

# Technical data sheet

## Throughbeam photoelectric sensor transmitter

Part no.: 50139690

LS25C/8X-M8



For illustration purposes only

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## Technical data

### Basic data

|                     |                       |
|---------------------|-----------------------|
| Series              | 25C                   |
| Operating principle | Throughbeam principle |
| Device type         | Transmitter           |

### Special version

|                 |                  |
|-----------------|------------------|
| Special version | Activation input |
|-----------------|------------------|

### Optical data

|                          |                                         |
|--------------------------|-----------------------------------------|
| Operating range          | 0 ... 25 m (guaranteed operating range) |
| Operating range limit    | 0 ... 30 m (typical operating range)    |
| Light source             | LED, Red                                |
| 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                            |

### Inputs

|                             |            |
|-----------------------------|------------|
| Number of activation inputs | 1 Piece(s) |
|-----------------------------|------------|

### Activation inputs

|                    |                     |
|--------------------|---------------------|
| Type               | Activation input    |
| Voltage type       | DC                  |
| Activation input 1 |                     |
| Assignment         | Connection 1, pin 4 |

### Time behavior

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

### Connection

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

### Connection 1

|                    |                |
|--------------------|----------------|
| Function           | Signal IN      |
|                    | Voltage supply |
| Type of connection | Connector      |
| Thread size        | M8             |
| Type               | Male           |
| Material           | PUR            |
| No. of pins        | 4 -pin         |

### 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                                     | 22 g                                 |
| Housing color                                  | Red                                  |
| Type of fastening                              | Through-hole mounting with M4 thread |
|                                                | Via optional mounting device         |
| Recommended tightening torque for M3 fastening | 0.9 N·m                              |
| Recommended tightening torque for M4 fastening | 1.4 N·m                              |
| Compatibility of materials                     | ECOLAB                               |

### Environmental data

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

### Certifications

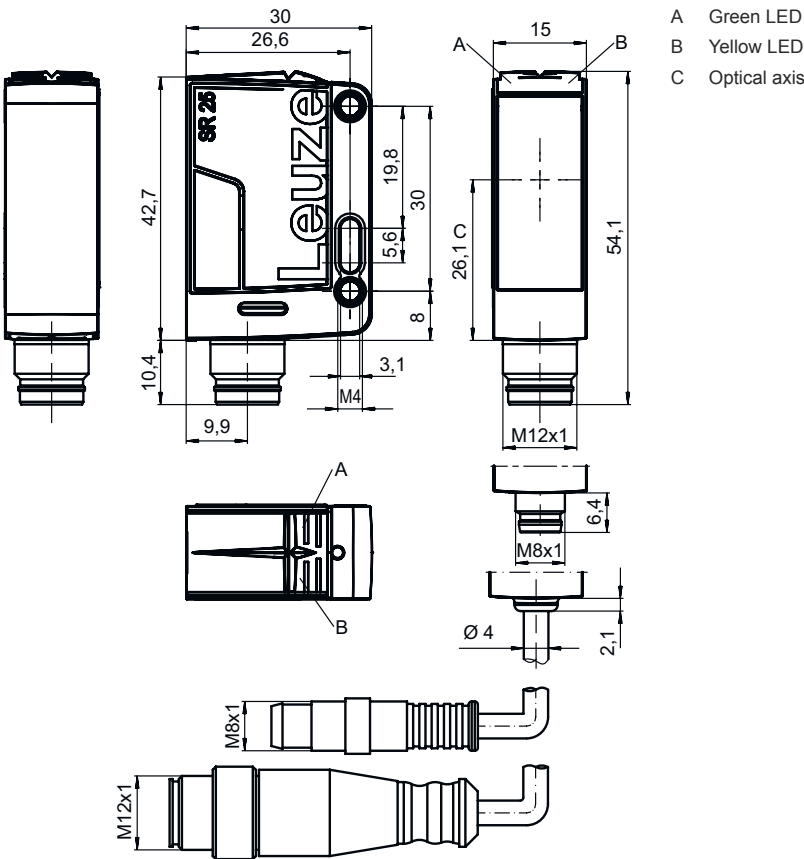
|                      |               |
|----------------------|---------------|
| Degree of protection | IP 67         |
|                      | IP 69K        |
| Protection class     | III           |
| Approvals            | c UL US       |
| Standards applied    | IEC 60947-5-2 |

