



**Part no.: 50127427**  
**PRK49C.UCD1/TS**  
**Polarized retro-reflective photoelectric sensor**



Figure can vary

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## Technical data

| <b>Basic data</b>                    |                                                                 |
|--------------------------------------|-----------------------------------------------------------------|
| Series                               | 49C                                                             |
| Operating principle                  | Reflection principle                                            |
| Application                          | Detection of bottle container<br>Detection of transparent films |
| <b>Optical data</b>                  |                                                                 |
| Operating range                      | Guaranteed operating range                                      |
| Operating range                      | 0.1 ... 16 m , With reflector TK(S) 100x100                     |
| Operating range limit                | Typical operating range                                         |
| Operating range limit                | 0.1 ... 20 m , With reflector TK(S) 100x100                     |
| Beam path                            | Divergent                                                       |
| Light source                         | LED , Red                                                       |
| LED light wavelength                 | 630 nm                                                          |
| Transmitted-signal shape             | Pulsed                                                          |
| LED group                            | Exempt group (in acc. with EN 62471)                            |
| Light spot size [at sensor distance] | 130 mm [6,000 mm]                                               |
| Type of light spot geometry          | Round                                                           |
| <b>Electrical data</b>               |                                                                 |
| Protective circuit                   | Interference blanking<br>Transient protection                   |
| <b>Performance data</b>              |                                                                 |
| Supply voltage $U_B$                 | 20 ... 250 V , AC/DC                                            |
| Power consumption (with AC)          | 1.5 V·A                                                         |
| <b>Outputs</b>                       |                                                                 |
| Number of digital switching outputs  | 2 Piece(s)                                                      |
| <b>Switching outputs</b>             |                                                                 |
| Voltage type                         | AC/DC                                                           |
| Switching current, max.              | 2,500 mA                                                        |
| Switching voltage                    | 250 V AC/DC                                                     |
| <b>Switching output 1</b>            |                                                                 |
| Switching element                    | Relay , NC                                                      |
| Switching principle                  | Light/dark reversible                                           |
| <b>Switching output 2</b>            |                                                                 |
| Switching element                    | Relay , NO                                                      |
| Switching principle                  | Light/dark reversible                                           |
| <b>Timing</b>                        |                                                                 |
| Switching frequency                  | 25 Hz                                                           |
| Response time                        | 20 ms                                                           |
| Readiness delay                      | 300 ms                                                          |
| <b>Connection</b>                    |                                                                 |

**Connection 1**

|                      |                              |
|----------------------|------------------------------|
| Function             | Signal OUT<br>Voltage supply |
| Type of connection   | Cable                        |
| Cable length         | 2,000 mm                     |
| Sheathing material   | PVC                          |
| Cable color          | Black                        |
| Number of conductors | 5 -wire                      |
| Wire cross section   | 0.34 mm <sup>2</sup>         |

**Mechanical data**

|                       |                                                       |
|-----------------------|-------------------------------------------------------|
| Dimension (W x H x L) | 31 mm x 104 mm x 55.5 mm                              |
| Housing material      | Plastic , PC                                          |
| Lens cover material   | Plastic                                               |
| Net weight            | 150 g                                                 |
| Housing color         | Red                                                   |
| Type of fastening     | Through-hole mounting<br>Via optional mounting device |

**Operation and display**

|                                     |                                                                                                   |
|-------------------------------------|---------------------------------------------------------------------------------------------------|
| Type of display                     | LED                                                                                               |
| Number of LEDs                      | 2 Piece(s)                                                                                        |
| Operational controls                | 270° potentiometer<br>Teach button                                                                |
| Function of the operational control | Activation of the time module for dropout delay<br>Light/dark switching<br>Sensitivity adjustment |

**Environmental data**

|                                |               |
|--------------------------------|---------------|
| Ambient temperature, operation | -40 ... 60 °C |
| Ambient temperature, storage   | -40 ... 70 °C |

