

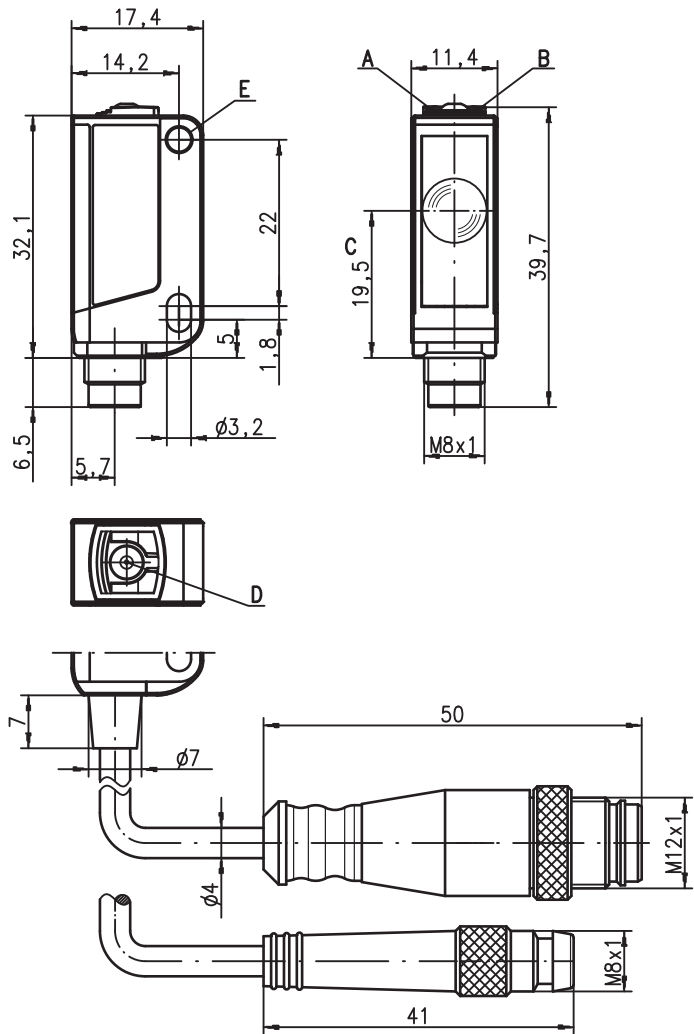
RKR 3B Foils + Glass panes

Retro-reflective photoelectric sensor

en 08-2012/06 50105367



Dimensioned drawing



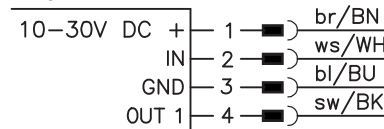
- A** Green indicator diode
- B** Yellow indicator diode
- C** Optical axis
- D** Teach button
- E** Mounting sleeve

			0 ... 1.8m
10 - 30 V DC			

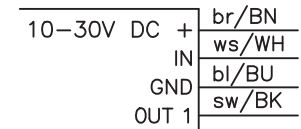
- Retro-reflective photoelectric sensor with visible red laser light and autocollimation principle
- Especially for highly transparent foils glass panes
- Small and compact construction with robust plastic housing, protection class IP 67/ IP 69K for industrial application
- Push-pull output with light/dark switching via teach-in button
- High switching frequency for detection of fast events
- Easy adjustment via lockable teach button or teach input
- May also be used with glass reflectors (TG)

Electrical connection

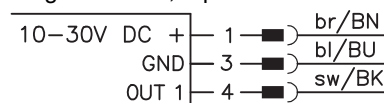
Plug connector, 4-pin



Cable, 4-wire



Plug connector, 3-pin



Accessories:

(available separately)

- Mounting systems (BT 3...)
- Cables with M8 or M12 connector (K-D ...)
- Reflectors
- Reflective tapes

