

## Technical data sheet

### Throughbeam photoelectric sensor receiver

Part no.: 50147133

LE36.1/NX-M12



For illustration purposes only

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## Technical data

### Basic data

|                     |                       |
|---------------------|-----------------------|
| Series              | 36                    |
| Operating principle | Throughbeam principle |
| Device type         | Receiver              |

### Optical data

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

### Electrical data

|                    |                              |
|--------------------|------------------------------|
| Protective circuit | Polarity reversal protection |
|                    | Short circuit protected      |
|                    | Transient protection         |

### 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                            |

### Outputs

|                                     |            |
|-------------------------------------|------------|
| Number of digital switching outputs | 1 Piece(s) |
|-------------------------------------|------------|

### Switching outputs

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

### Switching output 1

|                     |                     |
|---------------------|---------------------|
| Assignment          | Connection 1, pin 4 |
| Switching element   | Transistor, NPN     |
| Switching principle | Dark switching      |

### Time behavior

|                     |         |
|---------------------|---------|
| Switching frequency | 300 Hz  |
| Response time       | 1.66 ms |
| Readiness delay     | 300 ms  |

### Connection

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

### Connection 1

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

### Mechanical data

|                                                |                              |
|------------------------------------------------|------------------------------|
| Dimension (W x H x L)                          | 20.5 mm x 76.3 mm x 44 mm    |
| Housing material                               | Plastic                      |
| Plastic housing                                | PC-PBT                       |
| Lens cover material                            | Plastic / PMMA               |
| Net weight                                     | 60 g                         |
| Housing color                                  | Black                        |
| Type of fastening                              | Through-hole mounting        |
|                                                | Via optional mounting device |
| Recommended tightening torque for M3 fastening | 0.9 N·m                      |
| Recommended tightening torque for M4 fastening | 1.4 N·m                      |

### Operation and display

|                      |                    |
|----------------------|--------------------|
| Type of display      | LED                |
| Number of LEDs       | 2 Piece(s)         |
| Operational controls | 270° potentiometer |

### Environmental data

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

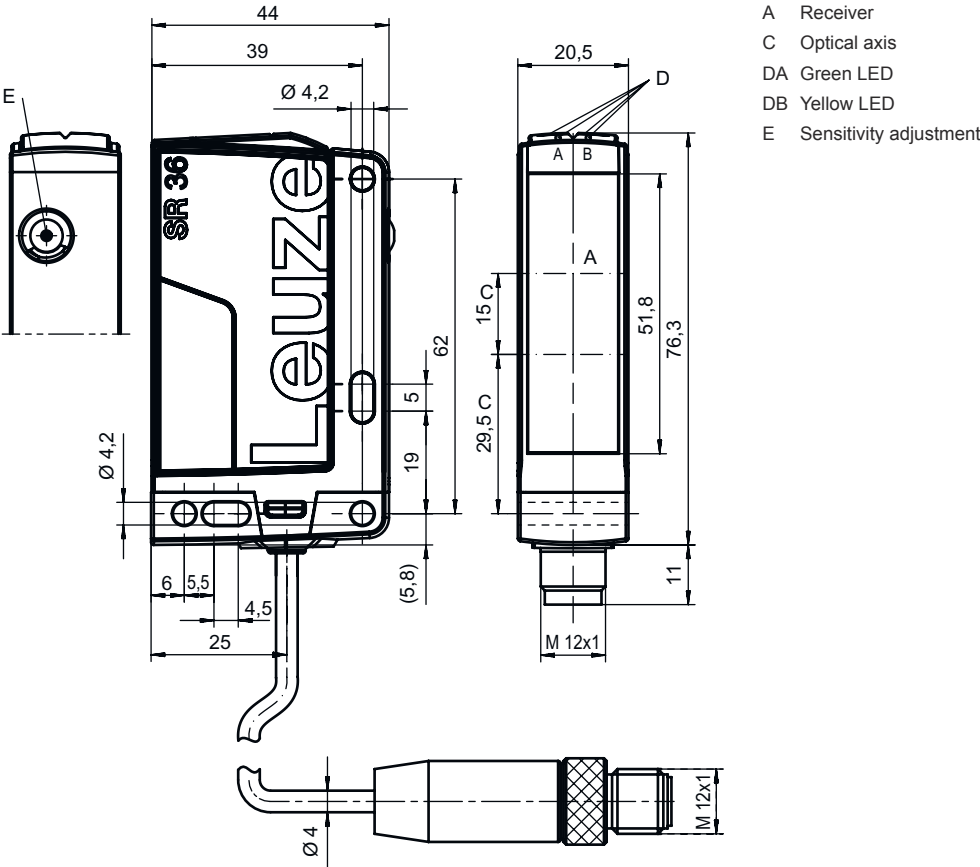
### Certifications

|                      |               |
|----------------------|---------------|
| 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 |
| ETIM 5.0              | EC002716 |
| ETIM 6.0              | EC002716 |
| ETIM 7.0              | EC002716 |
| ETIM 8.0              | EC002716 |
| ETIM 9.0              | EC002716 |
| ETIM 10.0             | EC002716 |

