

## Technical data sheet

### Throughbeam photoelectric sensor transmitter

Part no.: 50150348

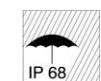
LS35CI.XR1/XX-M12



For illustration purposes only

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## Technical data

### Basic data

|                     |  |
|---------------------|--|
| Series              | 35C                                    |
| 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<br>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              | Voltage supply  |
| Type of connection    | Connector       |
| Thread size           | M12             |
| Type                  | Male            |
| Material              | Stainless steel |
| No. of pins           | 4 -pin          |
| Encoding              | A-coded         |

### Mechanical data

|                                 |  |
|---------------------------------|--|
| Dimension (W x H x L)           | 18.8 mm x 55.3 mm x 32.4 mm  |
| Housing material                | Stainless steel  |
| Material of operational control | Plastic (POM Hostaform C9021, copoly-ester Tritan TX1001), non-diffusive |
| Housing roughness               | $R_a \leq 0,8$ , Typical value for the stainless steel housing           |
| Stainless steel housing         | AISI 316L, DIN X2CrNiMo17132, W. No1.4404                                |
| Lens cover material             | Plastic (PMMA+) with scratch-resistant Indium protective coating         |
| Net weight                      | 120 g  |
| Housing color                   | Silver   |
| Type of fastening               | Through-hole mounting<br>Via optional mounting device                    |
| Compatibility of materials      | CleanProof+<br>ECOLAB<br>Johnson Diversey                                |

### Operation and display

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

### Environmental data

|                                |                                     |
|--------------------------------|-------------------------------------|
| Ambient temperature, operation | -40 ... 60 °C, (70 °C $\leq$ 15min) |
| Ambient temperature, storage   | -40 ... 70 °C                       |

### Certifications

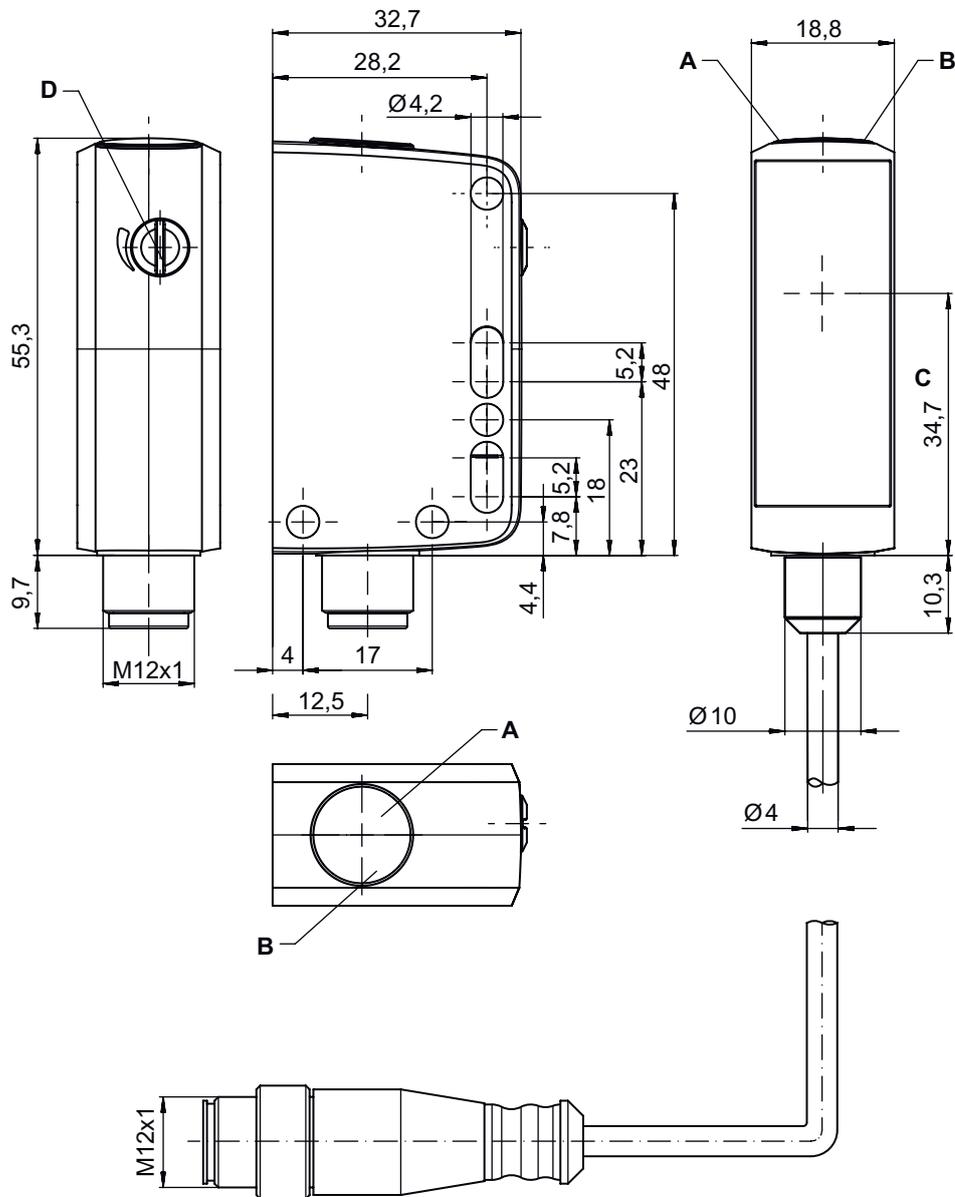
|                      |                          |
|----------------------|--------------------------|
| Degree of protection | IP 67<br>IP 68<br>IP 69K |
| Protection class     | III                      |
| Approvals            | c UL US                  |
| Standards applied    | IEC 60947-5-2            |

