# Technical data sheet

## Throughbeam photoelectric sensor transmitter

Part no.: 50147917

LS25CI.XR1/XX



For Illustration purposes only

**Contents**

**The Sensor People**

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# Technical data

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## Basic data

| | |
|---|---|
| **Series** | 25C |
| **Operating principle** | Throughbeam principle |
| **Device type** | Transmitter |
| **Application** | Detection of products in bag packaging |

## Optical data

| | |
|---|---|
| **Operating range** | 0 ... 180 m (guaranteed operating range) |
| **Operating range limit** | 0 ... 220 m (typical operating range) |
| **Light source** | LED, Infrared |
| **Wavelength** | 860 nm |
| **Transmitted-signal shape** | Pulsed |
| **LED group** | Exempt group (in acc. with EN 62471) |

## Electrical data

| | |
|---|---|
| **Protective circuit** | Polarity reversal protection |
| | Short circuit protected |
| **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 |

## Time behavior

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

## Connection

| | |
|---|---|
| **Number of connections** | 1 Piece(s) |
| **Connection 1** | |
| **Function** | Signal IN |
| | Voltage supply |
| **Type of connection** | Cable |
| **Cable length** | 2,000 mm |
| **Sheathing material** | PUR |
| **Cable color** | Black |
| **Number of conductors** | 4 -wire |
| **Wire cross section** | 0.2 mm² |

## Mechanical data

| | |
|---|---|
| **Dimension (W x H x L)** | 15 mm x 42.7 mm x 30 mm |
| **Housing material** | Plastic |
| **Plastic housing** | ABS |
| **Lens cover material** | Plastic |
| **Net weight** | 55 g |
| **Housing color** | Red |
| **Type of fastening** | Through-hole mounting with M4 thread |
| | Via optional mounting device |
| **Compatibility of materials** | ECOLAB |

## Operation and display

| | |
|---|---|
| **Operational controls** | 270° potentiometer |
| **Function of the operational control** | Sensitivity adjustment |

## Environmental data

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

## Certifications

| | |
|---|---|
| **Degree of protection** | IP 67 |
| | IP 69K |
| **Protection class** | III |
| **Approvals** | c UL US |
| **Standards applied** | IEC 60947-5-2 |

## Classification

| | |
|---|---|
| **Customs tariff number** | 85365019 |
| **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 |

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# Dimensioned drawings

All dimensions in millimeters



A   Green LED
B   Yellow LED
C   Optical axis
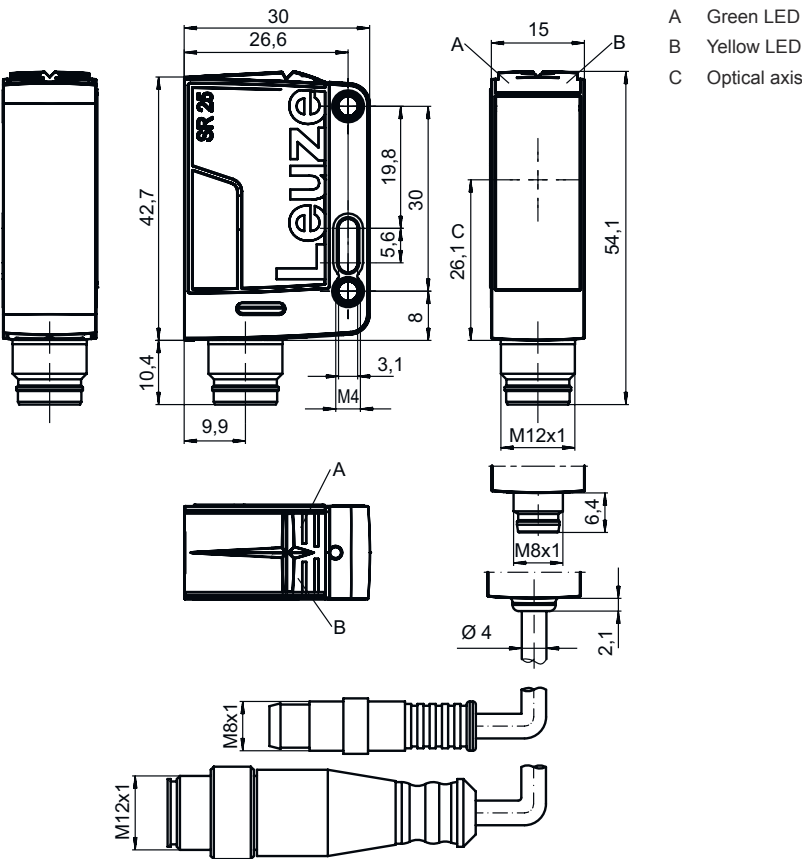
# Electrical connection

## Connection 1

| Function | Signal IN |
|---|---|
|  | Voltage supply |
| **Type of connection** | Cable |
| **Cable length** | 2,000 mm |
| **Sheathing material** | PUR |
| **Cable color** | Black |
| **Number of conductors** | 4 -wire |
| **Wire cross section** | 0.2 mm² |

| Conductor color | Conductor assignment |
|---|---|
| **Brown** | V+ |
| **White** | n.c. |
| **Blue** | GND |
| **Black** | n.c. |