**Certifications**

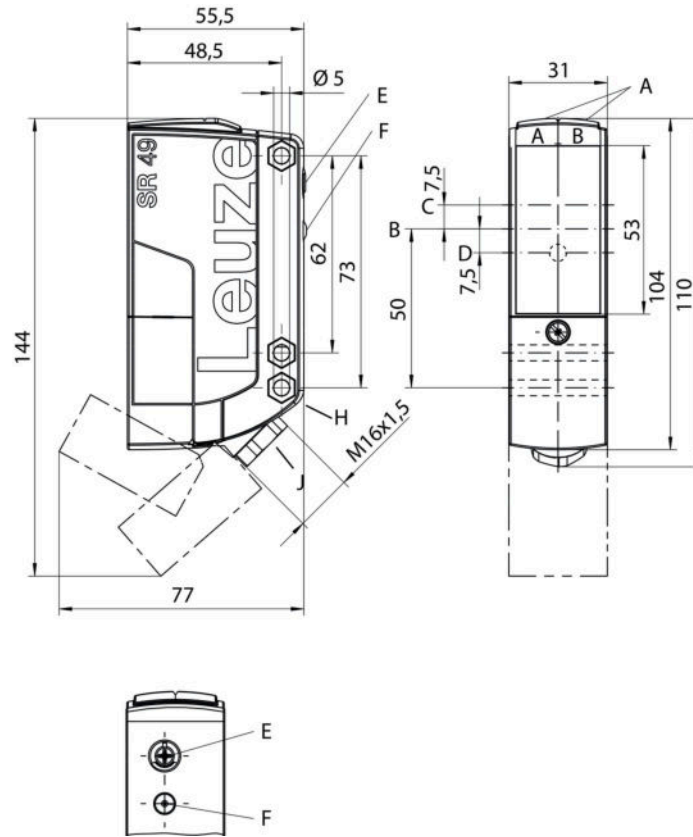
|                      |               |
|----------------------|---------------|
| Degree of protection | IP 67         |
| Protection class     | II            |
| Certifications       | c UL US       |
| Standards applied    | IEC 60947-5-2 |

**Classification**

|                       |          |
|-----------------------|----------|
| Customs tariff number | 85365080 |
| eCl@ss 8.0            | 27270902 |
| eCl@ss 9.0            | 27270902 |
| ETIM 5.0              | EC002717 |
| ETIM 6.0              | EC002717 |

## Dimensioned drawings

All dimensions in millimeters



- AA Green LED
- AB Yellow LED
- B Optical axis
- C Receiver
- D Transmitter
- E Sensitivity adjustment
- F Teach button
- H Countersinking for SK nut M5, 4.2 mm deep
- J Cable entry with M16 x 1.5 screw fitting for Ø 5 ... 10 mm

## Electrical connection

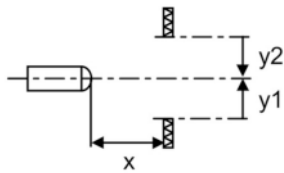
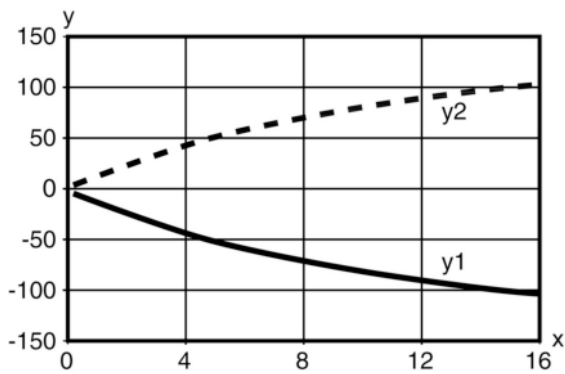
| Connection 1         |                              |
|----------------------|------------------------------|
| Function             | Signal OUT<br>Voltage supply |
| Type of connection   | Cable                        |
| Cable length         | 2,000 mm                     |
| Sheathing material   | PVC                          |
| Cable color          | Black                        |
| Number of conductors | 5 -wire                      |
| Wire cross section   | 0.34 mm <sup>2</sup>         |

| Conductor color | Conductor assignment |
|-----------------|----------------------|
| Brown           | + / L1               |
| Blue            | - / N                |
| White           | OUT 1                |
| Gray            | Base point           |

| Conductor color | Conductor assignment |
|-----------------|----------------------|
| Black           | OUT 2                |