All dimensions in millimeters

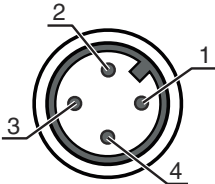


Electrical connection

Connection 1

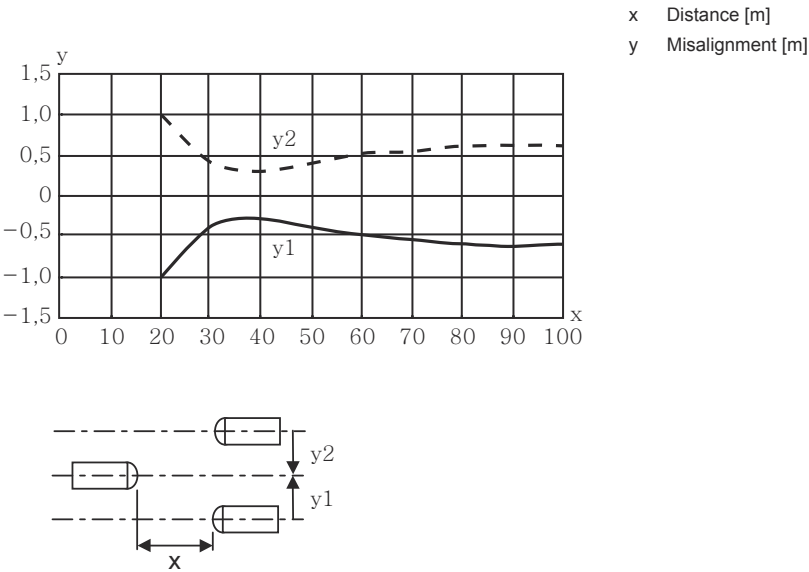
|                    |                |
|--------------------|----------------|
| Function           | Signal OUT     |
|                    | Voltage supply |
| Type of connection | Connector      |
| Thread size        | M12            |
| Type               | Male           |
| Material          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

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



Diagrams

Typ. response behavior



Operation and display

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

Suitable transmitters

|  | Part no. | Designation | Operating range<br>Operating range<br>limit | Description                                                                                                                       |
|--|----------|-------------|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
|  | 50147127 | LS36/XX-M12 | 0.5 ... 80 m<br>0 ... 100 m                 | Operating range limit: 0 ... 100 m<br>Light source: LED, Red<br>Supply voltage: DC<br>Connection: Connector, M12, Plastic, 4 -pin |

Part number code

Part designation: AAA36 D.E/FG-K

|       |                                                                                                                                                                                                                                                                                            |
|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AAA36 | <b>Operating principle / construction</b><br>HT36: Diffuse reflection sensor with background suppression<br>LS36: Throughbeam photoelectric sensor transmitter<br>LE36: Throughbeam photoelectric sensor receiver<br>PRK36: Retro-reflective photoelectric sensor with polarization filter |
| D     | <b>Light type</b><br>n/a: red light<br>I: infrared light                                                                                                                                                                                                                                   |
| E     | <b>Equipment</b><br>n/a: standard<br>1: 270° potentiometer<br>D: Depolarizing media                                                                                                                                                                                                        |

## Part number code

|    |                                                                                                                                                                                                                                                                 |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FG | <b>Switching output / Function</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                         |
| K  | <b>Electrical connection</b><br>n/a: cable, standard length 2000 mm, 3-wire<br>200-M8: cable, length 200 mm with M8 connector, 4-pin, axial (plug)<br>200-M12: cable, length 200 mm with M12 connector, 4-pin, axial (plug)<br>M12: M12 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.

### 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)

## Further information

- Response time: For short decay times, an ohmic load of approx. 5kOhm is recommended

## 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>Connector, LED: No<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>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                                                                                                                                                                              |
|-----------------------------------------------------------------------------------|----------|-------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 50105315 | BT 46       | Mounting device | 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                                                                                                                                                                                                                                                  |
|-------------------------------------------------------------------------------------|----------|--------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 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.