Leuze electronic

the sensor people

Part no.: 50138508
Set PRK5.R3/2N DTKS 30x50
Polarized retro-reflective photoelectric sensor set

CE

c UL us LISTED

IP 67

Figure can vary

Contents

- Technical data
- Dimensioned drawings
- Electrical connection
- Diagrams
- Operation and display
- Reflectors & reflective tapes
- Part number code
- Notes
- Accessories

Leuze electronic GmbH + Co. KG, In der Braike 1, 73277 Owen
Phone: +49 7021 573-0, Fax: +49 7021 573-199

info@leuze.com • www.leuze.com
We reserve the right to make technical changes • eng 2019-12-10
1 / 7

Technical data

Basic data	
Series	5
Operating principle	Reflection principle
Contains	Reflector DTKS 30x50 (50136770)
Application	Detection of empty bottles

Special design	
Special design	Article set

Optical data	
Operating range	Guaranteed operating range
Operating range	0.1 ... 0.3 m , With reflector DTKS 30x50
Operating range limit	Typical operating range
Operating range limit	0.1 ... 0.3 m , With reflector DTKS 30x50
Light source	LED , Red
LED light wavelength	620 nm
Transmitted-signal shape	Pulsed
LED group	Exempt group (in acc. with EN 62471)

Electrical data			
Protective circuit			
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	2 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		
Switching output 2			
Switching element	Transistor , NPN		
Switching principle	Dark switching		

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

Connection	

info@leuze.com • www.leuze.com
We reserve the right to make technical changes • eng 2019-12-10
2 / 7

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	4 -wire
Wire cross section	0.2 mm²

Mechanical data	
Dimension (W x H x L)	14 mm x 32.5 mm x 20.2 mm
Housing material	Plastic , ABS
Lens cover material	Plastic
Net weight	70 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

Leuze electronic GmbH + Co. KG, In der Braike 1, 73277 Owen
Phone: +49 7021 573-0, Fax: +49 7021 573-199

info@leuze.com • www.leuze.com
We reserve the right to make technical changes • eng 2019-12-10
3 / 7

Part no.: 50138508 – Set PRK5.R3/2N DTKS 30x50 – Polarized retro-reflective
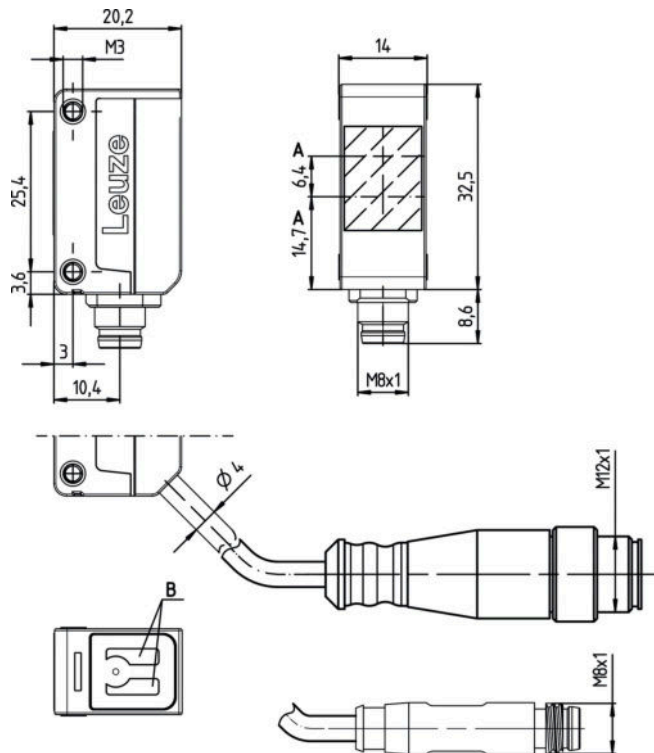
A Optical axis
B Indicator diode

Electrical connection

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	4 -wire
Wire cross section	0.2 mm²

