



**Part no.: 50122702**  
**LS328/9D-M12**  
**Throughbeam photoelectric sensor**  
**transmitter**



Figure can vary

## Contents

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

## Technical data

| <b>Basic data</b>             |   |
|-------------------------------|---|
| Series                        | 328   |
| Operating principle           | Throughbeam principle                                   |
| Device type                   | Transmitter   |
| <b>Special design</b>         |   |
| Special design                | Deactivation input                                      |
| <b>Optical data</b>           |   |
| 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)                    |
| <b>Electrical data</b>        |   |
| Protective circuit            | Polarity reversal protection<br>Short circuit protected |
| <b>Performance data</b>       |   |
| Supply voltage $U_B$          | 10 ... 30 V , DC , Incl. residual ripple                |
| Residual ripple               | 0 ... 15 % , From $U_B$                                 |
| Open-circuit current          | 0 ... 15 mA   |
| <b>Inputs</b>                 |   |
| Number of deactivation inputs | 2 Piece(s)  |
| <b>Deactivation inputs</b>    |   |
| <b>Deactivation input 1</b>   |   |
| Active switching state        | Low   |
| <b>Deactivation input 2</b>   |   |
| Active switching state        | High  |
| <b>Timing</b>                 |   |
| Readiness delay               | 300 ms  |
| <b>Connection</b>             |   |
| <b>Connection 1</b>           |   |
| Type of connection            | Connector   |
| Function                      | Signal IN<br>Voltage supply                             |
| Thread size                   | M12   |
| Type                          | Male  |
| Material                      | Plastic   |
| No. of pins                   | 4 -pin  |
| Encoding                      | A-coded   |
| <b>Mechanical data</b>        |   |

**Part no.: 50122702 – LS328/9D-M12 – Throughbeam photoelectric sensor**

|                     |  |
|---------------------|--|
| Thread size         | M18 x 1 mm                             |
| Dimension (Ø x L)   | 18 mm x 46 mm                          |
| Housing material    | Plastic<br>Stainless steel , V2A , 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**

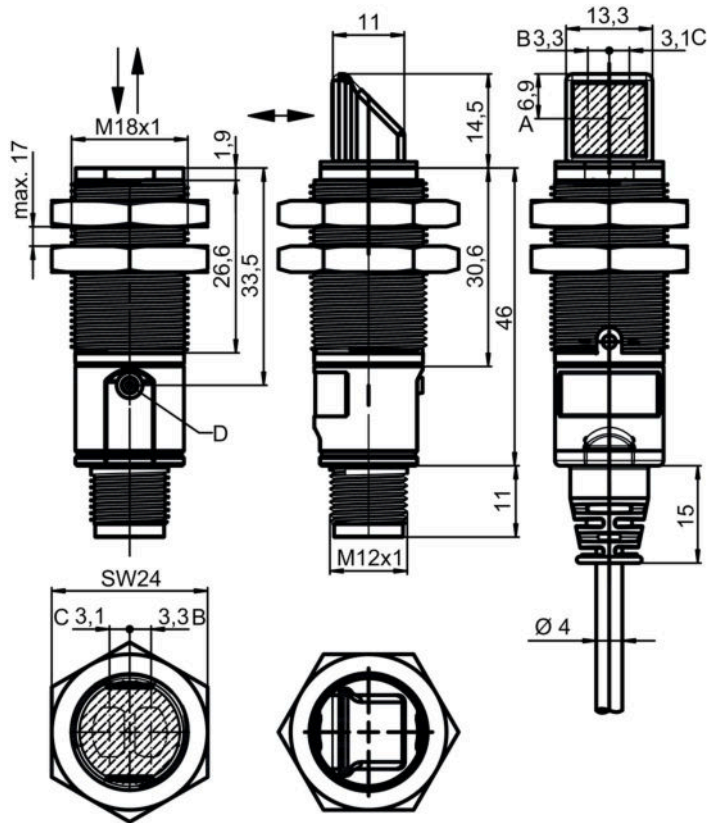
|                      |               |
|----------------------|---------------|
| Degree of protection | IP 67         |
| Protection class     | III           |
| Certifications       | c UL US       |
| Standards applied    | IEC 60947-5-2 |

