



Figure can vary

Part no.: 50134280

PRK25C/4P

Polarized retro-reflective photoelectric sensor



Contents

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

Technical data

Basic data	
Series	25C
Operating principle	Reflection principle
Optical data	
Operating range	Guaranteed operating range
Operating range	0 ... 10 m, With reflector TK(S) 100x100
Operating range limit	Typical operating range
Operating range limit	0 ... 12 m, With reflector TK(S) 100x100
Light source	LED, Red
LED light wavelength	640 nm
Transmitted-signal shape	Pulsed
LED protection class	Exempt group (in acc. with EN 62471)
Electrical data	
Protective circuit	Short circuit protected Polarity reversal protection
Performance data	
Supply voltage	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: $\geq(U_B - 2.5V)$ low: $\leq 2.5V$
Switching output 1	
Assignment	Connection 1, conductor 4
Switching element	Transistor, PNP
Switching principle	Light switching
Switching output 2	
Assignment	Connection 1, conductor 2
Switching element	Transistor, PNP
Switching principle	Dark switching
Timing	
Switching frequency	1,500 Hz
Response time	0.33 ms
Readiness delay	300 ms
Connection	

Part no.: 50134280 – PRK25C/4P – Polarized retro-reflective photoelectric
Connection 1

Type of connection	Cable
Function	Voltage supply Signal OUT
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)	15 mm x 42.7 mm x 30 mm
Housing material	Metal Plastic, Diecast zinc, ABS
Lens cover material	Plastic
Net weight	55 g
Housing color	Red
Type of fastening	Via optional mounting device Through-hole mounting with M4 thread
Compatibility of materials	ECOLAB

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 IP 69K
Protection class	III
Certifications	c UL US
Standards applied	IEC 60947-5-2

Classification

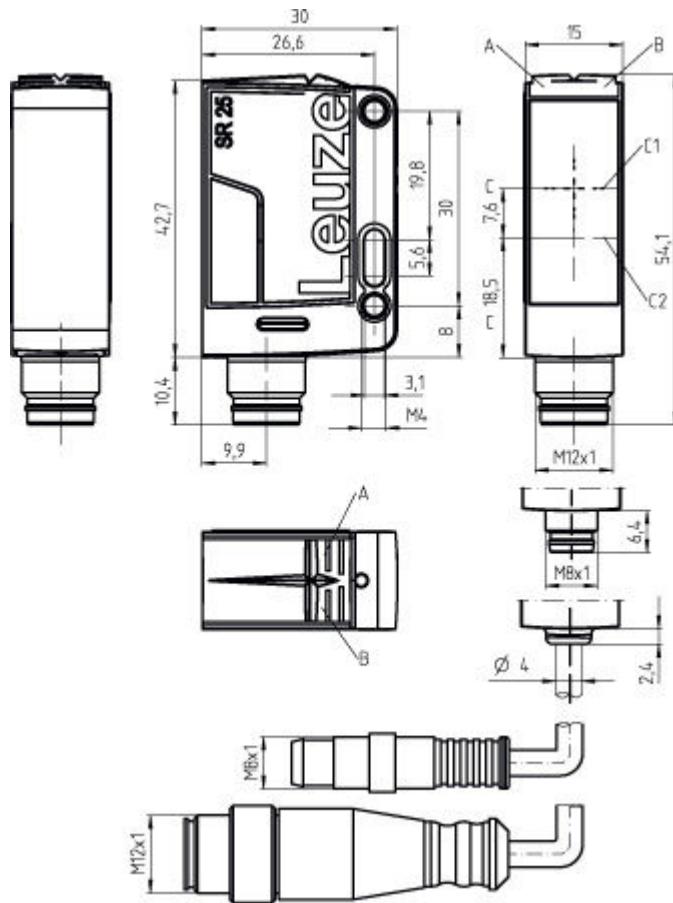
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ETIM 5.0	EC002717

Reflectors & reflective tapes

	Part no.	Designation	Operating range/ Operating range limit	Description
	50117583	MTKS 50x50.1	0.05 ... 6.5 m 0.05 ... 7.5 m	Design: Rectangular Reflective surface: 50 mm x 50 mm Triple reflector size: 1.2 mm Material: Plastic Base material: Plastic Chemical designation of the material: PMMA8N Fastening: Through-hole mounting, Adhesive
	50106119	REF 4-A-100x100	0.05 ... 2.5 m 0.05 ... 3 m	Design: Rectangular Reflective surface: 100 mm x 100 mm Material: Plastic Chemical designation of the material: PMMA Fastening: Self-adhesive
	50110192	REF 6-A-50x50	0.05 ... 4.5 m 0.05 ... 5.3 m	Design: Rectangular Reflective surface: 50 mm x 50 mm Triple reflector size: 0.3 mm Material: Plastic Chemical designation of the material: PMMA Fastening: Self-adhesive
	50003192	TK 100x100	0.05 ... 10 m 0.05 ... 12 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
	50022816	TKS 100X100	0.05 ... 10 m 0.05 ... 12 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	0.05 ... 3 m 0.05 ... 3.5 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
	50040820	TKS 40X60	0.05 ... 5 m 0.05 ... 6 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

