

Technical data sheet

Polarized retro-reflective photoelectric sensor set

Part no.: 50145477

SET PRK5/4P+TKS 40x60.A



Contents

- Technical data
- Dimensioned drawings
- Electrical connection
- Diagrams
- Operation and display
- Part number code
- Notes
- Further information
- Accessories



Technical data

Basic data

Series	5
Operating principle	Reflection principle
Contains	1x TKS 40x60.A

Special version

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

Optical data

Operating range	0.02 ... 2.8 m (guaranteed operating range), With reflector TKS 40x60.A
Operating range limit	0.02 ... 4.2 m (typical operating range), With reflector TKS 40x60.A
Light source	LED, Red
Wavelength	620 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	2 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	Light switching

Switching output 2

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	Cable
Cable length	2,000 mm
Sheathing material	PUR
Cable color	Black
Number of conductors	4 -wire
Wire cross section	0.2 mm ²

Mechanical data

Dimension (W x H x L)	14 mm x 32.5 mm x 20.2 mm
Housing material	Plastic
Plastic housing	ABS
Lens cover material	Plastic
Net weight	28 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

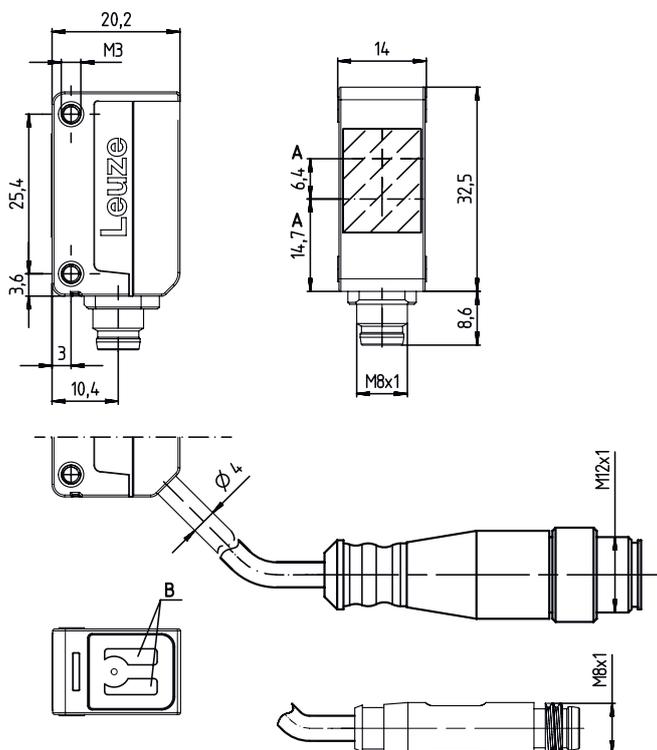
Degree of protection	IP 67
Protection class	III
Approvals	c UL US
Standards applied	IEC 60947-5-2

Classification

Customs tariff number	85365019
ECLASS 5.1.4	27270902
ECLASS 8.0	27270902
ECLASS 9.0	27270902
ECLASS 10.0	27270902
ECLASS 11.0	27270902
ECLASS 12.0	27270902
ECLASS 13.0	27270902
ECLASS 14.0	27270902
ECLASS 15.0	27270902
ECLASS 16.0	27270902
ETIM 5.0	EC002717
ETIM 6.0	EC002717
ETIM 7.0	EC002717
ETIM 8.0	EC002717
ETIM 9.0	EC002717
ETIM 10.0	EC002717

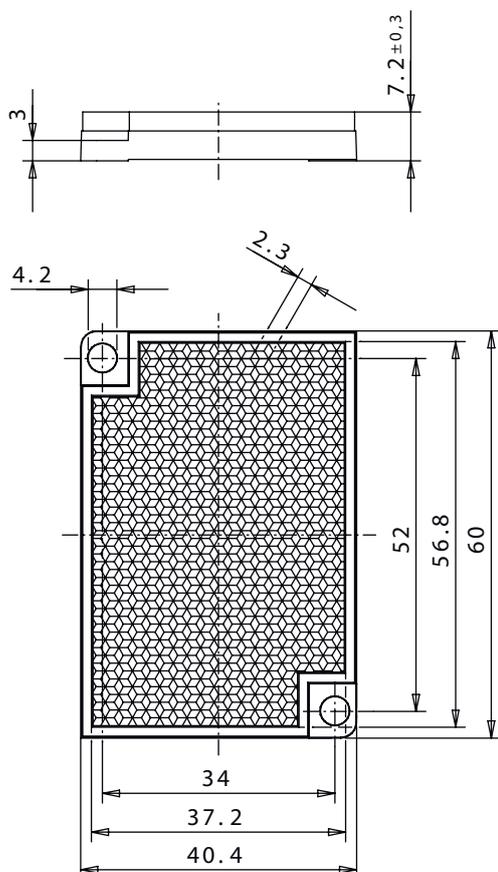
Dimensioned drawings

All dimensions in millimeters



- A Optical axis
- B Indicator diode

Dimensioned drawings



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 mm ²

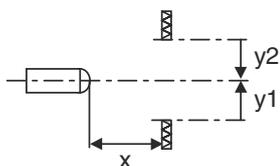
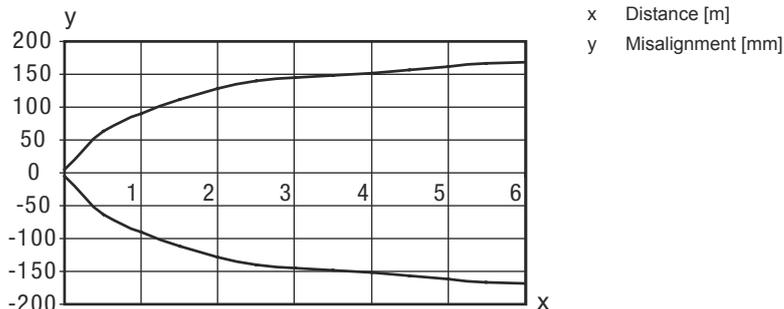
Conductor color

Conductor assignment

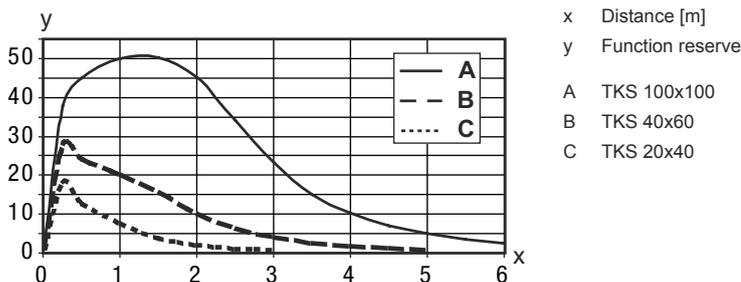
Brown	V+
White	OUT 2
Blue	GND
Black	OUT 1

Diagrams

Typ. response behavior (TKS100x100)



Typ. function reserve



Operation and display

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

Part number code

Part designation: AAA5d.EE/ ff-GG-hh-l

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 l: infrared light

Part number code

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	Version 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	Parameterization P1: different configuration

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

Notes

⚠ Observe intended use!	
	<ul style="list-style-type: none"> ⌘ 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:	
	<ul style="list-style-type: none"> ⌘ 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)

Further information

- 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
	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.