**Classification**

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

## Dimensioned drawings

All dimensions in millimeters

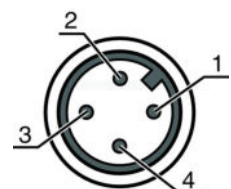


- A Vertical position of the optical axis
- B Optical axis (transmitter)
- C Optical axis (receiver)
- D Indicator diode

## Electrical connection

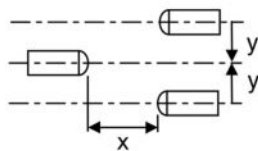
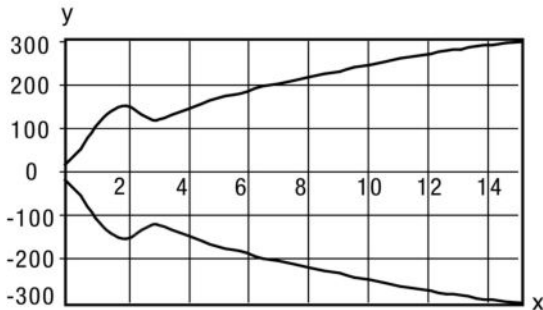
| Connection 1       |                             |
|--------------------|-----------------------------|
| Type of connection | Connector                   |
| Function           | Signal IN<br>Voltage supply |
| Thread size        | M12                         |
| Type               | Male                        |
| Material           | Plastic                     |
| No. of pins        | 4 -pin                      |
| Encoding           | A-coded                     |

| Pin | Pin assignment |
|-----|----------------|
| 1   | V+             |
| 2   | In2            |
| 3   | GND            |
| 4   | In1            |



## Diagrams

Typ. response behavior





x Distance [m]  
y Misalignment [mm]

## Operation and display

LEDs

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

## Suitable receivers

|   | Part no. | Designation  | Article                                   | Description   |
|---|----------|--------------|---|---|
|  | 50122711 | LE328/2N-M12 | Throughbeam photoelectric sensor receiver | Operating range limit: 0 ... 15 m<br>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: 500 Hz<br>Connection: Connector, M12, Plastic, 4 -pin |
|  | 50122709 | LE328/4P-M12 | Throughbeam photoelectric sensor receiver | Operating range limit: 0 ... 15 m<br>Supply voltage: DC<br>Digital switching outputs: 2 Piece(s)<br>Switching output 1: Transistor, PNP, Light switching<br>Switching output 2: Transistor, PNP, Dark switching<br>Switching frequency: 500 Hz<br>Connection: Connector, M12, Plastic, 4 -pin |

## Part number code

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

## Part no.: 50122702 – LS328/9D-M12 – Throughbeam photoelectric sensor

|        |   |
|--------|---|
| XXX328 | <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   |
| Y      | <b>Light type:</b><br>n/a: red light<br>I: infrared light   |
| AAAF   | <b>Preset range (optional):</b><br>n/a: operating range acc. to data sheet<br>XXXX: preset range [mm]   |
| BB     | <b>Equipment:</b><br>n/a: axial optics<br>W: 90° angular optics<br>3: teach-in via button   |
| CC     | <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 |
| DDD    | <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 electronic 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:


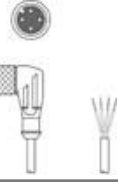
- For UL applications, use is only permitted in Class 2 circuits in accordance with the NEC (National Electric Code).
- These proximity switches shall be used with UL Listed Cable assemblies rated 30V, 0.5A min, in the field installation, or equivalent (categories: CYJV/CYJV7 or PVVA/PVVA7)

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


Part no.: 50122702 – LS328/9D-M12 – Throughbeam photoelectric sensor

## Accessories


### Connection technology - Connection cables

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

#### Note

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