We reserve the right to make changes • DS_RKR3B642_en_50105367.fm

Order guide

Selection table			Order code →							
Equipment ↓			RKR 3B/6.42 Part No. 501 04702	RKR 3B/6.42-S8 Part No. 501 04703	RKR 3B/6.42, 200-S8 Part No. 501 04704	RKR 3B/6.42, 200-S12 Part No. 501 05763	RKR 3B/6.42-S8.3 on request	RKR 3B/6.42, 200-S8.3 on request	RKR 3B/6D.42 Part No. 501 07914	
Output 1 (OUT 1)	push-pull switching output, configurable	light switching ○	● ¹⁾	● ¹⁾	● ¹⁾	● ¹⁾	● ¹⁾	● ¹⁾	●	
		dark switching ●	●	●	●	●	●	●	● ¹⁾	
	PNP transistor output	light switching ○								
		dark switching ●								
Input (IN)	teach input		●	●	●	●			●	
	activation input									
Connection	cable 2,000mm	4-wire	●						●	
	M8 connector, metal	3-pin					●			
	M8 connector, metal	4-pin		●						
	200mm cable with M8 connector	3-pin						●		
	200mm cable with M8 connector	4-pin			●					
	200mm cable with M12 connector	4-pin				●				
Configuration	Teach-in via button (lockable) and teach input		●	●	●	●			●	
	Teach-in via button						●	●		
Special area of application	optimized for detection of foils < 20µm		●	●	●	●	●	●	●	
	optimized for detection of PET and glass bottles									

1) Presetting, light/dark switching, adjustable

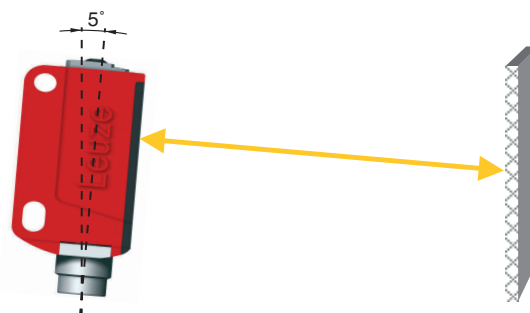
General information

- **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.
- The light spot may not exceed the reflector.
- Preferably use MTK(S) or tape 6.
- For foil 6, the sensor's side edge must be aligned parallel to the side edge of the reflective tape.
- For reflecting objects, the sensor has to be mounted approx. 5° angular towards the object.

Sensor adjustment (teach) via teach button



- **Prior to teaching:**
Clear the light path to the reflector!
The device setting is stored in a fail-safe way. A reconfiguration following voltage interruption or switch-off is thus not required.

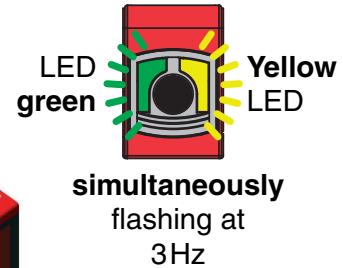
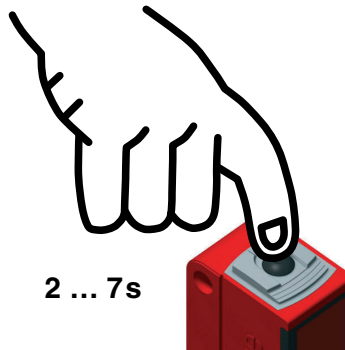


Standard teaching for average sensor sensitivity for bottle detection

- Press teach button until both LEDs flash **simultaneously**.
- Release teach button.
- Ready – bottles can be detected.



If the receive signal from the reflector is too weak, the sensor indicates the error status by means of fast and simultaneous flashing of the green and yellow LEDs. Please check the alignment, operating range, and soiling and carry out another teaching.

