

Technical data sheet

Throughbeam photoelectric sensor

Part no.: 50130543

LS5I/9D-P1

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- Electrical connection
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Figure can vary



Technical data

Basic data

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

Special version

| | |
|-----------------|--|
| Special version | Deactivation input Small light spot (S) |
|-----------------|--|

Optical data

| | |
|--------------------------|--------------------------------------|
| Operating range | Guaranteed operating range |
| Operating range | 0 ... 2.4 m |
| Operating range limit | Typical operating range |
| Operating range limit | 0 ... 3 m |
| Light source | LED, Infrared |
| LED light wavelength | 850 nm |
| LED group | Exempt group (in acc. with EN 62471) |
| Transmitted-signal shape | Pulsed |

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 ... 15 mA |

Inputs

| | |
|-------------------------------|------------|
| Number of deactivation inputs | 2 Piece(s) |
|-------------------------------|------------|

Deactivation inputs

| | |
|--|-----|
| Deactivation input 1 Active switching state | Low |
|--|-----|

| | |
|--|------|
| Deactivation input 2 Active switching state | High |
|--|------|

Timing

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

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 mm ² |

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 Red |

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

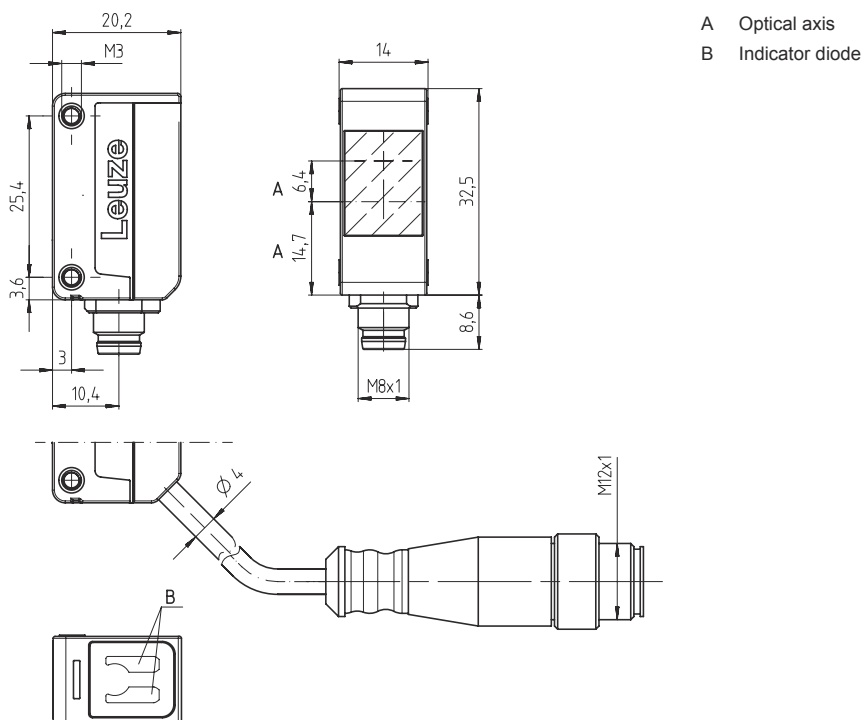
| | |
|----------------------|---------------|
| Degree of protection | IP 67 |
| Protection class | III |
| Certifications | c UL US |
| Standards applied | IEC 60947-5-2 |

Classification

| | |
|-----------------------|----------|
| Customs tariff number | 85365019 |
| eCl@ss 5.1.4 | 27270901 |
| eCl@ss 8.0 | 27270901 |
| eCl@ss 9.0 | 27270901 |
| eCl@ss 10.0 | 27270901 |
| eCl@ss 11.0 | 27270901 |
| ETIM 5.0 | EC002716 |
| ETIM 6.0 | EC002716 |
| ETIM 7.0 | EC002716 |

Dimensioned drawings

All dimensions in millimeters



A Optical axis
B Indicator diode

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 mm ² |

Conductor color







Conductor assignment

| | |
|-------|-----|
| Brown | V+ |
| White | In2 |
| Blue | GND |
| Black | In1 |

Operation and display

| LED | Display | Meaning |
|-----|--------------------------|-------------------------|
| 1 | Green, continuous light | Operational readiness |
| 2 | Yellow, continuous light | Transmitted beam active |

