

Technical data sheet

Polarized retro-reflective photoelectric sensor

Part no.: 50143275

SET PRK23/PX-M8TKS50x50.1





For illustration purposes only

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Set consists of

| | Quantity | Part no. | Designation | Article | Description |
|---|----------|----------|-------------|---|---|
|  | 1 | 50138475 | PRK23/PX-M8 | Polarized retro-reflective photoelectric sensor | Operating range limit: 0.1 ... 6 m Light source: LED, Red Supply voltage: DC Digital switching outputs: 1 Piece(s) Switching output 1: Transistor, PNP, Dark switching Switching frequency: 500 Hz Connection: Connector, M8, Plastic, 4 -pin |
|  | 1 | 50105153 | TKS 50X50.1 | Reflector | Design: Rectangular Triple reflector size: 4 mm Reflective surface: 47 mm x 48 mm Material: Plastic Base material: Plastic Chemical designation of the material: PMMA8N Fastening: Through-hole mounting, Adhesive |

Technical data

Basic data

| | |
|---------------------|----------------------|
| Series | 23 |
| Operating principle | Reflection principle |

Special version

| | |
|-----------------|-------------|
| Special version | Article set |
|-----------------|-------------|

Optical data

| | |
|--------------------------|--|
| Operating range | 0.1 ... 2.5 m (guaranteed operating range), With reflector TKS 50x50.1 |
| Operating range limit | 0.1 ... 3.3 m (typical operating range), With reflector TKS 50x50.1 |
| Light source | LED, Red |
| Wavelength | 645 nm |
| Transmitted-signal shape | Pulsed |
| LED group | Exempt group (in acc. with EN 62471) |

Electrical data

| | |
|--------------------|------------------------------|
| Protective circuit | Polarity reversal protection |
| | Short circuit protected |

Performance data

| | |
|----------------------|--|
| Supply voltage U_B | 10 ... 30 V, DC, Incl. residual ripple |
| Residual ripple | 0 ... 15 %, From U_B |
| Open-circuit current | 0 ... 20 mA |

Outputs

| | |
|-------------------------------------|------------|
| Number of digital switching outputs | 1 Piece(s) |
|-------------------------------------|------------|

Switching outputs

| | |
|-------------------------|---|
| Type | Digital switching output |
| Voltage type | DC |
| Switching current, max. | 100 mA |
| Switching voltage | high: $\geq(U_B - 2.5V)$ low: $\leq 2.5 V$ |

Switching output 1

| | |
|---------------------|-----------------|
| Switching element | Transistor, PNP |
| Switching principle | Dark switching |

Time behavior

| | |
|---------------------|--------|
| Switching frequency | 500 Hz |
| Response time | 1 ms |
| Readiness delay | 300 ms |

Connection

| | |
|-----------------------|------------|
| Number of connections | 1 Piece(s) |
|-----------------------|------------|

Connection 1

| | |
|--------------------|----------------|
| Function | Signal OUT |
| | Voltage supply |
| Type of connection | Connector |
| Thread size | M8 |
| Type | Male |
| Material | Plastic |
| No. of pins | 4 -pin |

Mechanical data

| | |
|--|-----------------------------|
| Dimension (W x H x L) | 11.4 mm x 34.2 mm x 18.3 mm |
| Housing material | Plastic |
| Plastic housing | PC-ABS |
| Lens cover material | Plastic / PMMA |
| Net weight | 24 g |
| Housing color | Black Red |
| Recommended tightening torque for M3 fastening | 0.9 N·m |

Operation and display

| | |
|-----------------|------------|
| Type of display | LED |
| Number of LEDs | 2 Piece(s) |

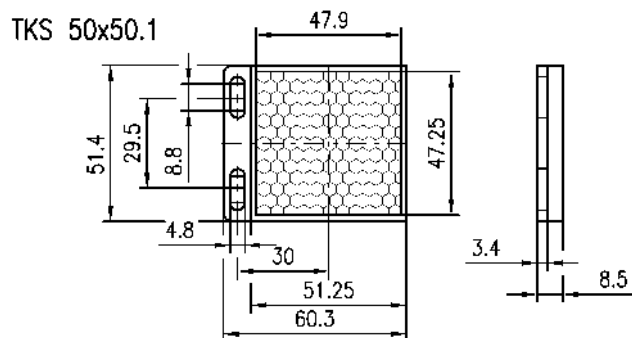
Environmental data

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

Certifications

| | |
|----------------------|---------------|
| Degree of protection | IP 67 |
| Protection class | III |
| Standards applied | IEC 60947-5-2 |

