

## Technical data sheet

### Throughbeam photoelectric sensor receiver

Part no.: 50117688

LE5/2N



For illustration purposes only

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## Technical data

### Basic data

|                     |                       |
|---------------------|-----------------------|
| Series              | 5                     |
| Operating principle | Throughbeam principle |
| Device type         | Receiver              |

### Optical data

|                 |                 |
|-----------------|-----------------|
| Operating range | see transmitter |
|-----------------|-----------------|

### 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 ... 15 mA                            |

### Outputs

|                                     |            |
|-------------------------------------|------------|
| Number of digital switching outputs | 2 Piece(s) |
|-------------------------------------|------------|

### Switching outputs

|                         |                                           |
|-------------------------|-------------------------------------------|
| Type                    | Digital switching output                  |
| Voltage type            | DC                                        |
| Switching current, max. | 100 mA                                    |
| Switching voltage       | high: $\geq(U_B - 2V)$<br>low: $\leq 2 V$ |

### Switching output 1

|                     |                 |
|---------------------|-----------------|
| Switching element   | Transistor, NPN |
| Switching principle | Light switching |

### Switching output 2

|                     |                 |
|---------------------|-----------------|
| Switching element   | Transistor, NPN |
| Switching principle | Dark switching  |

### Time behavior

|                     |        |
|---------------------|--------|
| Switching frequency | 500 Hz |
| Response time       | 1 ms   |
| Readiness delay     | 300 ms |

### Connection

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

### Connection 1

|                      |                              |
|----------------------|------------------------------|
| Function             | Signal OUT<br>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 mm <sup>2</sup>          |

### Mechanical data

|                                                |                           |
|------------------------------------------------|---------------------------|
| Dimension (W x H x L)                          | 14 mm x 32.5 mm x 20.2 mm |
| Housing material                               | Plastic                   |
| Plastic housing                                | ABS                       |
| Lens cover material                            | Plastic                   |
| Net weight                                     | 70 g                      |
| Housing color                                  | Black<br>Red              |
| Recommended tightening torque for M3 fastening | 0.9 N·m                   |

### Operation and display

|                 |            |
|-----------------|------------|
| Type of display | LED        |
| Number of LEDs  | 2 Piece(s) |

### Environmental data

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

### Certifications

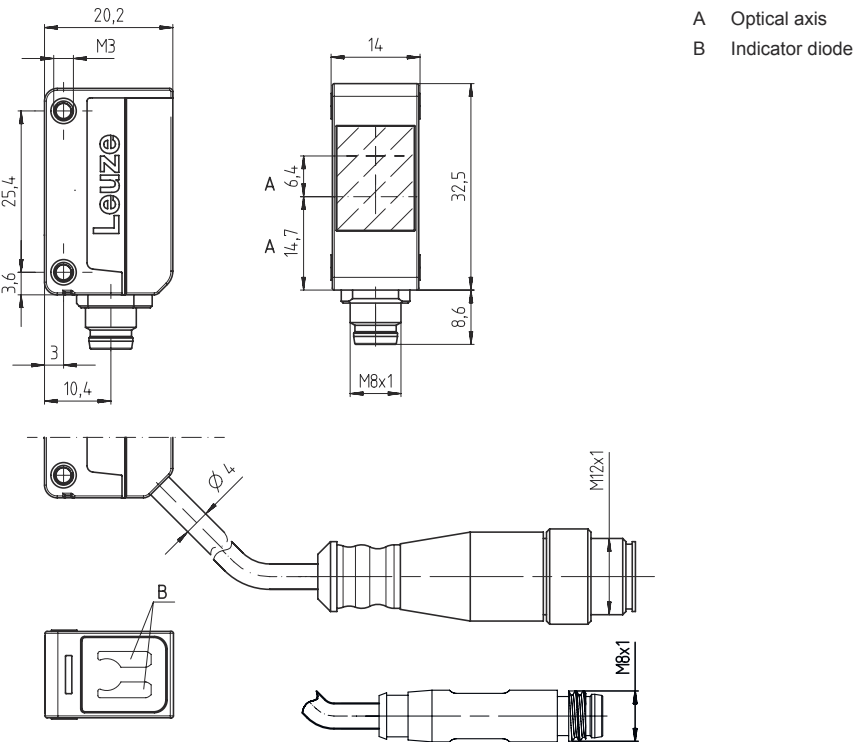
|                      |               |
|----------------------|---------------|
| Degree of protection | IP 67         |
| Protection class     | III           |
| Approvals            | c UL US       |
| Standards applied    | IEC 60947-5-2 |

### 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



Electrical connection

Connection 1

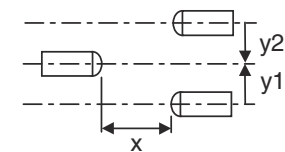
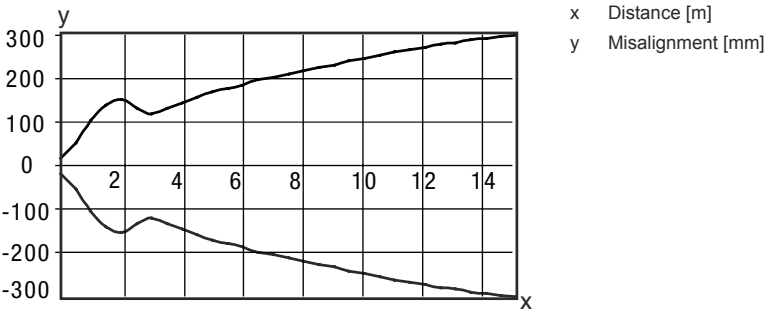
|                      |                |
|----------------------|----------------|
| Function             | Signal OUT     |
|                      | Voltage supply |
| Type of connection   | Cable          |
| Cable length         | 2,000 mm       |
| Sheathing material   | PUR            |
| Cable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

