

## Technical data sheet

### Throughbeam photoelectric sensor

Part no.: 50122699

LS328/XX-M12

#### Contents

- Technical data
- Dimensioned drawings
- Electrical connection
- Diagrams
- Operation and display
- Part number code
- Notes
- Further information
- Accessories



Figure can vary



## Technical data

### Basic data

|                     |                       |
|---------------------|-----------------------|
| Series              | 328                   |
| Operating principle | Throughbeam principle |
| Device type         | Transmitter           |

### Optical data

|                          |                                      |
|--------------------------|--------------------------------------|
| Operating range          | Guaranteed operating range           |
| Operating range          | 0 ... 10 m                           |
| Operating range limit    | Typical operating range              |
| Operating range limit    | 0 ... 15 m                           |
| Light source             | LED, Red                             |
| LED light wavelength     | 620 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 ... 15 mA                            |

### Timing

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

### Connection

#### Connection 1

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

### Mechanical data

|                         |                            |
|-------------------------|----------------------------|
| Thread size             | M18 x 1 mm                 |
| Dimension (Ø x L)       | 18 mm x 46 mm              |
| Housing material        | Plastic<br>Stainless steel |
| Stainless steel housing | V2A                        |
| Plastic housing         | ABS                        |
| Lens cover material     | Plastic                    |
| Net weight              | 20 g                       |
| Housing color           | Black<br>Silver            |

### Operation and display

|                 |            |
|-----------------|------------|
| Type of display | LED        |
| Number of LEDs  | 1 Piece(s) |

### Environmental data

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

### Certifications

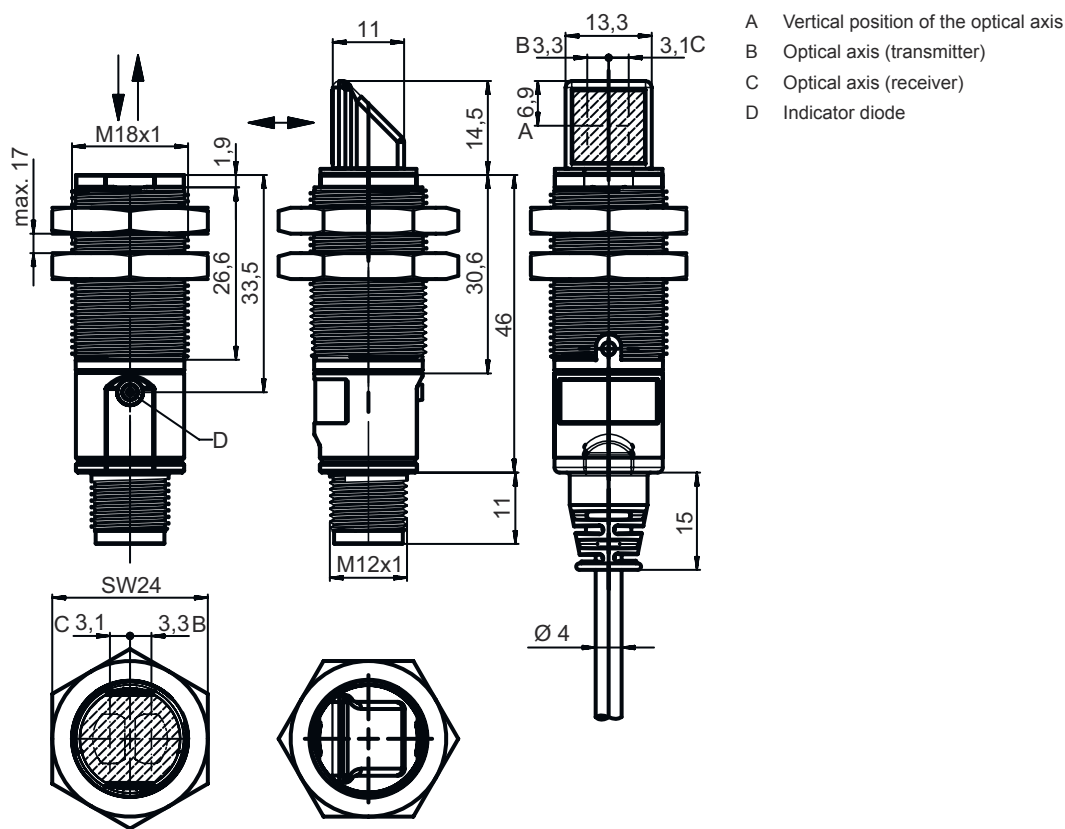
|                      |               |
|----------------------|---------------|
| Degree of protection | IP 67         |
| Protection class     | III           |
| Certifications       | c UL US       |
| Standards applied    | IEC 60947-5-2 |

