

PRK 3B Retro-reflective photoelectric sensors with polarization filter for bottles

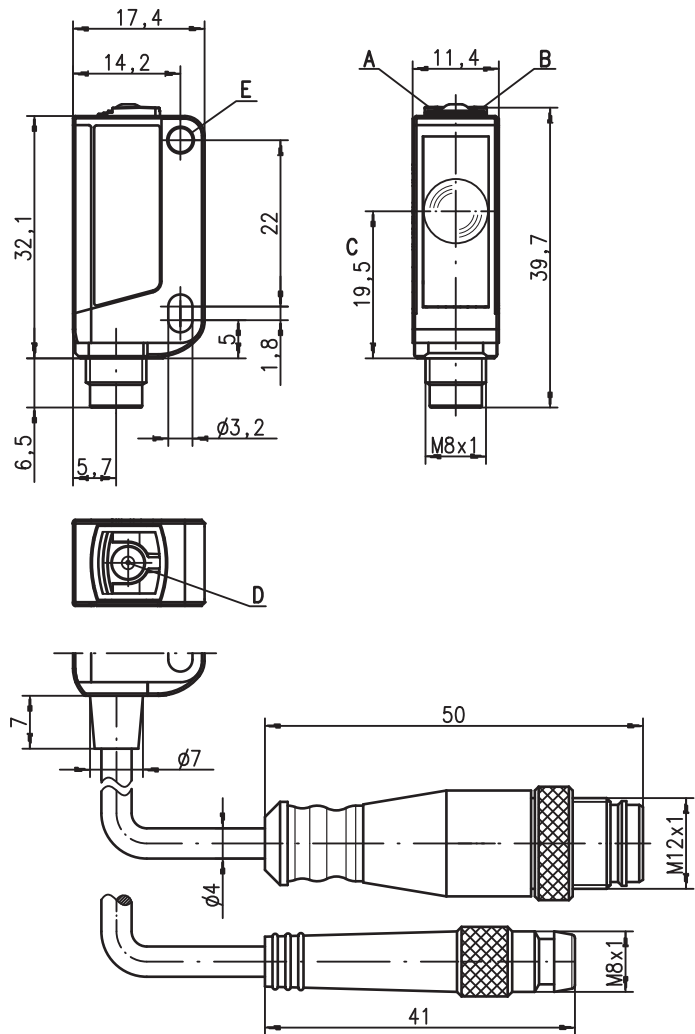
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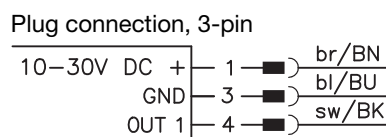
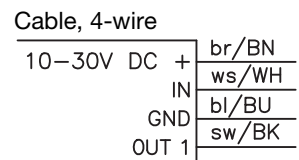
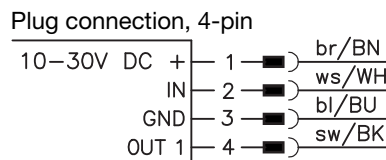
- Polarized retro-reflective photoelectric sensor, autocollimation optics with visible red light
- Particularly suited for highly transparent bottles (PET and glass)
- Small and compact construction with robust plastic housing, protection class IP 67/IP 69K for industrial application
- Push-pull output 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

Dimensioned drawing



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

Electrical connection



Accessories:

(available separately)

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

We reserve the right to make changes • DS_PRK3B_42_en.fm

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Order guide

Selection table		Order code →				
Equipment ↓		PRK 3B/6.42-S8 Part No. 50112473	PRK 3B/6.42, 200-S12 on request	PRK 3B/6D.42-S8 Part No. 50112474	PRK 3B/6D.42, 200-S12 on request	PRK 3B/6.42 on request
Switching output	1 x push-pull switching output	●	●	●	●	●
Switching function	light switching	●	●			●
	dark switching			●	●	
	light/dark switching configurable	●	●	●	●	●
Connection	M8 connector, metal, 4-pin	●		●		
	M8 connector, metal, 3-pin					
	cable 200mm with M12 connector, 4-pin		●		●	
	2000mm cable, 4-wire					●
Configuration	teach-in via button (lockable) and teach input ¹⁾	●	●	●	●	●
Indicators	LED green: ready + teach sequence	●	●	●	●	●
	yellow LED: switching output	●	●	●	●	●
Detection	foils < 20µm thick					
	foils > 20µm thick	●	●	●	●	●
	bottles (PET and glass)	●	●	●	●	●

1) Teach input not present with 3-pin connector

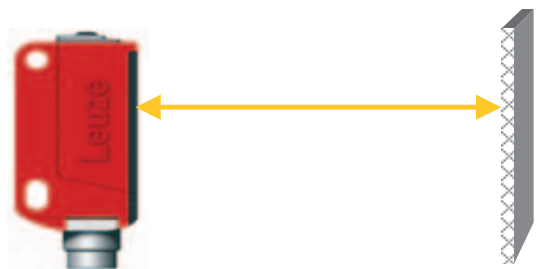
● **Approved purpose:**

The retro-reflective photoelectric sensors are optical electronic sensors for optical, contactless detection of objects. 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.