Conductor colorConductor assignment

|       |       |
|-------|-------|
| Brown | V+    |
| White | OUT 2 |
| Blue  | GND   |
| Black | OUT 1 |

Diagrams

Typ. response behavior



Operation and display

| LED | Display                  | Meaning               |
|-----|--------------------------|-----------------------|
| 1   | Yellow, continuous light | Light path free       |
|     | Yellow, flashing         | No function reserve   |
| 2   | Green, continuous light  | Operational readiness |

Suitable transmitters

|  | Part no. | Designation | Operating range<br>Operating range<br>limit | Description                                                                                                                                                                                                                   |
|--|----------|-------------|---------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 50132418 | LS5         | 0 ... 10 m<br>0 ... 15 m                    | Operating range limit: 0 ... 15 m<br>Light source: LED, Red<br>Supply voltage: DC<br>Connection: Cable, 2,000 mm, 3 -wire                                                                                                     |
|  | 50117694 | LS5/9D      | 0 ... 10 m<br>0 ... 15 m                    | Special version: Deactivation input<br>Operating range limit: 0 ... 15 m<br>Light source: LED, Red<br>Supply voltage: DC<br>Deactivation inputs: 2 Piece(s)<br>Connection: Cable, 2,000 mm, 4 -wire                           |
|  | 50130543 | LS5I/9D-P1  | 0 ... 2.4 m<br>0 ... 3 m                    | Special version: Deactivation input, Small light spot (S)<br>Operating range limit: 0 ... 3 m<br>Light source: LED, Infrared<br>Supply voltage: DC<br>Deactivation inputs: 2 Piece(s)<br>Connection: Cable, 2,000 mm, 4 -wire |

## Part number code

Part designation: **AAA5d.EE/ ff-GG-hh-I**

|             |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>AAA5</b> | <b>Operating principle / construction</b><br>HT5: diffuse reflection sensor with background suppression<br>LS5: throughbeam photoelectric sensor transmitter<br>LE5: throughbeam photoelectric sensor receiver<br>ET5: energetic diffuse reflection sensor<br>FT5: diffuse reflection sensor with fading<br>PRK5: retro-reflective photoelectric sensor with polarization filter                                        |
| <b>d</b>    | <b>Light type</b><br>n/a: red light<br>I: infrared light                                                                                                                                                                                                                                                                                                                                                                |
| <b>EE</b>   | <b>Equipment</b><br>1: adjustable range<br>M: for semi-transparent objects<br>H: For the detection of transparent films<br>X: reinforced fading<br>3: teach-in via button<br>R: combination product for reflector DTKS 30x50                                                                                                                                                                                            |
| <b>ff</b>   | <b>Switching output / function / OUT1OUT2 (OUT1 = pin 4, OUT2 = pin 2)</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>9: deactivation input (deactivation with high signal)<br>D: Deactivation input (deactivation with low signal)                        |
| <b>GG</b>   | <b>Version</b><br>P1: narrow light beam                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>hh</b>   | <b>Electrical connection</b><br>n/a: cable, standard length 2000 mm, 4-wire<br>M8: M8 connector, 4-pin (plug)<br>M8.3: M8 connector, 3-pin (plug)<br>200-M8: cable, length 200 mm with M8 connector, 4-pin, axial (plug)<br>200-M8.3: cable, length 200 mm with M8 connector, 3-pin, axial (plug)<br>200-M12: cable, length 200 mm with M12 connector, 4-pin, axial (plug)<br>M8.1: Snap-in, M8 connector, 4-pin (plug) |
| <b>I</b>    | <b>Parameterization</b><br>P1: different configuration                                                                                                                                                                                                                                                                                                                                                                  |

### 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.

### For UL applications:



- ⚠ Only for use in "class 2" circuits
- ⚠ These proximity switches shall be used with UL Listed Cable assemblies rated 30V, 0.5A min, in the field installation, or equivalent (categories: CYJV/ CYJV7 or PVVA/PVVA7)

## Further information

- Sum of the output currents for both outputs, 50 mA for ambient temperatures > 40 °C

## Accessories

### Mounting technology - Mounting brackets

|                                                                                   | Part no. | Designation   | Article             | Description                                                                                                                                                                                                                   |
|-----------------------------------------------------------------------------------|----------|---------------|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 50118542 | BT 200M.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 M3 screws<br>Type of mounting device: Adjustable<br>Material: Stainless steel |
|   | 50124651 | BT 205M-10SET | Mounting device set | Contains: 10x<br>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                                                                                                                                                                                                                                                                                                                       |
|-------------------------------------------------------------------------------------|----------|--------------|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 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                                                                                                                  |
|  | 50117255 | BTU 200M-D12 | Mounting system | Contains: 2x M3 x 16 screw, 2 M3 x 20 screws, 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 M3 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.