### 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 |
| ECLASS 16.0           | 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



- A Green LED
- B Yellow LED
- C Optical axis

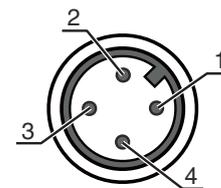
## Electrical connection

### Connection 1

|                    |                 |
|--------------------|-----------------|
| Function           | Voltage supply  |
| Type of connection | Connector       |
| Thread size        | M12             |
| Type               | Male            |
| Material           | Stainless steel |
| No. of pins        | 4 -pin          |
| Encoding           | A-coded         |

## Electrical connection

| Pin | Pin assignment |
|-----|----------------|
| 1   | V+             |
| 2   | n.c.           |
| 3   | GND            |
| 4   | n.c.           |



## Suitable receivers

|   | Part no. | Designation       | Operating range<br>Operating range<br>limit | Description  |
|---|----------|-------------------|---|--|
|  | 50150345 | LE35CI.XR1/LG-M12 | 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, Push-pull, IO-Link / light switching (PNP)/dark switching (NPN)<br>Switching output 2: Transistor, Push-pull, Dark switching (PNP)/light switching (NPN)<br>Switching frequency: 100 Hz<br>Interface: IO-Link<br>Connection: Connector, M12, Stainless steel, 4 -pin<br>Operational controls: 270° potentiometer |

## Part number code

Part designation: AAA35C d EE.GGH/IJ-K

|               |   |
|---------------|---|
| <b>AAA35C</b> | <b>Operating principle</b><br>LS35C: Throughbeam photoelectric sensor transmitter<br>LE35C: Throughbeam photoelectric sensor receiver<br>PRK35C: Retro-reflective photoelectric sensor with polarization filter<br>HT35C: Diffuse reflection sensor with background suppression<br>DRT35C: Dynamic reference diffuse sensor   |
| <b>d</b>      | <b>Light type</b><br>n/a: red light<br>l: infrared light  |
| <b>EE</b>     | <b>Light source</b><br>n/a: LED<br>PP: Power PinPoint® LED<br>L1: laser class 1   |
| <b>GG</b>     | <b>Equipment</b><br>A: Autocollimation principle (single lens)<br>D: Detection of stretch-wrapped objects<br>X: extended model<br>XL: Extra long light spot<br>TT: autocollimation principle (single lens) for highly transparent bottles with tracking<br>R: greater operating range<br>XXR: super power transmitter   |
| <b>H</b>      | <b>Operating range adjustment</b><br>1: 270° potentiometer<br>2: multiturn potentiometer<br>3: teach-in via button  |
| <b>i</b>      | <b>Switching output/function OUT 1/IN: Pin 4 or black conductor</b><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>4: PNP transistor output, light switching<br>6: push-pull switching output, PNP light switching, NPN dark switching<br>1: IO-Link / light switching (NPN) / dark switching (PNP) |