### 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 |

Dimensioned drawings

All dimensions in millimeters

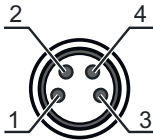


Electrical connection

Connection 1

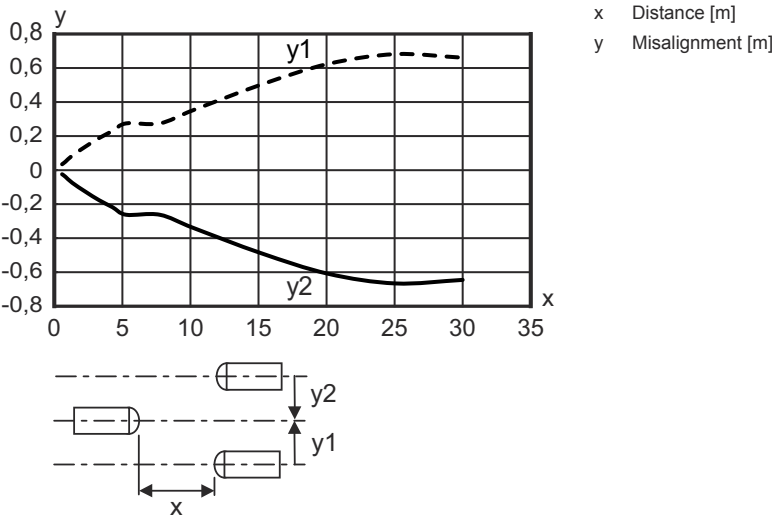
|                    |                |
|--------------------|----------------|
| Function           | Signal IN      |
|                    | Voltage supply |
| Type of connection | Connector      |
| Thread size        | M8             |
| Type               | Male           |
| Material           | PUR            |
| No. of pins        | 4 -pin         |

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



Diagrams

Typ. response behavior



Suitable receivers

|                                                                                     | Part no. | Designation | Operating range<br>Operating range<br>limit | Description                                                                                                                                                                                                                                           |
|-------------------------------------------------------------------------------------|----------|-------------|---------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 50139700 | LE25C/2N-M8 | 0 ... 25 m<br>0 ... 30 m                    | 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: 1,500 Hz<br>Connection: Connector, M8, PUR, 4 -pin |
|  | 50139699 | LE25C/4P-M8 | 0 ... 25 m<br>0 ... 30 m                    | Supply voltage: DC<br>Digital switching outputs: 2 Piece(s)<br>Switching output 1: Transistor, PNP, Light switching<br>Switching output 2: Transistor, NPN, Dark switching<br>Switching frequency: 1,500 Hz<br>Connection: Connector, M8, PUR, 4 -pin |

Part number code

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

|        |                                                                                                                                                                                                                                                                                                                                            |
|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AAA25C | <b>Operating principle / construction</b><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      | <b>Light type</b><br>n/a: red light<br>I: infrared light                                                                                                                                                                                                                                                                                   |
| EE     | <b>Light source</b><br>n/a: LED<br>PP: Power PinPoint® LED<br>L1: laser class 1<br>L2: laser class 2                                                                                                                                                                                                                                       |

## Part number code

|           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>f</b>  | <b>Preset range (optional)</b><br>n/a: operating range acc. to data sheet<br>xxxF: Preset range [mm]                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>GG</b> | <b>Equipment</b><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                                                     |
| <b>H</b>  | <b>Operating range adjustment</b><br>1: 270° potentiometer<br>2: multiturn potentiometer<br>3: teach-in via button<br>R: greater operating range                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>i</b>  | <b>Switching output/function OUT 1/IN: Pin 4 or black conductor</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>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 |
| <b>J</b>  | <b>Switching output / function OUT 2/IN: pin 2 or white conductor</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>X: pin not used<br>6: push-pull switching output, PNP light switching, NPN dark switching<br>T: teach-in via cable<br>G: Push-pull switching output, PNP dark switching, NPN light switching<br>8: activation input (activation with high signal)                             |
| <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>M8: M8 connector, 4-pin (plug)<br>M12: M12 connector, 4-pin (plug)<br>200-M8: cable, length 200 mm with M8 connector, 4-pin, axial (plug)<br>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](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.

## Notes

### 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

### Connection technology - Connection cables

|                                                                                    | Part no. | Designation       | Article          | Description                                                                                                                                                              |
|------------------------------------------------------------------------------------|----------|-------------------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 50130850 | KD U-M8-4A-V1-050 | Connection cable | Connection 1: Connector, M8, Axial, Female, 4 -pin<br>Connector, LED: No<br>Connection 2: Open end<br>Shielded: No<br>Cable length: 5.000 mm<br>Sheathing material: PVC  |
|                                                                                    | 50130871 | KD U-M8-4W-V1-050 | Connection cable | Connection 1: Connector, M8, Angled, Female, 4 -pin<br>Connector, LED: No<br>Connection 2: Open end<br>Shielded: No<br>Cable length: 5.000 mm<br>Sheathing material: PVC |

### 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                                                                                                                                                                                                      |
|-------------------------------------------------------------------------------------|----------|--------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 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 |

## Accessories

|                                                                                   | Part no. | Designation  | Article         | Description                                                                                                                                                                                                                                                  |
|-----------------------------------------------------------------------------------|----------|--------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 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.