



**Part no.: 50130470**  
**HT49C.UCH/TS-TB**  
**Diffuse sensor with background suppression**



Figure can vary

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## Technical data

<b>Basic data</b>	
Series	49C
Operating principle	Diffuse reflection principle with background suppression
<b>Special design</b>	
Special design	Heating
<b>Optical data</b>	
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 , Red
LED light wavelength	630 nm
Transmitted-signal shape	Pulsed
LED group	Exempt group (in acc. with EN 62471)
<b>Electrical data</b>	
Protective circuit	Interference blanking Transient protection
<b>Performance data</b>	
Supply voltage $U_B$	20 ... 250 V , AC/DC
Power consumption (with AC)	1.5 V·A
<b>Outputs</b>	
Number of digital switching outputs	2 Piece(s)
<b>Switching outputs</b>	
Voltage type	AC/DC
Switching current, max.	2,500 mA
Switching voltage	250 V AC/DC
<b>Switching output 1</b>	
Assignment	Connection 1, pin 3
Switching element	Relay , NC
Switching principle	Light/dark reversible
<b>Switching output 2</b>	
Assignment	Connection 1, pin 5
Switching element	Relay , NO
Switching principle	Light/dark reversible
<b>Timing</b>	
Switching frequency	25 Hz
Response time	20 ms
Readiness delay	300 ms
<b>Connection</b>	

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**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 , 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**

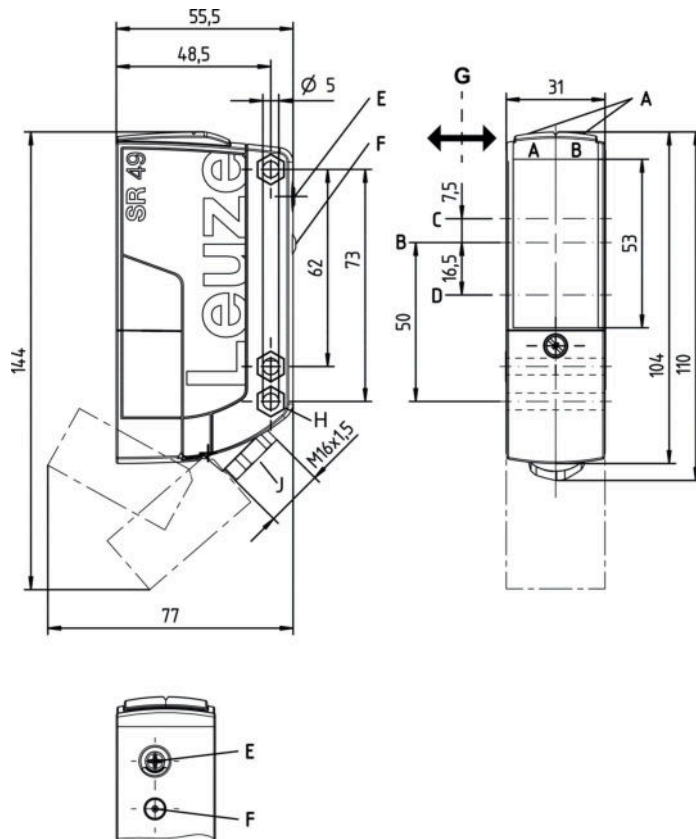
Degree of protection	IP 67
Protection class	II
Certifications	c UL US
Standards applied	IEC 60947-5-2

**Classification**

Customs tariff number	85365080
eCl@ss 8.0	27270904
eCl@ss 9.0	27270904
ETIM 5.0	EC002719
ETIM 6.0	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 M16 x 1.5 screw fitting for  $\varnothing 5 \dots 10$  mm

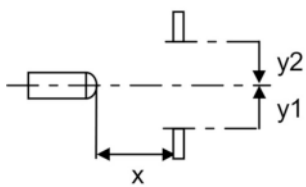
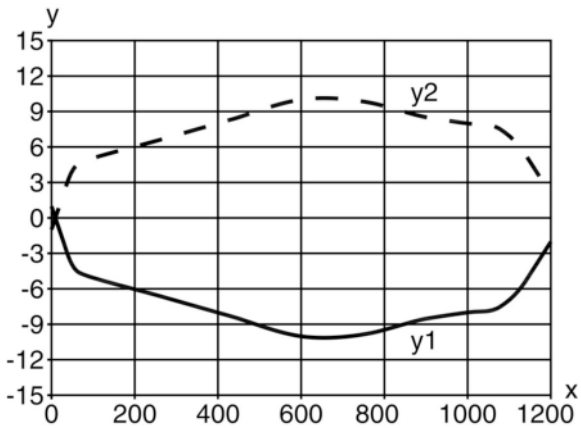
## Electrical connection

Connection 1	
Function	Signal OUT Voltage supply
Type of connection	Terminal
Type of terminal	Spring-cage terminal
No. of pins	5 -pin

Terminal	Assignment
1	+ / L1
2	- / N
3	OUT 1
4	Base point
5	OUT 2

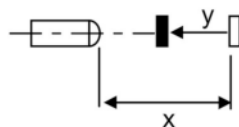
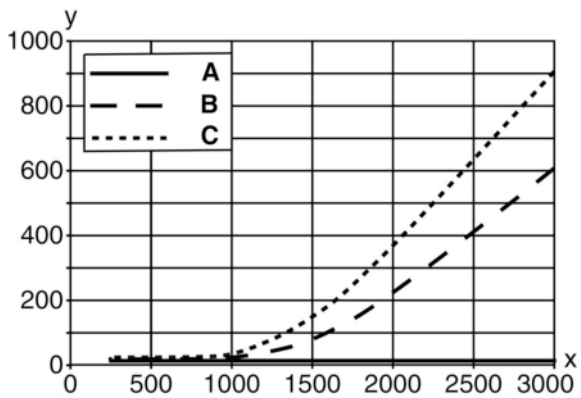
**Diagrams**

Typ. response behavior (white 90 %)



x Distance [mm]  
y Misalignment [mm]

Typ. black/white behavior



x Range [mm]  
y Reduction of range [mm]

## Operation and display

### LEDs

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**

AAA49C	<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
d	<b>Light type:</b> n/a: red light l: infrared light
EE	<b>Operating voltage:</b> n/a: 10 ... 30 V, DC UC: 20 ... 250V AC/DC (all-mains design)
f	<b>Equipment:</b> H: with heating D: depolarizing media 1: 270° potentiometer 8: activation input (activation with high signal)
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 1.5 mm <sup>2</sup> ) n/a: cable, standard length 2000 mm

### Note

A list with all available device types can be found on the Leuze electronic 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.

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


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