Technical data sheet
Polarized retro-reflective photoelectric
Part no.: 50138414
PRK23/2



Figure can vary

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Technical data

Basic data

Series	23
Operating principle	Reflection principle

Optical data

Operating range	Guaranteed operating range
Operating range	0.1 ... 4.5 m, With reflector TK(S) 100x100
Operating range limit	Typical operating range
Operating range limit	0.1 ... 6 m, With reflector TK(S) 100x100
Light source	LED, Red
LED light 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

Voltage type	DC
Switching current, max.	100 mA
Switching voltage	high: ≥(U_B-2.5V)
	low: ≤2.5V

Switching output 1

Switching element	Transistor, NPN
Switching principle	Light switching

Timing

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

Connection 1

Function	Signal OUT
	Voltage supply
Type of connection	Cable
Cable length	2,000 mm
Sheathing material	PUR
Cable color	Black
Number of conductors	3 -wire
Wire cross section	0.14 mm²

Mechanical data

Dimension (W x H x L)	11.4 mm x 34.2 mm x 18.3 mm
Housing material	Plastic, PC-ABS
Lens cover material	Plastic / PMMA
Net weight	50 g
Housing color	Black
	Red

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

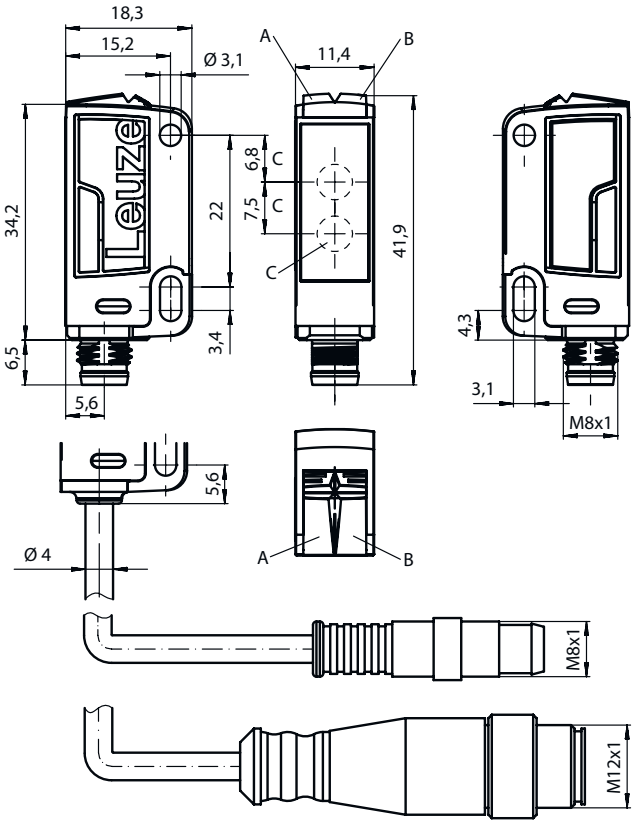
Degree of protection	IP 67
Protection class	III
Certifications	c UL US
Standards applied	IEC 60947-5-2

Classification

Customs tariff number	85365019
eCl@ss 8.0	27270902
eCl@ss 9.0	27270902
ETIM 5.0	EC002717
ETIM 6.0	EC002717

Dimensioned drawings

All dimensions in millimeters



A Green LED
B Yellow LED
C Optical axis

Electrical connection

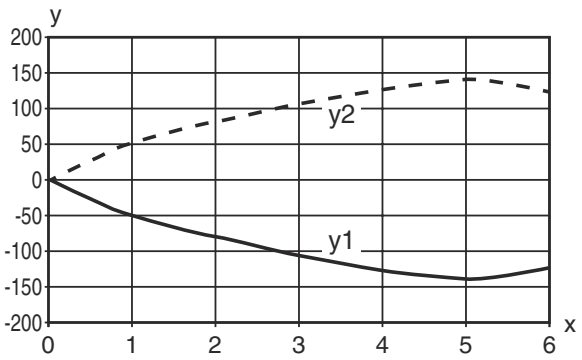
Connection 1

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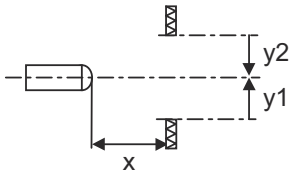
Conductor color	Conductor assignment
Brown	V+
Black	OUT 1
Blue	GND