## Part number code

|          |   |
|----------|---|
| <b>J</b> | <b>Switching output / function OUT 2/IN: pin 2 or white conductor</b><br>T: teach-in via cable<br>G: Push-pull switching output, PNP dark switching, NPN light switching<br>X: pin not used<br>P: PNP transistor output, dark switching<br>6: push-pull switching output, PNP light switching, NPN dark switching |
|----------|---|

|          |  |
|----------|--|
| <b>K</b> | <b>Electrical connection</b><br>n/a: cable, standard length 2000 mm, 4-wire<br>200-M12: cable, length 200 mm with M12 connector, 4-pin, axial (plug)<br>M12: M12 connector, 4-pin (plug) |
|----------|--|

### Note

|  |  |
|--|--|
|  | ↪ A list with all available device types can be found on the Leuze website at <a href="http://www.leuze.com">www.leuze.com</a> . |
|--|--|

## Notes



### Observe intended use!

|   |   |
|---|---|
|  | ↪ This product is not a safety sensor and is not intended as personnel protection.<br>↪ The product may only be put into operation by competent persons.<br>↪ Only use the product in accordance with its intended use. |
|---|---|

## Further information

- Ambient temperature, operation: +70 °C permissible only briefly (≤ 15min)
- IP 69K only in combination with connector
- Light source: Average life expectancy 100,000h at an ambient temperature of 25 °C
- Sum of the output currents for both outputs 100 mA

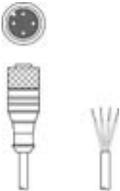
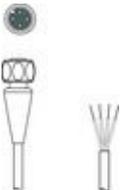
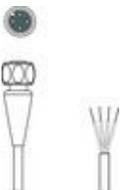
## Accessories

### Connection technology - Connection unit

|  | Part no. | Designation           | Article        | Description   |
|--|----------|-----------------------|----------------|---|
|  | 50144900 | MD 798i-11-82/L5-2222 | IO-Link master | Current consumption, max.: 11,000 mA<br>Interface: IO-Link, Automatic protocol detection, EtherNet IP, Modbus TCP, PROFINET<br>Connections: 12 Piece(s)<br>Sensor connections: 8 Piece(s)<br>Degree of protection: IP 67, IP 65, IP 69K |

## Accessories

### Connection technology - Connection cables

|   | Part no. | Designation            | Article          | Description  |
|---|----------|------------------------|------------------|--|
|  | 50130657 | KD U-M12-4A-P1-050     | Connection cable | Application: Oil and lubricant resistant<br>Connection 1: Connector, M12, Axial, Female, A-coded, 4 -pin<br>Connector, LED: No<br>Connection 2: Open end<br>Shielded: No<br>Cable length: 5,000 mm<br>Sheathing material: PUR                |
|  | 50148349 | KD U-M12-4A-T0-020 F+B | Connection cable | Application: Hygienic and wet areas, Chemical resistant<br>Connection 1: Connector, M12, Axial, Female, A-coded, 4 -pin<br>Connector, LED: No<br>Connection 2: Open end<br>Shielded: No<br>Cable length: 2,000 mm<br>Sheathing material: TPE |
|  | 50148350 | KD U-M12-4A-T0-050 F+B | Connection cable | Application: Chemical resistant, Hygienic and wet areas<br>Connection 1: Connector, M12, Axial, Female, A-coded, 4 -pin<br>Connector, LED: No<br>Connection 2: Open end<br>Shielded: No<br>Cable length: 5,000 mm<br>Sheathing material: TPE |

### 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 |

### Mounting technology - Rod mounts

|   | Part no. | Designation    | Article         | Description   |
|---|----------|----------------|-----------------|---|
|  | 50117252 | BTU 300M-D12   | Mounting system | Contains: 2x M4 x 25 screw, 2x M4 x 20 screw, 4x position washers<br>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                               |
|  | 50120425 | BTU 300M.5-D12 | Mounting system | Contains: 2x M4 x 25 screw, 2x M4 mounting nut, 2x M4 x 20 screw, 2x position washers<br>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: Stainless steel |

## Accessories

### Note



A list with all available accessories can be found on the Leuze website in the Download tab of the article detailed page.