Dimensioned drawings

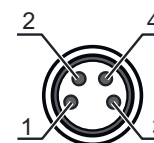


Electrical connection

Connection 1

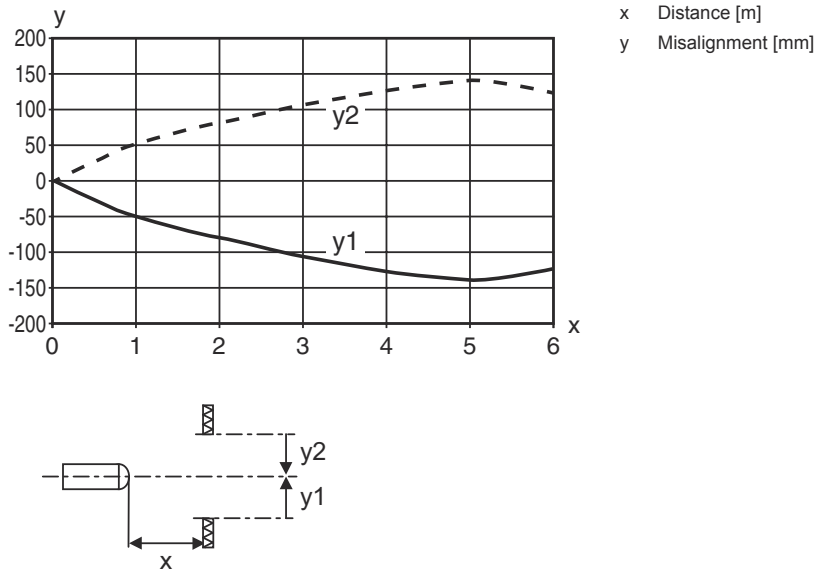
| | |
|--------------------|----------------|
| Function | Signal OUT |
| | Voltage supply |
| Type of connection | Connector |
| Thread size | M8 |
| Type | Male |
| Material | Plastic |
| No. of pins | 4 -pin |

| Pin | Pin assignment |
|-----|----------------|
| 1 | V+ |
| 2 | n.c. |
| 3 | GND |
| 4 | OUT 1 |



Diagrams

Typ. response behavior



Operation and display

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

Part number code

Part designation: AAA23.GJ/ ff-HH

| | |
|--------------|---|
| AAA23 | <p>Operating principle / construction</p> <p>HT23: diffuse reflection sensor with background suppression PRK23: retro-reflective photoelectric sensor with polarization filter LS23: throughbeam photoelectric sensor transmitter LE23: throughbeam photoelectric sensor receiver ET23: energetic diffuse reflection sensor FT23: diffuse reflection sensor with fading</p> |
| G | <p>Equipment</p> <p>T: autocollimation principle (single lens) for highly transparent bottles without tracking</p> |
| J | <p>Operating range adjustment</p> <p>3: teach-in via button</p> |
| ff | <p>Switching output / function / OUT1OUT2 (OUT1 = pin 4, OUT2 = pin 2)</p> <p>2: NPN transistor output, light switching N: NPN transistor output, dark switching 4: PNP transistor output, light switching P: PNP transistor output, dark switching X: pin not used</p> |

Part number code

| | |
|-----------|---|
| HH | Electrical connection n/a: cable, standard length 2000 mm, 3-wire M8: M8 connector, 4-pin (plug) 200-M12: cable, length 200 mm with M12 connector, 4-pin, axial (plug) M12: M12 connector, 4-pin (plug) 200-M8: cable, length 200 mm with M8 connector, 4-pin, axial (plug) |
|-----------|---|

| Note | |
|------|--|
| | ⓘ A list with all available device types can be found on the Leuze website at www.leuze.com . |

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. |

| For UL applications: | |
|----------------------|--|
| | ⓘ Only for use in "class 2" circuits ⓘ 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) |



Accessories

Connection technology - Connection cables



| | Part no. | Designation | Article | Description |
|--|----------|-------------------|------------------|---|
| | 50130850 | KD U-M8-4A-V1-050 | Connection cable | Application: Chemical resistant Connection 1: Connector, M8, Axial, Female, 4 -pin Connector, LED: No Connection 2: Open end Shielded: No Cable length: 5,000 mm Sheathing material: PVC |
| | 50130871 | KD U-M8-4W-V1-050 | Connection cable | Application: Chemical resistant Connection 1: Connector, M8, Angled, Female, 4 -pin Connector, LED: No Connection 2: Open end Shielded: No Cable length: 5,000 mm Sheathing material: PVC |

Accessories

Mounting technology - Mounting brackets

| | Part no. | Designation | Article | Description |
|---|----------|---------------|---------------------|---|
|  | 50118542 | BT 200M.5 | Mounting bracket | Design of mounting device: Angle, L-shape Fastening, at system: Through-hole mounting Mounting bracket, at device: Screw type, Suited for M3 screws Type of mounting device: Adjustable Material: Stainless steel |
|  | 50124651 | BT 205M-10SET | Mounting device set | Contains: 10x Design of mounting device: Angle, L-shape Fastening, at system: Through-hole mounting Mounting bracket, at device: Screw type Type of mounting device: Rigid Material: Metal |

Mounting technology - Rod mounts

| | Part no. | Designation | Article | Description |
|---|----------|--------------|-----------------|---|
|  | 50117829 | BTP 200M-D12 | Mounting system | Design of mounting device: Protection hood Fastening, at system: For 12 mm rod Mounting bracket, at device: Screw type Type of mounting device: Clampable, Adjustable, Turning, 360° Material: Metal |
|  | 50117255 | BTU 200M-D12 | Mounting system | Contains: 2x M3 x 16 screw, 2 M3 x 20 screws, 2x position washers Design of mounting device: Mounting system Fastening, at system: For 12 mm rod, Sheet-metal mounting Mounting bracket, at device: Screw type, Suited for M3 screws Type of mounting device: Clampable, Adjustable, Turning, 360° Material: Metal |

Note



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