

Technical data sheet

Diffuse sensor with background suppression

Part no.: 50130471

HT49CI.UCH/TS-TB



For illustration purposes only

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 |

Special version

| | |
|-----------------|---------|
| Special version | Heating |
|-----------------|---------|

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, white 90% | 0.005 ... 3 m |
| Operating range limit | Typical operating range |
| Adjustment range | 120 ... 3,000 mm |
| Light source | LED, Infrared |
| Wavelength | 860 nm |
| Transmitted-signal shape | Pulsed |
| LED group | Exempt group (in acc. with EN 62471) |

Electrical data

| | |
|--------------------|---|
| Protective circuit | Interference blanking Transient protection |
|--------------------|---|

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) |
|-------------------------------------|------------|

Switching outputs

| | |
|-------------------------|--------------------------|
| Type | Digital switching output |
| Voltage type | AC/DC |
| Switching current, max. | 2,500 mA |
| Switching voltage | 250 V AC/DC |

Switching output 1

| | |
|---------------------|-----------------------|
| Assignment | Connection 1, pin 3 |
| Switching element | Relay, NC |
| Switching principle | Light/dark switchable |

Switching output 2

| | |
|---------------------|-----------------------|
| Assignment | Connection 1, pin 5 |
| Switching element | Relay, NO |
| Switching principle | Light/dark switchable |

Time behavior

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

Connection

| | |
|-----------------------|------------|
| Number of connections | 1 Piece(s) |
|-----------------------|------------|

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 |
| Recommended tightening torque for M3 fastening | 0.9 N·m |
| Recommended tightening torque for M4 fastening | 1.4 N·m |

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 |
| Approvals | c UL US |
| Standards applied | IEC 60947-5-2 |

Electrical connection

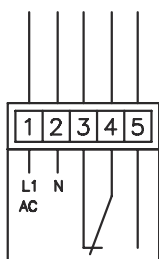
Connection 1

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

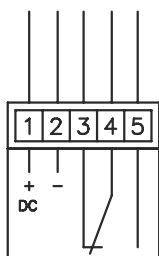
| Terminal | Assignment |
|----------|------------|
| 1 | + / L1 |
| 2 | - / N |
| 3 | OUT 1 |
| 4 | COM |
| 5 | OUT 2 |

Circuit diagrams

AC

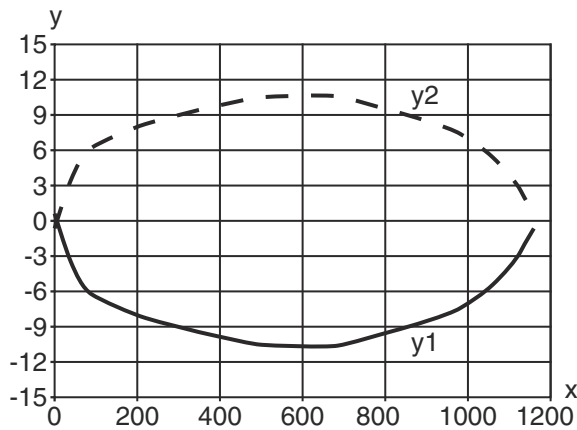


DC

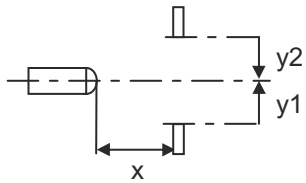


Diagrams

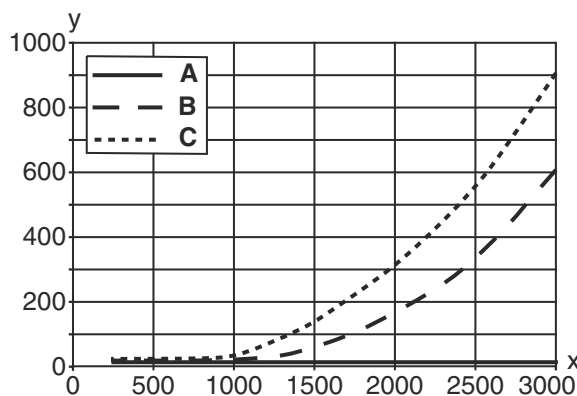
Typ. response behavior (white 90 %)



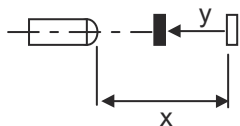
x Distance [mm]
y Misalignment [mm]



Typ. black/white behavior



x Range [mm]
y Reduction of range [mm]
A White 90%
B Gray 18%
C Black 6%



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.

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 |

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.