

## Technical data sheet

### Fork photoelectric sensor

Part no.: 50152662

GSM04/4.K0-1000

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For illustration purposes only



## Technical data

### Basic data

|                      |                                   |
|----------------------|-----------------------------------|
| Series               | 04                                |
| Mounting type        | K-type                            |
| Principle of physics | Optical                           |
| Application          | Detection of small parts (opaque) |

### Characteristic parameters

|      |           |
|------|-----------|
| MTTF | 942 years |
|------|-----------|

### Optical data

|                          |               |
|--------------------------|---------------|
| Light source             | LED, Infrared |
| Wavelength               | 940 nm        |
| Transmitted-signal shape | Pulsed        |

### Measurement data

|                     |                 |
|---------------------|-----------------|
| Repeatability       | < 0.01 mm       |
| Minimum object size | 0,8 mm x 1,2 mm |

### Electrical data

|                    |                              |
|--------------------|------------------------------|
| Protective circuit | Polarity reversal protection |
|--------------------|------------------------------|

#### Performance data

|                      |                        |
|----------------------|------------------------|
| Supply voltage $U_B$ | 5 ... 24 V, DC         |
| Residual ripple      | 0 ... 10 %, From $U_B$ |
| Open-circuit current | 0 ... 15 mA            |
| Switching hysteresis | 50 $\mu$ m             |

#### Outputs

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

#### Switching outputs

|                         |                                            |
|-------------------------|--------------------------------------------|
| Type                    | Digital switching output                   |
| Voltage type            | DC                                         |
| Switching current, max. | 50 mA                                      |
| Switching voltage       | high: $\geq (U_B - 2V)$<br>low: $\leq 2 V$ |

#### Switching output 1

|                     |                           |
|---------------------|---------------------------|
| Assignment          | Connection 1, conductor 3 |
| Switching element   | Transistor, PNP           |
| Switching principle | Light/dark switchable     |

### Time behavior

|                                             |            |
|---------------------------------------------|------------|
| Switching frequency                         | 3,000 Hz   |
| Response time with interrupted light beam   | 20 $\mu$ s |
| Response time with uninterrupted light beam | 80 $\mu$ s |

### Connection

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

#### Connection 1

|                      |                              |
|----------------------|------------------------------|
| Function             | Signal OUT<br>Voltage supply |
| Type of connection   | Cable                        |
| Cable length         | 1,000 mm                     |
| Sheathing material   | PVC                          |
| Number of conductors | 4 -wire                      |
| Wire cross section   | 0.09 mm <sup>2</sup>         |

### Mechanical data

|                       |                        |
|-----------------------|------------------------|
| Design                | Fork                   |
| Mouth width           | 6 mm                   |
| Mouth depth           | 8.5 mm                 |
| Dimension (W x H x L) | 25.4 mm x 7 mm x 21 mm |
| Housing material      | Plastic                |
| Plastic housing       | PC-ABS                 |
| Lens cover material   | Plastic                |
| Net weight            | 15 g                   |
| Housing color         | Black                  |
| Type of fastening     | Through-hole mounting  |

### Operation and display

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

### Environmental data

|                                |               |
|--------------------------------|---------------|
| Ambient temperature, operation | -25 ... 55 °C |
| Ambient temperature, storage   | -30 ... 80 °C |

### Certifications

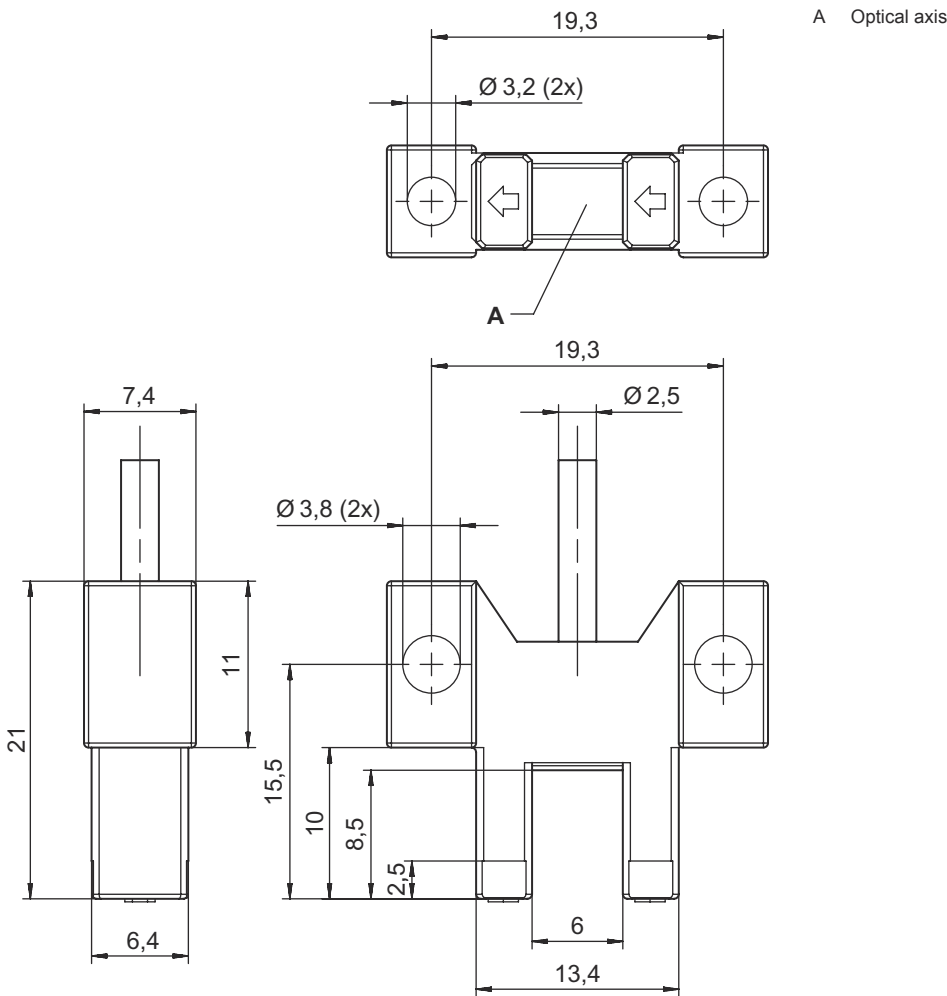
|                      |               |
|----------------------|---------------|
| Degree of protection | IP 64         |
| Protection class     | III           |
| Standards applied    | IEC 60947-5-2 |