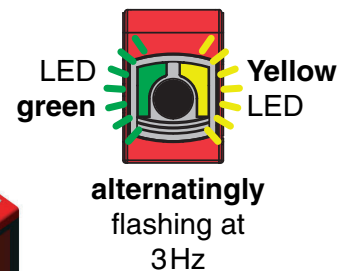
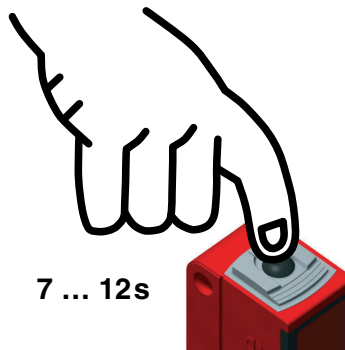


Teaching for increased sensor sensitivity for foil detection

- Press teach button until both LEDs flash **alternatingly**.
- Release teach button.
- Ready – fails can be detected.

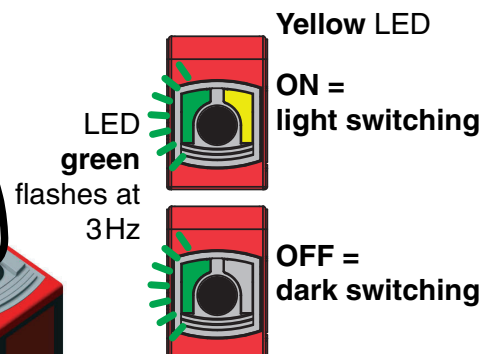
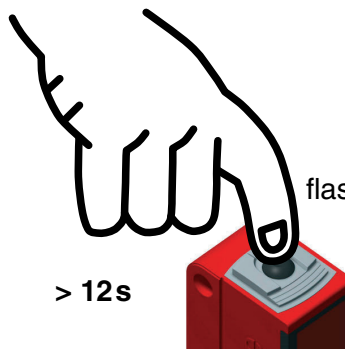


If the receive signal from the reflector is too weak, the sensor indicates the error status by means of fast and simultaneous flashing of the green and yellow LEDs. Please check the alignment, operating range, and soiling and carry out another teaching.



Adjusting the switching behavior of the switching output – light/dark switching

- Press teach button until the green LED flashes. The yellow LED displays the current setting of the switching output:
ON = output switches on light
OFF = output switches on dark
- Continue to press the teach button in order to change the switching behavior.
- Release teach button.
- Ready.

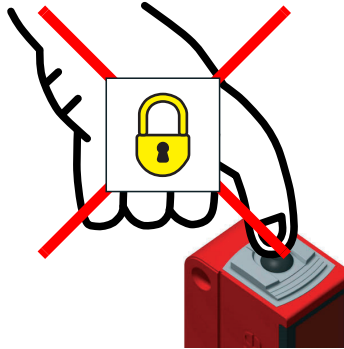


Locking the teach button via the teach input



A **static HIGH signal** ($\geq 4\text{ms}$) at the teach input locks the teach button on the device if required, such that no manual operation is possible (e.g., protection from erroneous operation or manipulation).

If the teach input is not connected or if there is a static low signal, the button is unlocked and can be operated freely.



Sensor adjustment (teach) via teach input



The following description applies to PNP switching logic!