Conductor color	Conductor assignment
Brown	V+
White	OUT 2
Blue	GND
Black	OUT 1

Leuze electronic GmbH + Co. KG, In der Braike 1, 73277 Owen
Phone: +49 7021 573-0, Fax: +49 7021 573-199

info@leuze.com • www.leuze.com
We reserve the right to make technical changes • eng 2019-12-10
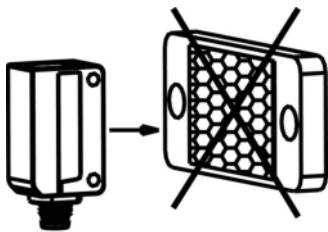4 / 7

Diagrams

Typ. function reserve
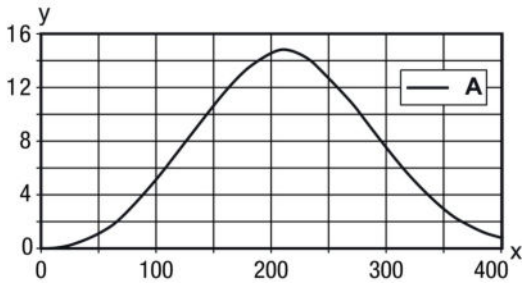
x   Distance [mm]
y   Function reserve
A   DTKS 30x50

Mounting
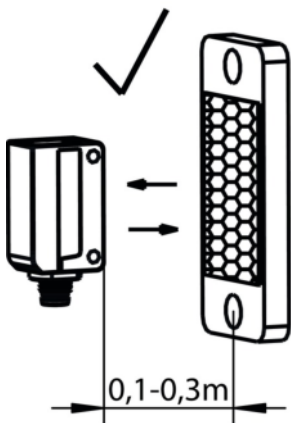
Operation and display

LEDs

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

Part no.: 50138508 – Set PRK5.R3/2N DTKS 30x50 – Polarized retro-reflective

Reflectors & reflective tapes

	Part no.	Designation	Operating range/ Operating range limit	Description
	50136770	DTKS 30x50	0.1 ... 0.3 m 0.1 ... 0.3 m	Design: Rectangular Reflective surface: 25.9 mm x 42.5 mm Triple reflector size: 2.3 mm Material: Plastic Base material: Plastic Chemical designation of the material: PMMA Fastening: Through-hole mounting, Adhesive

Part number code

Part designation: **AAA5d.EE/ ff-GG-hh-I**

AAA5	**Operating principle / construction:** HT5: diffuse reflection sensor with background suppression LS5: throughbeam photoelectric sensor transmitter LE5: throughbeam photoelectric sensor receiver ET5: energetic diffuse reflection sensor FT5: diffuse reflection sensor with fading PRK5: retro-reflective photoelectric sensor with polarization filter
d	**Light type:** n/a: red light I: infrared light
EE	**Equipment:** 1: adjustable range M: for semi-transparent objects H: for the detection of transparent films X: reinforced fading 3: teach-in via button R: combination product for reflector DTKS 30x50
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 9: deactivation input (deactivation with high signal) D: deactivation input (deactivation with low signal)
GG	**Design:** P1: narrow light beam
hh	**Electrical connection:** n/a: cable, standard length 2000 mm, 4-wire M8: M8 connector, 4-pin (plug) M8.3: M8 connector, 3-pin (plug) 200-M8: cable, length 200 mm with M8 connector, 4-pin, axial (plug) 200-M8.3: cable, length 200 mm with M8 connector, 3-pin, axial (plug) 200-M12: cable, length 200 mm with M12 connector, 4-pin, axial (plug) M8.1: Snap-in, M8 connector, 4-pin (plug)
I	**Configuration:** P1: different configuration

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

Leuze electronic GmbH + Co. KG, In der Braike 1, 73277 Owen
Phone: +49 7021 573-0, Fax: +49 7021 573-199

info@leuze.com • www.leuze.com
We reserve the right to make technical changes • eng 2019-12-10
6 / 7

Part no.: 50138508 – Set PRK5.R3/2N DTKS 30x50 – Polarized retro-reflective

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)

• Sum of the output currents for both outputs, 50 mA for ambient temperatures > 40 °C

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
	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 electronic website in the Download tab of the article detailed page.

Leuze electronic GmbH + Co. KG, In der Braike 1, 73277 Owen
Phone: +49 7021 573-0, Fax: +49 7021 573-199

info@leuze.com • www.leuze.com
We reserve the right to make technical changes • eng 2019-12-10
7 / 7