

## Technical data sheet

### Diffuse sensor with background

Part no.: 50127434

HT49CI.UC/TS



Figure can vary

#### Contents

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



## 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, white 90%	0.005 ... 3 m
Adjustment range	120 ... 3,000 mm
Light source	LED, Infrared
LED light wavelength	860 nm
LED group	Exempt group (in acc. with EN 62471)
Transmitted-signal shape	Pulsed

### Electrical data

Protective circuit	Interference blanking Transient protection
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#### Performance data

Supply voltage $U_B$	20 ... 250 V, AC/DC
Power consumption (with AC)	1.5 V·A

#### Outputs

Number of digital switching outputs	2 Piece(s)
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#### Switching outputs

Voltage type	AC/DC
Switching current, max.	2,500 mA
Switching voltage	250 V AC/DC

#### Switching output 1

Switching element	Relay, NC
Switching principle	Light/dark reversible

#### Switching output 2

Switching element	Relay, NO
Switching principle	Light/dark reversible

### Timing

Switching frequency	25 Hz
Response time	20 ms
Readiness delay	300 ms

### Connection

#### Connection 1

Function	Signal OUT Voltage supply
Type of connection	Cable
Cable length	2,000 mm
Sheathing material	PVC
Cable color	Black
Number of conductors	5 -wire
Wire cross section	0.34 mm <sup>2</sup>

### 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

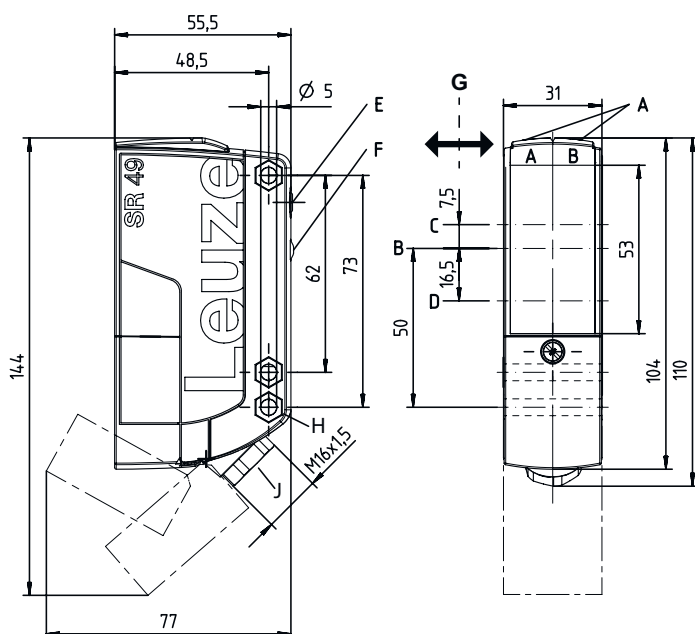
Degree of protection	IP 67
Protection class	II
Certifications	c UL US
Standards applied	IEC 60947-5-2

### Classification

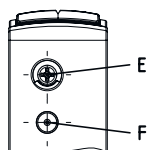
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eCl@ss 10.0	27270904
eCl@ss 11.0	27270904
ETIM 5.0	EC002719
ETIM 6.0	EC002719
ETIM 7.0	EC002719

## 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  $\varnothing 5 \dots 10$  mm



## Electrical connection

### Connection 1

Function	Signal OUT
	Voltage supply
Type of connection	Cable
Cable length	2,000 mm
Sheathing material	PVC
Cable color	Black
Number of conductors	5 -wire
Wire cross section	0.34 mm <sup>2</sup>

### Conductor color

### Conductor assignment

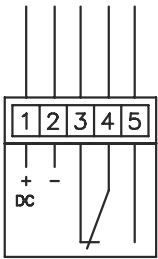
Brown	+ / L1
Blue	- / N
White	OUT 1
Gray	COM
Black	OUT 2

## Circuit diagrams

### AC

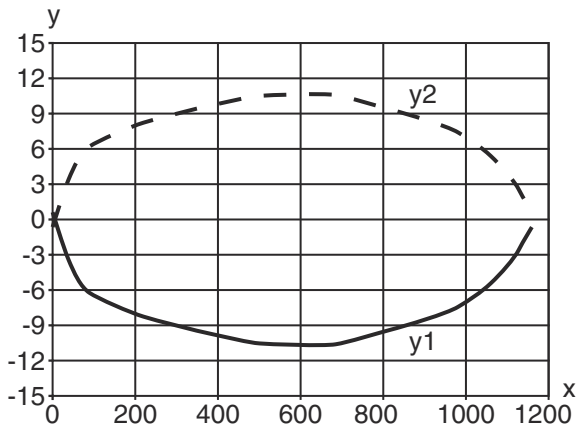


### DC

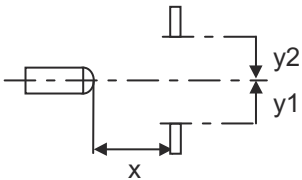


## Diagrams

Typ. response behavior (white 90 %)

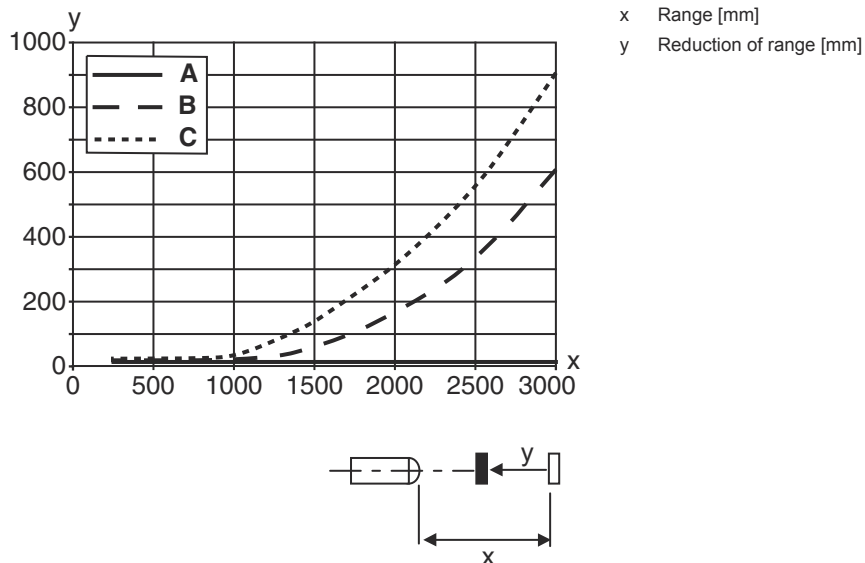


x Distance [mm]  
y Misalignment [mm]



# Diagrams

## 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>	<p><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</p>
<b>d</b>	<p><b>Light type</b>                      n/a: red light                      I: infrared light</p>
<b>EE</b>	<p><b>Operating voltage</b>                      n/a: 10 ... 30 V, DC                      UC: 20 ... 250V AC/DC (all-mains design)</p>
<b>f</b>	<p><b>Equipment</b>                      H: with heating                      D: depolarizing media                      1: 270° potentiometer                      8: activation input (activation with high signal)</p>

## Part number code

iJ	<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
KL	<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.

## Further information


- All-insulated, rating voltage 250 VAC
- With inductive or capacitive load, provide suitable spark extinction (snubber)

## 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

**Accessories****Mounting technology - Rod mounts**

	<b>Part no.</b>	<b>Designation</b>	<b>Article</b>	<b>Description</b>
	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.