Dimensioned drawings

All dimensions in millimeters



- A Green LED
- B Yellow LED
- C Optical axis
- C1 Receiver
- C2 Transmitter

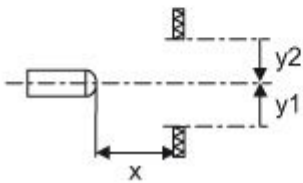
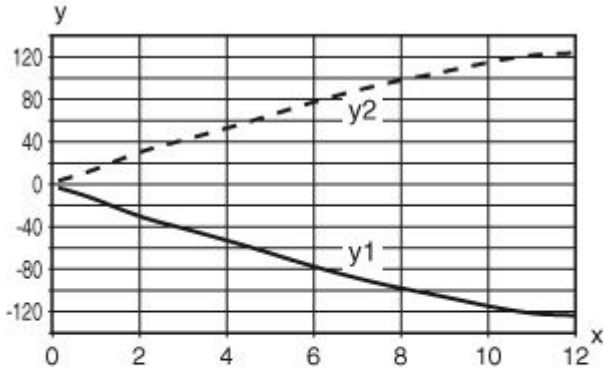
Electrical connection

Connection 1	
Type of connection	Cable
Function	Voltage supply Signal OUT
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

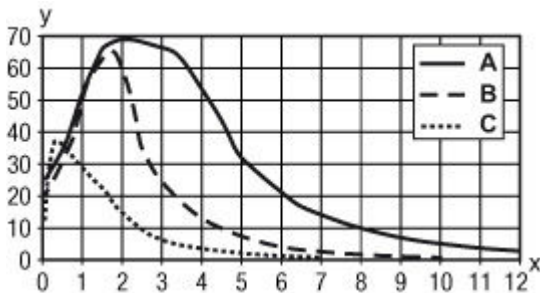
Diagrams

Typ. response behavior (TKS100x100)



x Distance [m]
y Misalignment [mm]

Typ. function reserve



x Distance [m]
y Function reserve
A TKS 100x100
B TKS 40x60
C TKS 20x40

Operation and display

LEDs

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

Part no.: 50134280 – PRK25C/4P – Polarized retro-reflective photoelectric



Part number code

Part designation: AAA25Cd-f.GGH/iJ-K

AAA25C	Operating principle / construction: HT25C: diffuse reflection sensor with background suppression PRK25C: retro-reflective photoelectric sensor with polarization filter
d	Light type: n/a: red light l: infrared light
f	Pre-set range (optional): n/a: operating range acc. to data sheet XXXX: pre-set range [mm]
GG	Equipment: A: autocollimation principle (single lens) S: small light spot D: detection of stretch-wrapped objects X: extended model
H	Operating range adjustment: 1: 270° potentiometer 2: multiturn potentiometer
i	Switching output/function OUT 1/IN: Pin 4 or black conductor: 2: NPN transistor output, light switching N: NPN transistor output, dark switching 4: PNP transistor output, light switching P: PNP transistor output, dark switching
J	Switching output / function OUT 2/IN: pin 2 or white conductor: 2: NPN transistor output, light switching N: NPN transistor output, dark switching 4: PNP transistor output, light switching P: PNP transistor output, dark switching W: warning output 8: activation input (activation with high signal)
K	Electrical connection: n/a: cable, PVC, standard length 2000 mm, 4-wire M8: M8 connector, 4-pin (plug) 200-M12: cable, PVC, length 200 mm with M12 connector, 4-pin, axial (plug) M12: M12 connector, 4-pin (plug)

Accessories

Mounting technology - Mounting brackets


	Part no.	Designation	Article	Description
	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
	50040269	BT 25	Mounting device	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

Part no.: 50134280 – PRK25C/4P – Polarized retro-reflective photoelectric




Mounting technology - Rod mounts

	Part no.	Designation	Article	Description
	50117830	BTP 200M-D10	Mounting system	Design of mounting device: Protection hood Fastening, at system: For 10 mm rod Mounting bracket, at device: Screw type Type of mounting device: Clampable, Adjustable, Turning, 360° Material: Metal
	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
	50117828	BTP 200M-D14	Mounting system	Design of mounting device: Protection hood Fastening, at system: For 14 mm rod Mounting bracket, at device: Screw type Type of mounting device: Clampable, Adjustable, Turning, 360° Material: Metal
	50117256	BTU 200M-D10	Mounting system	Contains: 2x M3 x 18 screw, 2x position washers Design of mounting device: Mounting system Fastening, at system: For 10 mm rod, Sheet-metal mounting 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 18 screw, 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 Type of mounting device: Clampable, Adjustable, Turning, 360° Material: Metal
	50117254	BTU 200M-D14	Mounting system	Contains: 2x M3 x 18 screw, 2x position washers Design of mounting device: Mounting system Fastening, at system: For 14 mm rod, Sheet-metal mounting Mounting bracket, at device: Screw type Type of mounting device: Clampable, Adjustable, Turning, 360° Material: Metal
	50122797	BTU 346M-D12	Mounting system	Contains: 2x M4 x 25 screw, 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 Type of mounting device: Turning, 360°, Clampable, Adjustable Material: Metal


Standard reflectors

	Part no.	Designation	Article	Description
	50003192	TK 100x100	Reflector	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



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	Part no.	Designation	Article	Description
	50022816	TKS 100X100	Reflector	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	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

Micro-triad-type reflectors

	Part no.	Designation	Article	Description
	50117583	MTKS 50x50.1	Reflector	Design: Rectangular Reflective surface: 50 mm x 50 mm Triple reflector size: 1.2 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
	50106119	REF 4-A-100x100	Reflective tape	Design: Rectangular Reflective surface: 100 mm x 100 mm Material: Plastic Chemical designation of the material: PMMA Fastening: Self-adhesive
	50110192	REF 6-A-50x50	Reflective tape	Design: Rectangular Reflective surface: 50 mm x 50 mm Triple reflector size: 0.3 mm Material: Plastic Chemical designation of the material: PMMA Fastening: Self-adhesive

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)
-
- Light source: Average life expectancy 100,000 h at an ambient temperature of 25 °C
 - Sum of the output currents for both outputs 100 mA