Sensor adjustment (teach) via teach button



- **The sensor is factory-adjusted for maximum operating range.**
Recommendation: teach only if the desired objects are not reliably detected.
- **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.

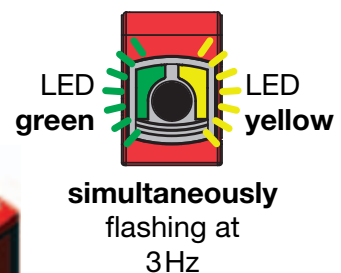
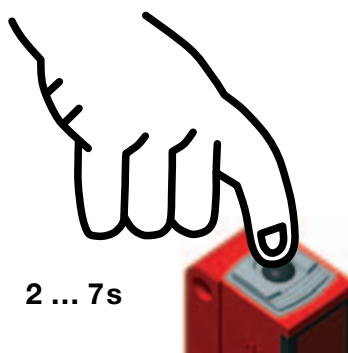


Teach for 11% sensor sensitivity (highly transparent bottles and foils with thickness > 20µm)

- Press teach button until both LEDs flash **simultaneously**.
- Release teach button.
- Ready.



After the teaching, the sensor switches when about 11% of the light beam are covered by the object.

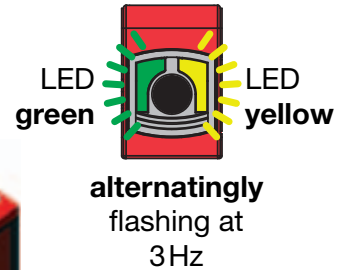
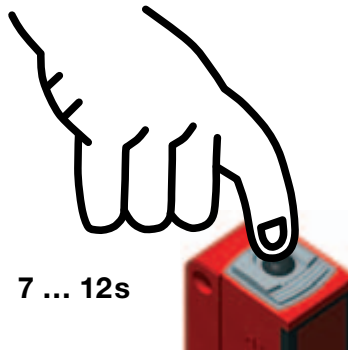


Teach for 18% sensor sensitivity (standard bottles)

- Press teach button until both LEDs flash **alternatingly**.
- Release teach button.
- Ready.

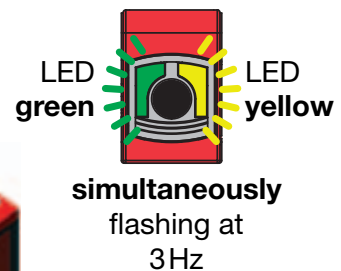
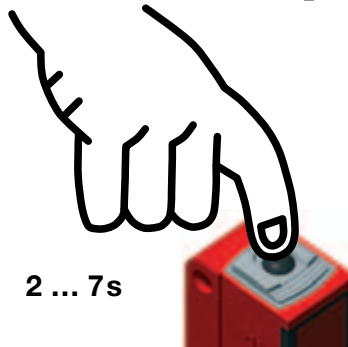
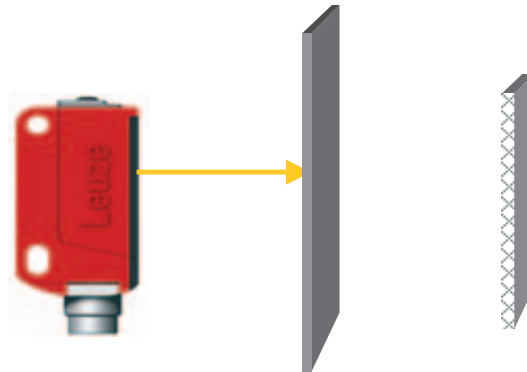


After the teaching, the sensor switches when about 18% of the light beam are covered by the object.