Diagrams

Typ. response behavior



x Distance [m]
y Misalignment [mm]



Operation and display

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

Reflectors & reflective tapes

	Part no.	Designation	Operating range Operating range	Description
	50108300	REF 4-A-50x50	0.1 ... 1.2 m 0.1 ... 1.6 m	Design: Rectangular Reflective surface: 50 mm x 50 mm Material: Plastic Chemical designation of the material: PMMA Fastening: Self-adhesive
	50003192	TK 100x100	0.1 ... 4.5 m 0.1 ... 6 m	Design: Rectangular Reflective surface: 96 mm x 96 mm Triple reflector size: 4 mm Material: Plastic Base material: Plastic Chemical designation of the material: PMMA8N Fastening: Adhesive
	50003189	TK 30x50	0.1 ... 1.2 m 0.1 ... 1.6 m	Design: Rectangular Reflective surface: 29 mm x 45 mm Triple reflector size: 4 mm Material: Plastic Base material: Plastic Chemical designation of the material: PMMA8N Fastening: Adhesive

Reflectors & reflective tapes

	Part no.	Designation	Operating range Operating range	Description
	50024127	TK 82.2	0.1 ... 1.2 m 0.1 ... 1.6 m	Design: Round Triple reflector size: 4 mm Reflection surface diameter: 79 mm Material: Plastic Base material: Plastic Chemical designation of the material: PMMA8N Fastening: Through-hole mounting, Adhesive
	50022816	TKS 100X100	0.1 ... 4.5 m 0.1 ... 6 m	Design: Rectangular Reflective surface: 96 mm x 96 mm Triple reflector size: 4 mm Material: Plastic Base material: Plastic Chemical designation of the material: PMMA8N Fastening: Through-hole mounting, Adhesive
	50081283	TKS 20X40	0.1 ... 1.5 m 0.1 ... 2 m	Design: Rectangular Reflective surface: 16 mm x 38 mm Triple reflector size: 2.3 mm Material: Plastic Base material: Plastic Chemical designation of the material: PMMA8N Fastening: Through-hole mounting, Adhesive
	50023525	TKS 30X50	0.1 ... 1.2 m 0.1 ... 1.6 m	Design: Rectangular Reflective surface: 27 mm x 44 mm Triple reflector size: 3 mm Material: Plastic Base material: Plastic Chemical designation of the material: PMMA8N Fastening: Through-hole mounting, Adhesive
	50109506	TKS 30x50.UV	0.1 ... 1.2 m 0.1 ... 1.6 m	Design: Rectangular Reflective surface: 44 mm x 27 mm Triple reflector size: 3 mm Material: Plastic Base material: Plastic Chemical designation of the material: PMMA8N Fastening: Through-hole mounting, Adhesive
	50040820	TKS 40X60	0.1 ... 2.5 m 0.1 ... 3.3 m	Design: Rectangular Reflective surface: 37 mm x 56 mm Triple reflector size: 4 mm Material: Plastic Base material: Plastic Chemical designation of the material: PMMA8N Fastening: Through-hole mounting, Adhesive

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

Part number code

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
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

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	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

Accessories

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	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

Standard reflectors

	Part no.	Designation	Article	Description
	50081283	TKS 20X40	Reflector	Design: Rectangular Reflective surface: 16 mm x 38 mm Triple reflector size: 2.3 mm Material: Plastic Base material: Plastic Chemical designation of the material: PMMA8N Fastening: Through-hole mounting, Adhesive
	50040820	TKS 40X60	Reflector	Design: Rectangular Reflective surface: 37 mm x 56 mm Triple reflector size: 4 mm Material: Plastic Base material: Plastic Chemical designation of the material: PMMA8N Fastening: Through-hole mounting, Adhesive

Reflective tapes for standard applications

	Part no.	Designation	Article	Description
	50108300	REF 4-A-50x50	Reflective tape	Design: Rectangular Reflective surface: 50 mm x 50 mm Material: Plastic Chemical designation of the material: PMMA Fastening: Self-adhesive

Note

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