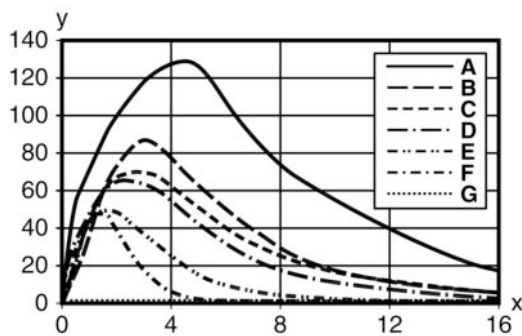
## Diagrams

Typ. response behavior (TKS100x100)



$x$  Distance [m]  
 $y$  Misalignment [mm]

Typ. function reserve



$x$  Distance [m]  
 $y$  Misalignment [mm]  
A TKS 100x100  
B TK 82.2  
C MTKS 50x50.1  
D TKS 40x60  
E TKS 20x40  
F Film REF 4-A-50x50  
G Switching point

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## Operation and display

### LEDs

| LED | Display                  | Meaning                              |
|-----|--------------------------|--------------------------------------|
| 1   | Green, continuous light  | Operational readiness                |
| 2   | Yellow, continuous light | Light path free                      |
|     | Yellow, flashing         | Light path free, no function reserve |

## Reflectors & reflective tapes

|                                                                                     | Part no. | Designation   | Operating range/<br>Operating range limit | Description                                                                                                                                                                                                                            |
|-------------------------------------------------------------------------------------|----------|---------------|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | 50117583 | MTKS 50x50.1  | 0.3 ... 15 m<br>0.1 ... 18 m              | Design: Rectangular<br>Reflective surface: 50 mm x 50 mm<br>Triple reflector size: 1.2 mm<br>Material: Plastic<br>Base material: Plastic<br>Chemical designation of the material: PMMA8N<br>Fastening: Through-hole mounting, Adhesive |
|  | 50108300 | REF 4-A-50x50 | 0.3 ... 4 m<br>0.1 ... 5 m                | Design: Rectangular<br>Reflective surface: 50 mm x 50 mm<br>Material: Plastic<br>Chemical designation of the material: PMMA<br>Fastening: Self-adhesive                                                                                |
|  | 50003192 | TK 100x100    | 0.3 ... 24 m<br>0.1 ... 30 m              | Design: Rectangular<br>Reflective surface: 96 mm x 96 mm<br>Triple reflector size: 4 mm<br>Material: Plastic<br>Base material: Plastic<br>Chemical designation of the material: PMMA8N<br>Fastening: Adhesive                          |
|  | 50003189 | TK 30x50      | 0.3 ... 12 m<br>0.1 ... 15 m              | Design: Rectangular<br>Reflective surface: 29 mm x 45 mm<br>Triple reflector size: 4 mm<br>Material: Plastic<br>Base material: Plastic<br>Chemical designation of the material: PMMA8N<br>Fastening: Adhesive                          |
|  | 50024127 | TK 82.2       | 0.3 ... 15 m<br>0.1 ... 18 m              | Design: Round<br>Triple reflector size: 4 mm<br>Reflection surface diameter: 79 mm<br>Material: Plastic<br>Base material: Plastic<br>Chemical designation of the material: PMMA8N<br>Fastening: Through-hole mounting, Adhesive        |
|  | 50022816 | TKS 100X100   | 0.3 ... 24 m<br>0.1 ... 30 m              | Design: Rectangular<br>Reflective surface: 96 mm x 96 mm<br>Triple reflector size: 4 mm<br>Material: Plastic<br>Base material: Plastic<br>Chemical designation of the material: PMMA8N<br>Fastening: Through-hole mounting, Adhesive   |

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|                                                                                   | Part no. | Designation | Operating range/<br>Operating range limit | Description                                                                                                                                                                                                                            |
|-----------------------------------------------------------------------------------|----------|-------------|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 50081283 | TKS 20X40   | 0.3 ... 8 m<br>0.1 ... 10 m               | Design: Rectangular<br>Reflective surface: 16 mm x 38 mm<br>Triple reflector size: 2.3 mm<br>Material: Plastic<br>Base material: Plastic<br>Chemical designation of the material: PMMA8N<br>Fastening: Through-hole mounting, Adhesive |
|  | 50023525 | TKS 30X50   | 0.3 ... 12 m<br>0.1 ... 15 m              | Design: Rectangular<br>Reflective surface: 27 mm x 44 mm<br>Triple reflector size: 3 mm<br>Material: Plastic<br>Base material: Plastic<br>Chemical designation of the material: PMMA8N<br>Fastening: Through-hole mounting, Adhesive   |