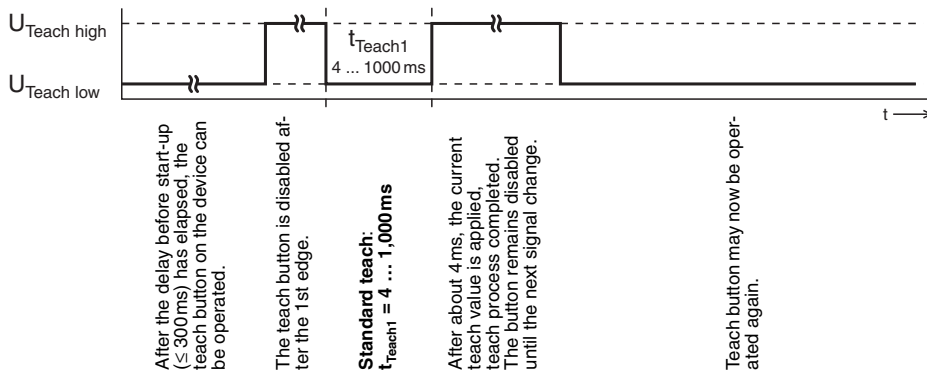
$U_{\text{Teach low}} \leq 2\text{V}$

$U_{\text{Teach high}} \geq (U_B - 2\text{V})$

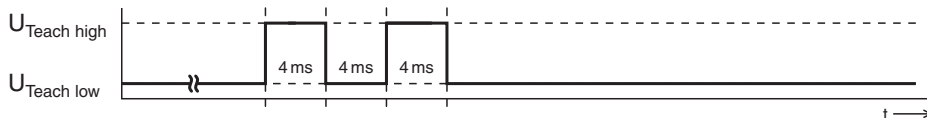
Prior to teaching: Clear the light path to the reflector!

The device setting is stored in a fail-safe way. A reconfiguration following voltage interruption or switch-off is thus not required.

Standard teaching for average sensor sensitivity for bottle detection



Quick standard teach

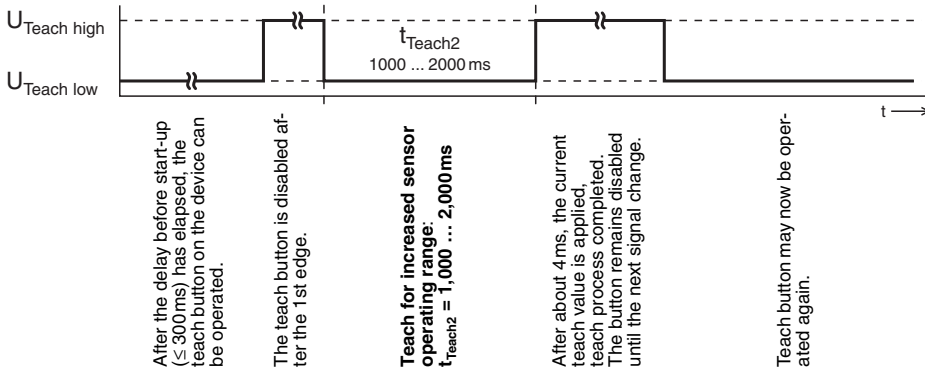


Shortest teaching duration for standard teaching: approx. 12ms



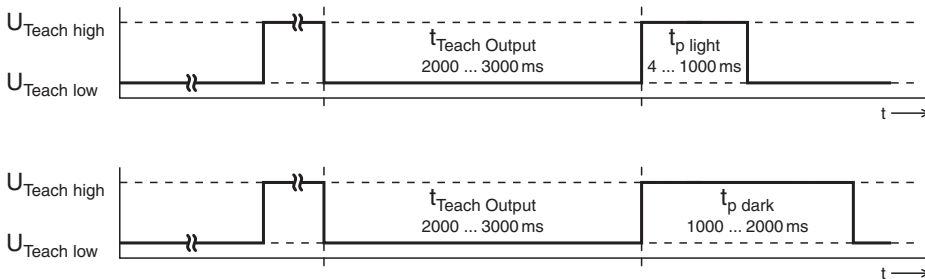
If the receive signal from the reflector is too weak, the sensor indicates the error status by means of fast and simultaneous flashing of the green and yellow LEDs. Please check the alignment, operating range, and soiling and carry out another teaching.

Teaching for increased sensor sensitivity for foil detection



If the receive signal from the reflector is too weak, the sensor indicates the error status by means of fast and simultaneous flashing of the green and yellow LEDs. Please check the alignment, operating range, and soiling and carry out another teaching.

Adjusting the switching behavior of the switching output – light/dark switching



After the delay before start-up ($\leq 300\text{ms}$) has elapsed, the teach button on the device can be operated.

The teach button is disabled after the 1st edge.

Setting the switching behavior of the switching output:
 $t_{\text{Teach Output}} = 2,000 \dots 3,000\text{ms}$

Switching output switches on light:
 $t_{\text{p light}} = 4 \dots 1,000\text{ms}$

Switching output switches on dark:
 $t_{\text{p dark}} = 1,000 \dots 2,000\text{ms}$

The button remains disabled until the next signal change.