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## Suitable receivers

| | Part no. | Designation | Operating range Operating range limit | Description |
|---|---|---|---|---|
| | 50147923 | LE25CI.XR1/2N | 0 ... 180 m<br>0 ... 220 m | Application: Detection of products in bag packaging<br>Supply voltage: DC<br>Digital switching outputs: 2 Piece(s)<br>Switching output 1: Transistor, NPN, Light switching<br>Switching output 2: Transistor, NPN, Dark switching<br>Switching frequency: 100 Hz<br>Connection: Cable, 2.000 mm, 4 -wire<br>Operational controls: 270° potentiometer |
| | 50147920 | LE25CI.XR1/4P | 0 ... 180 m<br>0 ... 220 m | Application: Detection of products in bag packaging<br>Supply voltage: DC<br>Digital switching outputs: 2 Piece(s)<br>Switching output 1: Transistor, PNP, Light switching<br>Switching output 2: Transistor, PNP, Dark switching<br>Switching frequency: 100 Hz<br>Connection: Cable, 2.000 mm, 4 -wire<br>Operational controls: 270° potentiometer |

## Part number code

Part designation: **AAA25C d EE-f.GGH/iJ-K**

| AAA25C | **Operating principle / construction**<br>HT25C: Diffuse reflection sensor with background suppression<br>PRK25C: Retro-reflective photoelectric sensor with polarization filter<br>LS25C: Throughbeam photoelectric sensor transmitter<br>LE25C: Throughbeam photoelectric sensor receiver<br>DRT25C: Dynamic reference diffuse sensor |
|---|---|
| d | **Light type**<br>n/a: red light<br>I: infrared light |
| EE | **Light source**<br>n/a: LED<br>PP: Power PinPoint® LED<br>L1: laser class 1<br>L2: laser class 2 |
| f | **Preset range (optional)**<br>n/a: operating range acc. to data sheet<br>xxxF: Preset range [mm] |
| GG | **Equipment**<br>A: Autocollimation principle (single lens)<br>S: small light spot<br>D: Detection of stretch-wrapped objects<br>X: extended model<br>HF: Suppression of HF illumination (LED)<br>XL: Extra long light spot<br>T: autocollimation principle (single lens) for highly transparent bottles without tracking<br>TT: autocollimation principle (single lens) for highly transparent bottles with tracking<br>F: Foreground suppression<br>R: greater operating range<br>SL: Slit diaphragm |
| H | **Operating range adjustment**<br>1: 270° potentiometer<br>2: multiturn potentiometer<br>3: teach-in via button<br>R: greater operating range |
| i | **Switching output/function OUT 1/IN: Pin 4 or black conductor**<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>X: pin not used<br>8: activation input (activation with high signal)<br>L: IO-Link interface (SIO mode: PNP light switching, NPN dark switching)<br>6: push-pull switching output, PNP light switching, NPN dark switching<br>G: Push-pull switching output, PNP dark switching, NPN light switching |

# Part number code

| | |
|---|---|
| **J** | **Switching output / function OUT 2/IN: pin 2 or white conductor** |
| | 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 |
| | X: pin not used |
| | 6: push-pull switching output, PNP light switching, NPN dark switching |
| | T: teach-in via cable |
| | G: Push-pull switching output, PNP dark switching, NPN light switching |
| | 8: activation input (activation with high signal) |
| **K** | **Electrical connection** |
| | n/a: cable, standard length 2000 mm, 4-wire |
| | 200-M12: cable, length 200 mm with M12 connector, 4-pin, axial (plug) |
| | M8: M8 connector, 4-pin (plug) |
| | M12: M12 connector, 4-pin (plug) |
| | 200-M8: cable, length 200 mm with M8 connector, 4-pin, axial (plug) |
| | M8.1: Snap-in, M8 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:** |
|---|
| ↳ Only for use in "class 2" circuits |

# Further information

- Light source: Average life expectancy 100,000 h at an ambient temperature of 25 °C

# Accessories

## Mounting technology - Mounting brackets

| | Part no. | Designation | Article | Description |
|---|---|---|---|---|
| | 50118543 | BT 300M.5 | Mounting bracket | Design of mounting device: Angle, L-shape<br>Fastening, at system: Through-hole mounting<br>Mounting bracket, at device: Screw type, Suited for M4 screws<br>Type of mounting device: Adjustable<br>Material: Stainless steel |

# Accessories

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## Mounting technology - Rod mounts

| | Part no. | Designation | Article | Description |
|---|---|---|---|---|
| | 50117829 | BTP 200M-D12 | Mounting system | Design of mounting device: Protection hood<br>Fastening, at system: For 12 mm rod<br>Mounting bracket, at device: Screw type<br>Type of mounting device: Clampable, Adjustable, Turning, 360°<br>Material: Metal |
| | 50117252 | BTU 300M-D12 | Mounting system | Design of mounting device: Mounting system<br>Fastening, at system: For 12 mm rod, Sheet-metal mounting<br>Mounting bracket, at device: Screw type, Suited for M4 screws<br>Type of mounting device: Clampable, 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. |