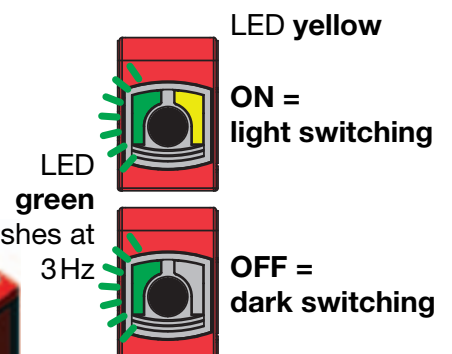
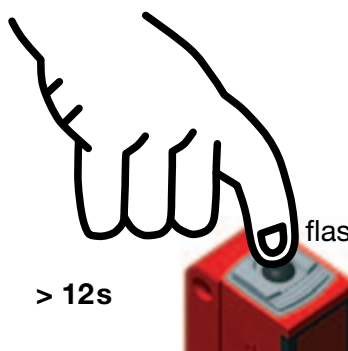
Teaching for maximum operating range (factory setting at delivery)

- Prior to teaching: **Cover the light path to the reflector!**
- Press teach button until both LEDs flash **simultaneously**.
- Release teach button.
- Ready.



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.



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Locking the teach button via the teach input



A **static high signal** (≥ 4 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!

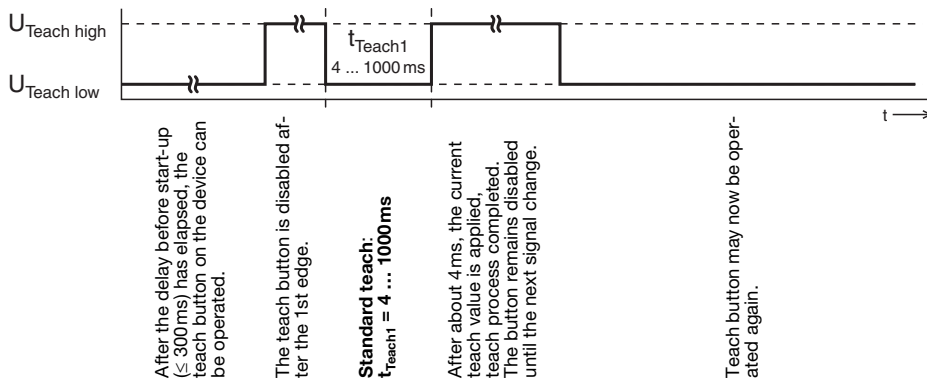
$U_{\text{Teach low}} \leq 2V$

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

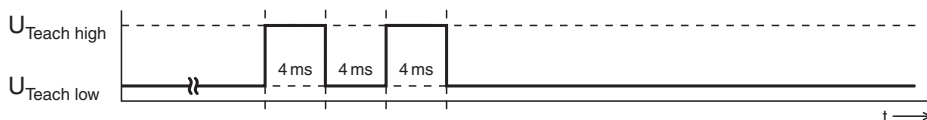
Prior to teaching: Clear the light path to the reflector!

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

Teach for 11% sensor sensitivity
(highly transparent bottles and foils with thickness > 20µm)



Quick teach for 11% sensor sensitivity
(highly transparent bottles and foils with thickness > 20µm)

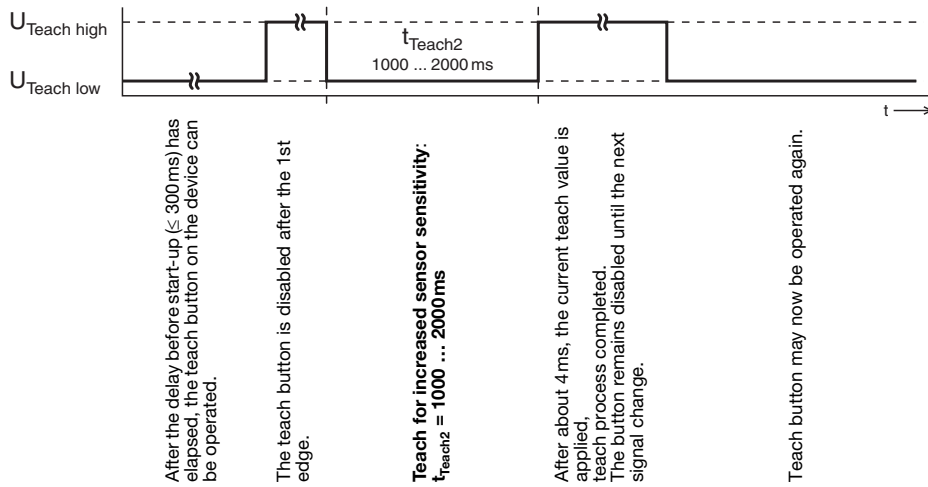


Shortest teaching duration for this teaching: approx. 12ms



After the teaching, the sensor switches when about 11% of the light beam are covered by the object.

Teach for 18% sensor sensitivity (standard bottles)



After the teaching, the sensor switches when about 18% of the light beam are covered by the object.

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