### 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

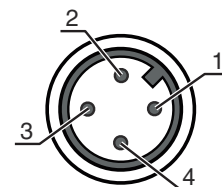


## Electrical connection

### Connection 1

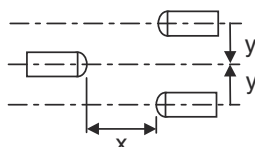
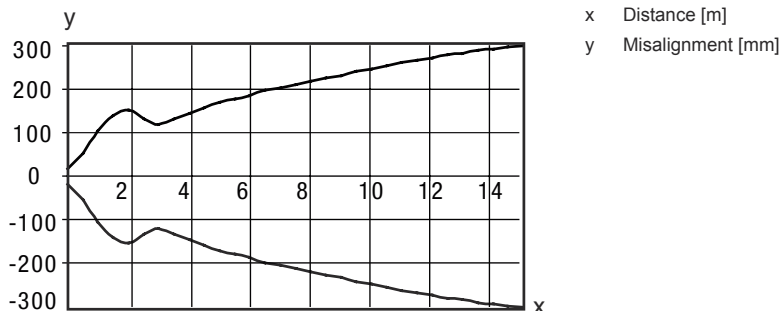
|                    |                |
|--------------------|----------------|
| Function           | Voltage supply |
| Type of connection | Connector      |
| Thread size        | M12            |
| Type               | Male           |
| Material           | Plastic        |
| No. of pins       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

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



# Diagrams

## Typ. response behavior



## Operation and display

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

## Part number code


Part designation: **XXX328BY-AAAF.BB/CC-DDD**

|               |   |
|---------------|---|
| <b>XXX328</b> | <p><b>Operating principle</b><br/>                     PRK: retro-reflective photoelectric sensor with polarization filter<br/>                     ET: energetic diffuse reflection sensor<br/>                     FT: diffuse reflection sensor with fading<br/>                     LE: throughbeam photoelectric sensor receiver<br/>                     LS: throughbeam photoelectric sensor transmitter</p> |
| <b>Y</b>      | <p><b>Light type</b><br/>                     n/a: red light<br/>                     I: infrared light</p>   |
| <b>AAAF</b>   | <p><b>Preset range (optional)</b><br/>                     n/a: operating range acc. to data sheet<br/>                     xxxF: preset range [mm]</p>   |
| <b>BB</b>     | <p><b>Equipment</b><br/>                     n/a: axial optics<br/>                     W: 90° angular optics<br/>                     3: teach-in via button</p>   |



## Part number code

|            |  |
|------------|--|
| <b>CC</b>  | <b>Switching output / function (OUT1 = pin 4, OUT2 = pin 2):</b><br>4: PNP transistor output, light switching<br>P: PNP transistor output, dark switching<br>2: NPN transistor output, light switching<br>N: NPN transistor output, dark switching<br>9: input for transmitter deactivation (deactivation with HIGH signal)<br>D: input for transmitter deactivation (deactivation with LOW signal)<br>X: pin not used |
| <b>DDD</b> | <b>Electrical connection</b><br>n/a: cable, standard length 2000 mm, 4-wire<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

|   |   |
|---|---|
|  | <b>Observe intended use!</b>  |
|  | ⓘ 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. |

### For UL applications:




|  |   |
|--|---|
|  | ⓘ For UL applications, use is only permitted in Class 2 circuits in accordance with the NEC (National Electric Code).<br>ⓘ 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


### Connection technology - Connection cables

|   | Part no. | Designation        | Article          | Description   |
|---|----------|--------------------|------------------|---|
| <br><br> | 50130652 | KD U-M12-4A-V1-050 | Connection cable | Connection 1: Connector, M12, Axial, Female, A-coded, 4 -pin<br>Connection 2: Open end<br>Shielded: No<br>Cable length: 5,000 mm<br>Sheathing material: PVC |


## Accessories

|  | Part no. | Designation        | Article          | Description  |
|--|----------|--------------------|------------------|--|
|  | 50130690 | KD U-M12-4W-V1-050 | Connection cable | Connection 1: Connector, M12, Angled, Female, A-coded, 4 -pin<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  |
|--|----------|-------------|------------------|--|
|  | 50113548 | BT D18M.5   | Mounting bracket | Diameter, inner: 18 mm<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: Stainless steel |

## Mounting technology - Rod mounts

|  | Part no. | Designation  | Article         | Description  |
|--|----------|--------------|-----------------|--|
|  | 50117490 | BTU D18M-D12 | Mounting system | Design of mounting device: Mounting system<br>Fastening, at system: Through-hole mounting<br>Mounting bracket, at device: Screw type<br>Type of mounting device: Clampable, Adjustable, Turning, 360°<br>Material: Metal |

## Mounting technology - Other

|  | Part no.    | Designation | Article   | Description   |
|--|-------------|-------------|-----------|---|
|  | 50126631 ** | BT 328M     | Fastening | Design of mounting device: Mounting clamp<br>Fastening, at system: For 18 mm rod, Through-hole mounting<br>Mounting bracket, at device: Screw type<br>Type of mounting device: Turning, 360°<br>Material: Stainless steel |

\*\* Included in delivery contents

### Note



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