### Classification

|                       |          |
|-----------------------|----------|
| Customs tariff number | 85365019 |
| ECLASS 5.1.4          | 27270909 |
| ECLASS 8.0            | 27270909 |
| ECLASS 9.0            | 27270909 |
| ECLASS 10.0           | 27270909 |
| ECLASS 11.0           | 27270909 |
| ECLASS 12.0           | 27270909 |
| ECLASS 13.0           | 27270909 |
| ECLASS 14.0           | 27270909 |
| ECLASS 15.0           | 27270909 |
| ETIM 5.0              | EC002720 |
| ETIM 6.0              | EC002720 |
| ETIM 7.0              | EC002720 |
| ETIM 8.0              | EC002720 |
| ETIM 9.0              | EC002720 |
| ETIM 10.0             | EC002720 |

Dimensioned drawings

All dimensions in millimeters



Electrical connection

Connection 1

|                      |                |
|----------------------|----------------|
| Function             | Signal OUT     |
|                      | Voltage supply |
| Type of connection   | Cable          |
| Cable length         | 1,000 mm       |
| Sheathing material   | PVC            |
| Cable color          | Black          |
| Number of conductors | 4 -wire        |
| Wire cross section   | 0.09 mm²       |

Conductor color

Conductor assignment

|       |     |
|-------|-----|
| Brown | V+  |
| Blue  | GND |
| Black | OUT |
| White | IN  |

## Operation and display

| LED | Display               | Meaning                                      |
|-----|-----------------------|----------------------------------------------|
| 1   | Red, continuous light | Light beam interrupted (light switching)     |
|     | Off                   | Light beam not interrupted (light switching) |
|     | Off                   | Light beam not interrupted (dark switching)  |
|     | Red, continuous light | Light beam interrupted (dark switching)      |

## Part number code

Part designation: AAAAA/BCC.DE-FFFF

|       |                                                                                                                                                                                                                                                                                                                                                               |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AAAAA | <b>Operating principle / construction</b><br>GSM02: miniature fork through-beam photoelectric sensor, aperture 6 mm, aperture depth 5.7 mm<br>GSM04: miniature fork through-beam photoelectric sensor, aperture 6 mm, aperture depth 8.5 mm<br>GSM06: Miniature fork throughbeam photoelectric sensor, slot width 6 mm, slot depth 8.5 (integrated connector) |
| CC    | <b>Switching output / Function</b><br>4: PNP transistor output, light switching (input = $U_B$ )/dark switching (input = open)<br>2: NPN transistor output, light switching (input = $U_B$ )/dark switching (input = open)                                                                                                                                    |
| D     | <b>Assembly type</b><br>L: L-Type<br>F: F-Type<br>T: T-Type<br>R: R-Type<br>K: K-Type<br>Y: Y-Type<br>U: U-Type                                                                                                                                                                                                                                               |
| E     | <b>LED display when the light beam is not interrupted</b><br>1: Red continuous light<br>0: Off                                                                                                                                                                                                                                                                |
| FFFF  | <b>Electrical connection</b><br>N/a: Connector (2 mm pitch), 4-pin<br>1000: PVC cable, standard length 1000 mm, 4-wire                                                                                                                                                                                                                                        |

### 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.

### NOTE



- ↪ Do not connect the input (IN) to ground (GND) in dark switching mode
- ↪ Max. tightening torque for nuts 0.5 Nm.