

Technical data sheet

Polarized retro-reflective photoelectric sensor

Part no.: 50143275

SET PRK23/PX-M8TKS50x50.1

Contents

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For illustration purposes only



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
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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
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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)
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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)
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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)

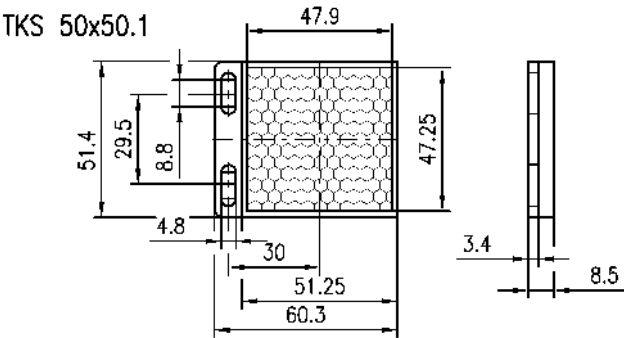
Environmental data

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

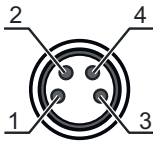


Electrical connection

Connection 1

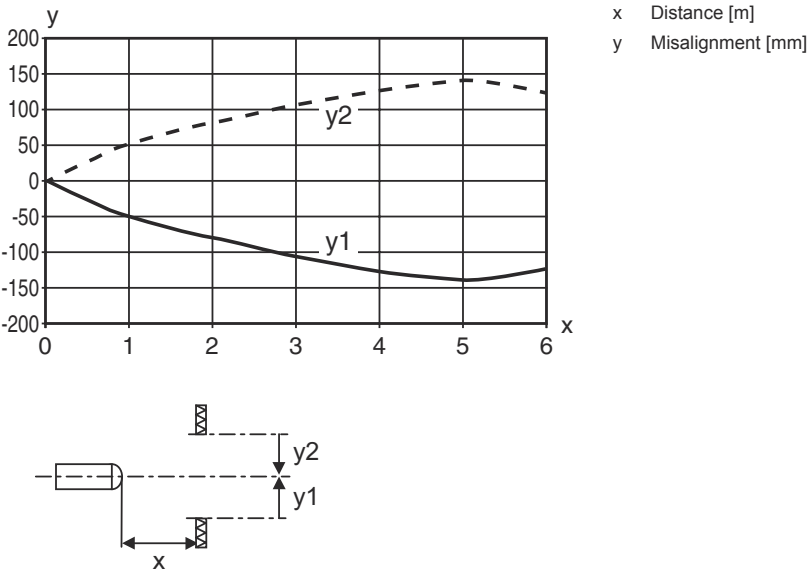
Function	Signal OUT
	Voltage supply
Type of connection	Connector
Thread size	M8
Type	Male
Material	Plastic
No. of pins	4 -pin

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	Operating principle / construction 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
G	Equipment T: autocollimation principle (single lens) for highly transparent bottles without tracking
J	Operating range adjustment 3: teach-in via button
ff	Switching output / function / OUT1OUT2 (OUT1 = pin 4, OUT2 = pin 2) 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

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)
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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.