## Part number code

Part designation: **AAA49Cd.EEfG/iJ-KL**

|        |                                                                                                                                                                                                                                                                                                                                                                  |
|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AAA49C | <b>Operating principle / construction:</b><br>PRK49C: retro-reflective photoelectric sensor with polarization filter<br>HT49C: diffuse reflection sensor with background suppression<br>LS49C: throughbeam photoelectric sensor transmitter<br>LE49C: throughbeam photoelectric sensor receiver                                                                  |
| d      | <b>Light type:</b><br>n/a: red light<br>I: infrared light                                                                                                                                                                                                                                                                                                        |
| EE     | <b>Operating voltage:</b><br>n/a: 10 ... 30 V, DC<br>UC: 20 ... 250V AC/DC (all-mains design)                                                                                                                                                                                                                                                                    |
| f      | <b>Equipment:</b><br>H: with heating<br>D: depolarizing media<br>1: 270° potentiometer<br>8: activation input (activation with high signal)                                                                                                                                                                                                                      |
| iJ     | <b>Switching output / Function / OUT1OUT2:</b><br>2: NPN transistor output, light switching<br>N: NPN transistor output, dark switching<br>4: PNP transistor output, light switching<br>P: PNP transistor output, dark switching<br>W: warning output<br>TS: Relay, NC contact/NO contact<br>M4: Low impedance MOSFET semiconductor switching output, NO contact |
| KL     | <b>Electrical connection:</b><br>TB: Terminal block - terminal compartment with spring terminals (5 x 1.5 mm <sup>2</sup> )<br>n/a: cable, standard length 2000 mm                                                                                                                                                                                               |

### Note

A list with all available device types can be found on the Leuze electronic website at [www.leuze.com](http://www.leuze.com).

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## Notes

### Observe 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 its intended use.

- All-insulated, rating voltage 250 VAC
- With inductive or capacitive load, provide suitable spark extinction (snubber)

## Accessories

### Mounting technology - Mounting brackets

|                                                                                    | Part no. | Designation | Article         | Description                                                                                                                                                                              |
|------------------------------------------------------------------------------------|----------|-------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 50025570 | BT 96       | Mounting device | Design of mounting device: Angle, L-shape<br>Fastening, at system: Through-hole mounting<br>Mounting bracket, at device: Screw type<br>Type of mounting device: Rigid<br>Material: Metal |

### Mounting technology - Rod mounts

|                                                                                     | Part no. | Designation  | Article         | Description                                                                                                                                                                                           |
|-------------------------------------------------------------------------------------|----------|--------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 50128380 | BTU 460M-D12 | Mounting system | Design of mounting device: Mounting system<br>Fastening, at system: For 12 mm rod<br>Mounting bracket, at device: Screw type<br>Type of mounting device: Adjustable, Turning, 360°<br>Material: Metal |

## Standard reflectors

|                                                                                     | Part no. | Designation | Article   | Description                                                                                                                                                                                                                          |
|-------------------------------------------------------------------------------------|----------|-------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 50024127 | TK 82.2     | Reflector | Design: Round<br>Triple reflector size: 4 mm<br>Reflection surface diameter: 79 mm<br>Material: Plastic<br>Base material: Plastic<br>Chemical designation of the material: PMMA8N<br>Fastening: Through-hole mounting, Adhesive      |
|  | 50022816 | TKS 100X100 | Reflector | Design: Rectangular<br>Reflective surface: 96 mm x 96 mm<br>Triple reflector size: 4 mm<br>Material: Plastic<br>Base material: Plastic<br>Chemical designation of the material: PMMA8N<br>Fastening: Through-hole mounting, Adhesive |



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**Note**

A list with all available accessories can be found on the Leuze electronic website in the Download tab of the article detailed page.