

## Technical data sheet

### Diffuse sensor with background

Part no.: 50134462

HT49C/2N-TB



Figure can vary

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## Technical data

### Basic data

Series	49C
Operating principle	Diffuse reflection principle with background suppression

### Optical data

Black-white error	< 10% up to 1200 mm
Operating range	Guaranteed operating range
Operating range, white 90%	0.005 ... 3 m
Operating range, gray 18%	0.02 ... 2 m
Operating range, black 6%	0.05 ... 1.5 m
Operating range limit	Typical operating range
Operating range limit	0.005 ... 3 m
Adjustment range	120 ... 3,000 mm
Light source	LED, Red
LED light wavelength	630 nm
Transmitted-signal shape	Pulsed
LED group	Exempt group (in acc. with EN 62471)

### Electrical data

Protective circuit	Polarity reversal protection Short circuit protected Transient protection
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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	2 Piece(s)
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### Switching outputs

Voltage type	DC
Switching current, max.	100 mA
Switching voltage	high: $\geq(U_B - 2V)$ Low: $\leq 2V$

### Switching output 1

Assignment	Connection 1, pin 3
Switching element	Transistor, NPN
Switching principle	Light switching

### Switching output 2

Assignment	Connection 1, pin 4
Switching element	Transistor, NPN
Switching principle	Dark switching

### Timing

Switching frequency	250 Hz
Response time	2 ms
Readiness delay	300 ms

### Connection 1

Function	Signal OUT Voltage supply
Type of connection	Terminal
Type of terminal	Spring-cage terminal
No. of pins	5 -pin

### Mechanical data

Dimension (W x H x L)	31 mm x 104 mm x 55.5 mm
Housing material	Plastic
Plastic housing	PC
Lens cover material	Plastic
Net weight	150 g
Housing color	Red
Type of fastening	Through-hole mounting Via optional mounting device

### Operation and display

Type of display	LED
Number of LEDs	2 Piece(s)
Operational controls	Multiturn potentiometer Teach button
Function of the operational control	Activation of the time module for dropout delay Light/dark switching Range adjustment Switching range adjustment

### Environmental data

Ambient temperature, operation	-40 ... 60 °C
Ambient temperature, storage	-40 ... 70 °C

### Certifications

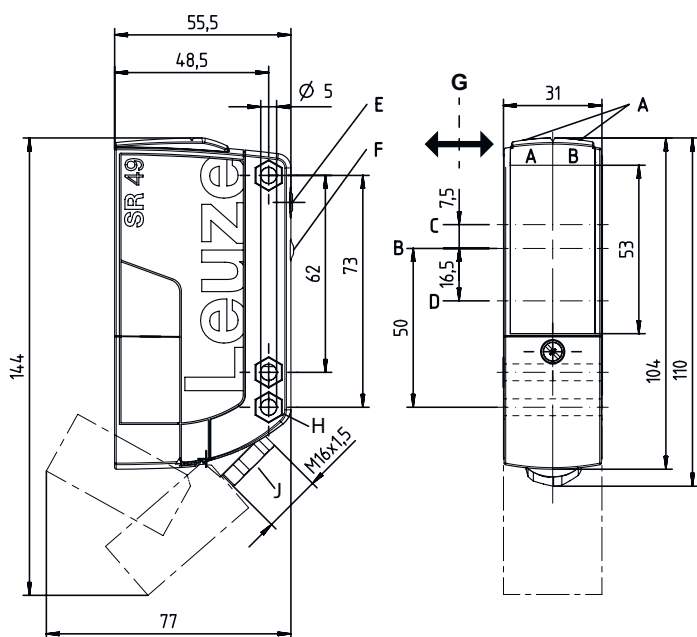
Degree of protection	IP 67
Protection class	II
Certifications	c UL US
Standards applied	IEC 60947-5-2

### Classification

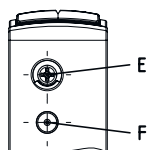
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eCl@ss 11.0	27270904
ETIM 5.0	EC002719
ETIM 6.0	EC002719
ETIM 7.0	EC002719

# Dimensioned drawings

All dimensions in millimeters



- AA Green LED
- AB Yellow LED
- B Optical axis
- C Receiver
- D Transmitter
- E Range adjustment
- F Teach button
- G Preferred entry direction
- H Countersinking for SK nut M5, 4.2 mm deep
- J Cable entry with M16x1.5 screw fitting for Ø5 ... 10 mm



