

# Technical data sheet

## Throughbeam photoelectric sensor transmitter

Part no.: 50130462

LS49C.UCH/TB



For illustration purposes only

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## Technical data

### Basic data

|                     |                       |
|---------------------|-----------------------|
| Series              | 49C                   |
| Operating principle | Throughbeam principle |
| Device type         | Transmitter           |

### Special version

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

### Optical data

|                          |                                            |
|--------------------------|--------------------------------------------|
| Operating range          | 0.5 ... 120 m (guaranteed operating range) |
| Operating range limit    | 0 ... 150 m (typical operating range)      |
| 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<br>Short circuit protected<br>Transient protection |
| Performance data            |                                                                                 |
| Supply voltage $U_B$        | 20 ... 250 V, AC/DC                                                             |
| Power consumption (with AC) | 1.5 V·A                                                                         |

### Time behavior

|                 |        |
|-----------------|--------|
| Readiness delay | 300 ms |
|-----------------|--------|

### Connection

|                       |                      |
|-----------------------|----------------------|
| Number of connections | 1 Piece(s)           |
| Connection 1          |                      |
| Function              | 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<br>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  | 3 Piece(s) |

### Environmental data

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

### Certifications

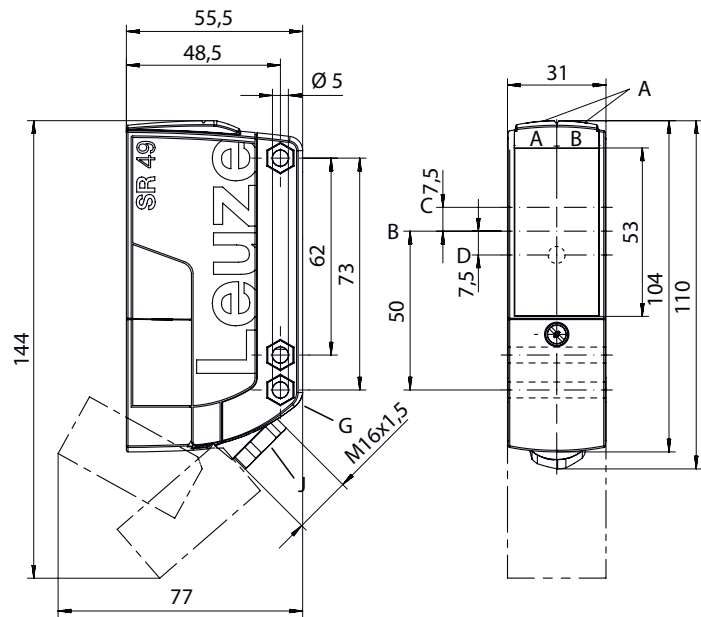
|                      |               |
|----------------------|---------------|
| Degree of protection | IP 67         |
| Protection class     | II            |
| Approvals            | c UL US       |
| Standards applied    | IEC 60947-5-2 |

### Classification

|                       |          |
|-----------------------|----------|
| Customs tariff number | 85365080 |
| ECLASS 5.1.4          | 27270901 |
| ECLASS 8.0            | 27270901 |
| ECLASS 9.0            | 27270901 |
| ECLASS 10.0           | 27270901 |
| ECLASS 11.0           | 27270901 |
| ECLASS 12.0           | 27270901 |
| ECLASS 13.0           | 27270901 |
| ECLASS 14.0           | 27270901 |
| ECLASS 15.0           | 27270901 |
| ETIM 5.0              | EC002716 |
| ETIM 6.0              | EC002716 |
| ETIM 7.0              | EC002716 |
| ETIM 8.0              | EC002716 |
| ETIM 9.0              | EC002716 |
| ETIM 10.0             | EC002716 |

Dimensioned drawings

All dimensions in millimeters



- AA Green LED  
AB Yellow LED  
B Optical axis  
C Transmitter
- D Yellow LED  
G Countersinking for SK nut M5, 4.2 mm deep  
J Cable entry with M16x1.5 screw fitting for Ø 5 ... 10mm