Suitable receivers

| | Part no. | Designation | Article | Description |
|--|----------|-------------|---|--|
|  | 50132420 | LE5/2 | Throughbeam photoelectric sensor receiver | Operating range limit: 0 ... 12 m Supply voltage: DC Digital switching outputs: 1 Piece(s) Switching output 1: Transistor, NPN, Light switching Switching frequency: 500 Hz Connection: Cable, 2,000 mm, 3 -wire |
|  | 50117688 | LE5/2N | Throughbeam photoelectric sensor receiver | Operating range limit: 0 ... 15 m Supply voltage: DC Digital switching outputs: 2 Piece(s) Switching output 1: Transistor, NPN, Light switching Switching output 2: Transistor, NPN, Dark switching Switching frequency: 500 Hz Connection: Cable, 2,000 mm, 4 -wire |
|  | 50132417 | LE5/4 | Throughbeam photoelectric sensor receiver | Operating range limit: 0 ... 12 m Supply voltage: DC Digital switching outputs: 1 Piece(s) Switching output 1: Transistor, PNP, Light switching Switching frequency: 500 Hz Connection: Cable, 2,000 mm, 3 -wire |
|  | 50117691 | LE5/4P | Throughbeam photoelectric sensor receiver | Operating range limit: 0 ... 15 m Supply voltage: DC Digital switching outputs: 2 Piece(s) Switching output 1: Transistor, PNP, Light switching Switching output 2: Transistor, PNP, Dark switching Switching frequency: 500 Hz Connection: Cable, 2,000 mm, 4 -wire |
|  | 50135925 | LE5/N | Throughbeam photoelectric sensor receiver | Operating range limit: 0 ... 12 m Supply voltage: DC Digital switching outputs: 1 Piece(s) Switching output 1: Transistor, NPN, Dark switching Switching frequency: 500 Hz Connection: Cable, 2,000 mm, 3 -wire |
|  | 50135926 | LE5/P | Throughbeam photoelectric sensor receiver | Operating range limit: 0 ... 12 m Supply voltage: DC Digital switching outputs: 1 Piece(s) Switching output 1: Transistor, PNP, Dark switching Switching frequency: 500 Hz Connection: Cable, 2,000 mm, 3 -wire |

Part number code

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

| | |
|-------------|--|
| AAA5 | Operating principle / construction HT5: diffuse reflection sensor with background suppression LS5: throughbeam photoelectric sensor transmitter LE5: throughbeam photoelectric sensor receiver ET5: energetic diffuse reflection sensor FT5: diffuse reflection sensor with fading PRK5: retro-reflective photoelectric sensor with polarization filter |
| d | Light type n/a: red light I: infrared light |
| EE | Equipment 1: adjustable range M: for semi-transparent objects H: for the detection of transparent films X: reinforced fading 3: teach-in via button R: combination product for reflector DTKS 30x50 |

Part number code

| | |
|-----------|---|
| ff | Switching output / function / OUT1OUT2 (OUT1 = pin 4, OUT2 = pin 2) 2: NPN transistor output, light switching N: NPN transistor output, dark switching 4: PNP transistor output, light switching P: PNP transistor output, dark switching X: pin not used 9: deactivation input (deactivation with high signal) D: deactivation input (deactivation with low signal) |
| GG | Version P1: narrow light beam |
| hh | Electrical connection n/a: cable, standard length 2000 mm, 4-wire M8: M8 connector, 4-pin (plug) M8.3: M8 connector, 3-pin (plug) 200-M8: cable, length 200 mm with M8 connector, 4-pin, axial (plug) 200-M8.3: cable, length 200 mm with M8 connector, 3-pin, axial (plug) 200-M12: cable, length 200 mm with M12 connector, 4-pin, axial (plug) M8.1: Snap-in, M8 connector, 4-pin (plug) |
| I | Configuration P1: different configuration |

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
- ⌘ 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



- Typ. operating range limit: max. attainable range without function reserve
- Operating range: recommended range with function reserve
- Sum of the output currents for both outputs, 50 mA for ambient temperatures > 40 °C
- For an optimum performance install the transmitter at a distance of max. 1200 mm to the receiver. The distance between the receivers must not be less than 100 mm.

Accessories

Mounting technology - Mounting brackets

| | Part no. | Designation | Article | Description |
|---|----------|---------------|---------------------|---|
|  | 50118542 | BT 200M.5 | Mounting bracket | Design of mounting device: Angle, L-shape Fastening, at system: Through-hole mounting Mounting bracket, at device: Screw type, Suited for M3 screws Type of mounting device: Adjustable Material: Stainless steel |
|  | 50124651 | BT 205M-10SET | Mounting device set | Design of mounting device: Angle, L-shape Fastening, at system: Through-hole mounting Mounting bracket, at device: Screw type Type of mounting device: Rigid Material: Metal |

Mounting technology - Rod mounts

| | Part no. | Designation | Article | Description |
|---|----------|--------------|-----------------|--|
|  | 50117829 | BTP 200M-D12 | Mounting system | Design of mounting device: Protection hood Fastening, at system: For 12 mm rod Mounting bracket, at device: Screw type Type of mounting device: Clampable, Adjustable, Turning, 360° Material: Metal |
|  | 50117255 | BTU 200M-D12 | Mounting system | Design of mounting device: Mounting system Fastening, at system: For 12 mm rod, Sheet-metal mounting Mounting bracket, at device: Screw type, Suited for M3 screws Type of mounting device: Clampable, Adjustable, Turning, 360° 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.