

Technical data sheet

Diffuse sensor with background suppression

Part no.: 50134462

HT49C/2N-TB



For illustration purposes only

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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 |
| 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 |
|--------------------|---|

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

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

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 |

Time behavior

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

Connection

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

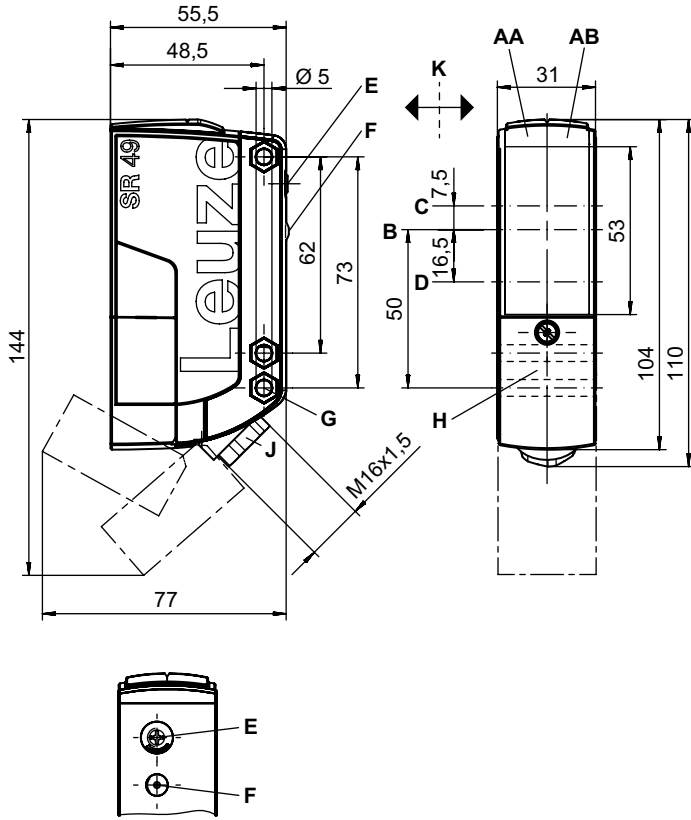
| | |
|----------------------|---------------|
| Degree of protection | IP 67 |
| Protection class | II |
| Certifications | c UL US |
| Standards applied | IEC 60947-5-2 |

Classification

| | |
|-----------------------|----------|
| Customs tariff number | 85365019 |
| ECLASS 5.1.4 | 27270904 |
| ECLASS 8.0 | 27270904 |
| ECLASS 9.0 | 27270904 |
| ECLASS 10.0 | 27270904 |
| ECLASS 11.0 | 27270904 |
| ECLASS 12.0 | 27270903 |
| ECLASS 13.0 | 27270903 |
| ETIM 5.0 | EC002719 |
| ETIM 6.0 | EC002719 |
| ETIM 7.0 | EC002719 |
| ETIM 8.0 | 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
- K Preferred entry direction
- G Countersinking for SK nut M5, 4.2 mm deep
- J Cable entry with M16x1.5 screw fitting for Ø5 ... 10 mm

Electrical connection

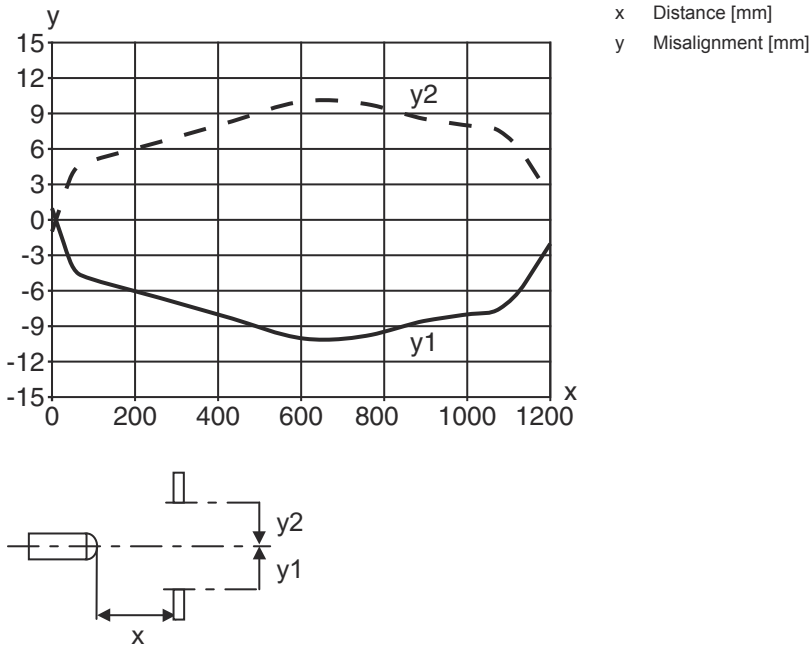
Connection 1

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

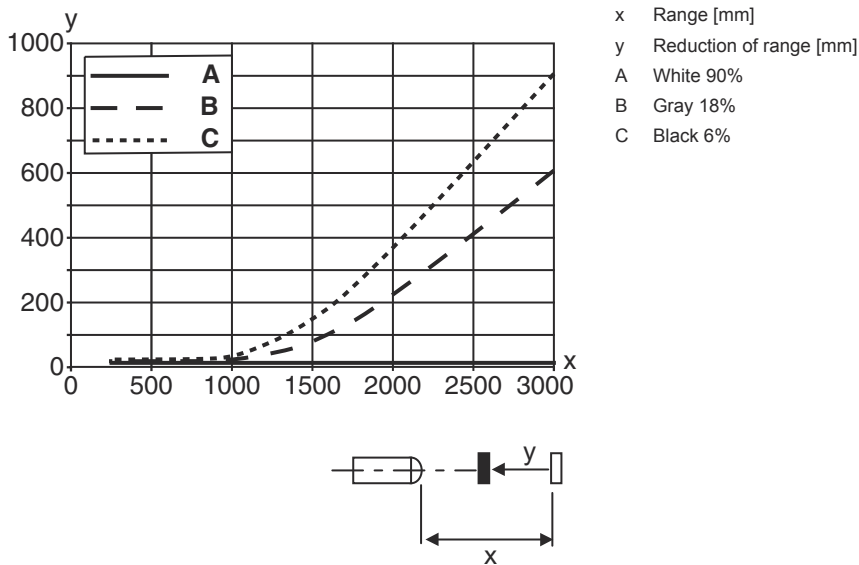
| Terminal | Assignment |
|----------|------------|
| 1 | V+ |
| 2 | GND |
| 3 | OUT 1 |
| 4 | OUT 2 |
| 5 | n.c. |

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

| | |
|---------------|--|
| AAA49C | Operating principle / construction 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 | Light type n/a: red light l: infrared light |
| EE | Operating voltage n/a: 10 ... 30 V, DC UC: 20 ... 250V AC/DC (all-mains design) |
| f | Equipment H: With heating D: Depolarizing media 1: 270° potentiometer 8: activation input (activation with high signal) |
| iJ | Switching output / Function / OUT1OUT2 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 X: pin not used |
| KL | Electrical connection TB: Terminal block - terminal compartment with spring terminals (5 x 1.5mm ²) n/a: cable, standard length 2000 mm M12: M12 connector, 4-pin (plug) |

Note



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