## Electrical connection

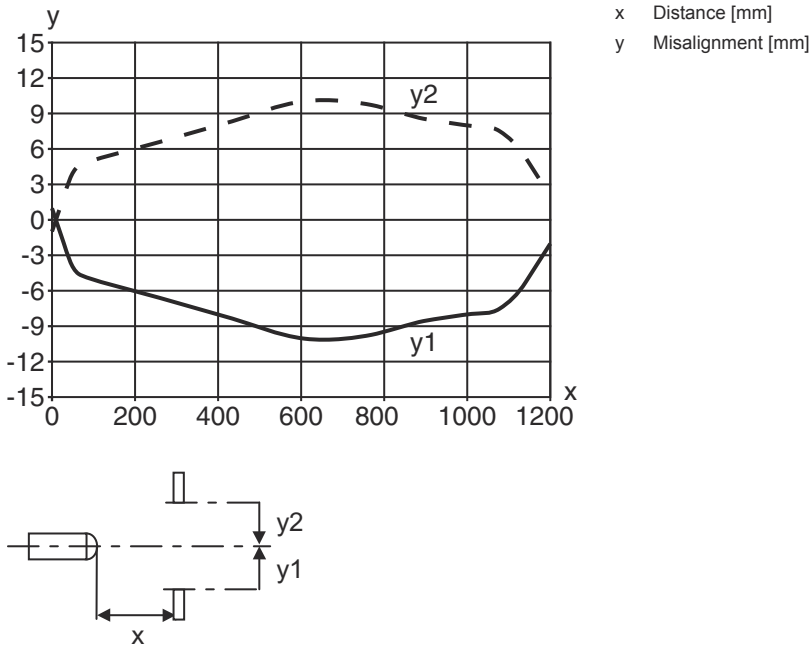
### Connection 1

Function	Signal OUT
	Voltage supply
Type of connection	Terminal
Type of terminal	Spring-cage terminal
No. of pins	5 -pin

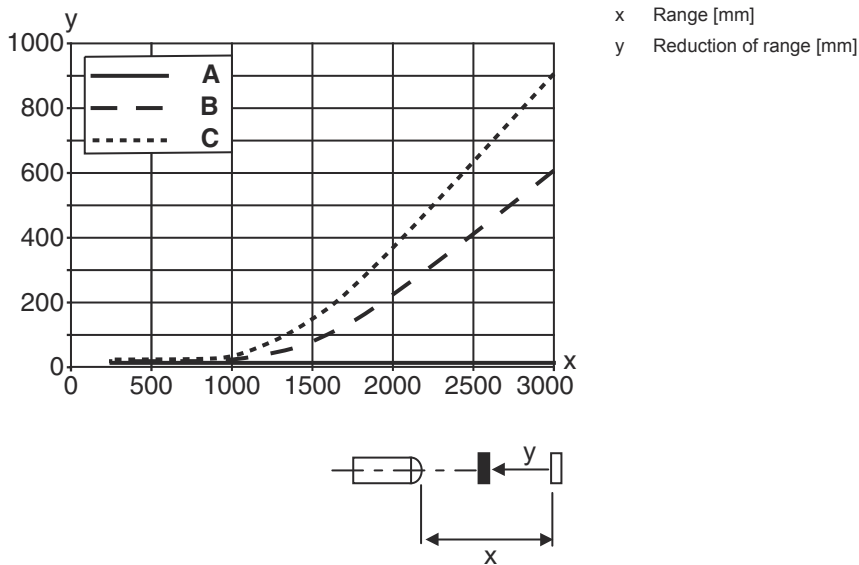
Pin	Pin assignment
	1
1	V+
	2
2	GND
	3
3	OUT 1
	4
4	OUT 2
	5
5	n.c.

## Diagrams

### Typ. response behavior (white 90 %)



### Typ. black/white behavior



## Operation and display

LED	Display	Meaning
1	Green, continuous light	Operational readiness
2	Yellow, continuous light	Switching output/switching state

## Part number code

Part designation: AAA49Cd.EEfG/iJ-KL

<b>AAA49C</b>	<b>Operating principle / construction</b> PRK49C: retro-reflective photoelectric sensor with polarization filter HT49C: diffuse reflection sensor with background suppression LS49C: throughbeam photoelectric sensor transmitter LE49C: throughbeam photoelectric sensor receiver
<b>d</b>	<b>Light type</b> n/a: red light l: infrared light
<b>EE</b>	<b>Operating voltage</b> n/a: 10 ... 30 V, DC UC: 20 ... 250V AC/DC (all-mains design)
<b>f</b>	<b>Equipment</b> H: with heating D: depolarizing media 1: 270° potentiometer 8: activation input (activation with high signal)
<b>iJ</b>	<b>Switching output / Function / OUT1OUT2</b> 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 TS: Relay, NC contact/NO contact M4: Low impedance MOSFET semiconductor switching output, NO contact
<b>KL</b>	<b>Electrical connection</b> TB: Terminal block - terminal compartment with spring terminals (5 x 1.5mm <sup>2</sup> ) n/a: cable, standard length 2000 mm

### Note



A list with all available device types can be found on the Leuze website at [www.leuze.com](http://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:




- ⌘ For UL applications, use is only permitted in Class 2 circuits in accordance with the NEC (National Electric Code).
- ⌘ 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


- All-insulated, rating voltage 250 VAC

## Accessories

### Mounting technology - Mounting brackets

	Part no.	Designation	Article	Description
	50025570	BT 96	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

### Mounting technology - Rod mounts

	Part no.	Designation	Article	Description
	50128380	BTU 460M-D12	Mounting system	Design of mounting device: Mounting system Fastening, at system: For 12 mm rod Mounting bracket, at device: Screw type Type of mounting device: 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.