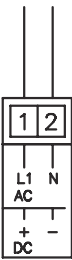
Electrical connection

Connection 1

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

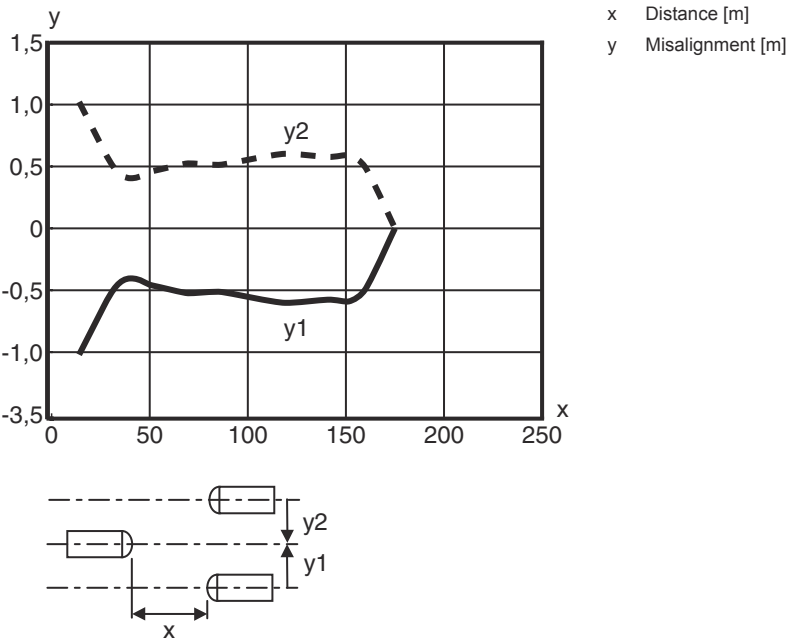
| Terminal | Assignment |
|----------|------------|
| 1        | + / L1     |
| 2        | - / N      |
| 3        | n.c.       |
| 4        | n.c.       |
| 5        | n.c.       |

Circuit diagrams



Diagrams

Typ. response behavior



Operation and display

| LED | Display                                                        | Meaning                   |
|-----|----------------------------------------------------------------|---------------------------|
| 1   | Green, continuous light                                        | Operational readiness     |
| 2   | Yellow, continuous light                                       | Operating voltage applied |
| 3   | Yellow, continuous light (alignment display behind lens cover) | Transmitted beam active   |

## Suitable receivers

|                                                                                   | Part no. | Designation      | Operating range<br>Operating range<br>limit | Description                                                                                                                                                                                                                                                                                                |
|-----------------------------------------------------------------------------------|----------|------------------|---------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 50130467 | LE49C.UCH/TS-TB  | 0.5 ... 120 m<br>0 ... 150 m                | Special version: Heating<br>Supply voltage: AC/DC<br>Digital switching outputs: 2 Piece(s)<br>Switching output 1: Relay, NC, Light switching<br>Switching output 2: Relay, NO, Light switching<br>Switching frequency: 25 Hz<br>Connection: Terminal, 5 -pin                                               |
|  | 50130465 | LE49C.UCH1/M4-TB | 0.5 ... 120 m<br>0 ... 150 m                | Special version: Heating<br>Supply voltage: AC/DC<br>Digital switching outputs: 1 Piece(s)<br>Switching output 1: MOSFET semiconductor, NO (normally open), Light/dark switchable<br>Switching frequency: 150 Hz<br>Connection: Terminal, 5 -pin<br>Operational controls: Teach button, 270° potentiometer |

## Part number code

Part designation: **AAA49Cd.EEfG/iJ-KL**

|               |                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>AAA49C</b> | <b>Operating principle / construction</b><br>PRK49C: Retro-reflective photoelectric sensor with polarization filter<br>HT49C: Diffuse reflection sensor with background suppression<br>LS49C: Throughbeam photoelectric sensor transmitter<br>LE49C: Throughbeam photoelectric sensor receiver                                                                                     |
| <b>d</b>      | <b>Light type</b><br>n/a: red light<br>I: infrared light                                                                                                                                                                                                                                                                                                                           |
| <b>EE</b>     | <b>Operating voltage</b><br>n/a: 10 ... 30 V, DC<br>UC: 20 ... 250V AC/DC (all-mains design)                                                                                                                                                                                                                                                                                       |
| <b>f</b>      | <b>Equipment</b><br>H: with heating<br>D: Depolarizing media<br>1: 270° potentiometer<br>8: activation input (activation with high signal)                                                                                                                                                                                                                                         |
| <b>iJ</b>     | <b>Switching output / Function / OUT1OUT2</b><br>2: NPN transistor output, light switching<br>N: NPN transistor output, dark switching<br>4: PNP transistor output, light switching<br>P: PNP transistor output, dark switching<br>W: warning output<br>TS: Relay, NC contact/NO contact<br>M4: Low impedance MOSFET semiconductor switching output, NO contact<br>X: pin not used |
| <b>KL</b>     | <b>Electrical connection</b><br>TB: Terminal block - terminal compartment with spring terminals (5 x 1.5 mm²)<br>n/a: cable, standard length 2000 mm<br>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](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<br>Fastening, at system: Through-hole mounting<br>Mounting bracket, at device: Screw type<br>Type of mounting device: Rigid<br>Material: Metal |

## Mounting technology - Rod mounts

|                                                                                     | Part no. | Designation  | Article         | Description                                                                                                                                                                                           |
|-------------------------------------------------------------------------------------|----------|--------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 50128380 | BTU 460M-D12 | Mounting system | Design of mounting device: Mounting system<br>Fastening, at system: For 12 mm rod<br>Mounting bracket, at device: Screw type<br>Type of mounting device: Adjustable, Turning, 360°<br>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.