	200mm cable with M8 connector		3-pin															●		●					
	200mm cable with M8 connector		4-pin				●				●														
	200mm cable with M12 connector		4-pin					●				●													
	cable 160mm with AMP connector		4-pin																			●	●		
	pin 2: not assigned, suitable for connecting to AS-i coupling module														●						●				
Configuration	permanently set to maximum range				●	●	●	●					●	●	●	●	●	●	●	●	●	●	●	●	
	potentiometer, rotational angle approx. 250°								●	●	●	●													
Switching frequency	200Hz																					●			
	1000Hz				●	●	●	●	●	●	●	●			●	●	●	●	●	●					
	1500Hz												●	●								●	●		

● 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.

