

Technical data sheet

Fork photoelectric sensor

Part no.: 50156897

GSM02/2.F1-3000

Contents

- Technical data
- Dimensioned drawings
- Electrical connection
- Operation and display
- Part number code
- Notes



For illustration purposes only



Technical data

Basic data

Series	02
Mounting type	F-type
Principle of physics	Optical
Application	Detection of small parts (opaque)

Characteristic parameters

MTTF	942 years
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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 Short circuit protected
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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 μ m

Outputs

Number of digital switching outputs	1 Piece(s)
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Switching outputs

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

Switching output 1

Assignment	Connection 1, conductor 3
Switching element	Transistor, NPN
Switching principle	Light/dark switchable

Time behavior

Switching frequency	3,000 Hz
Response time with interrupted light beam	20 μ s
Response time with uninterrupted light beam	80 μ s

Connection

Number of connections	1 Piece(s)
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Connection 1

Function	Signal OUT Voltage supply
Type of connection	Cable
Cable length	3,000 mm
Sheathing material	PVC
Cable color	Black
Number of conductors	4 -wire
Wire cross section	0.09 mm ²

Mechanical data

Design	Fork
Mouth width	6 mm
Mouth depth	5.7 mm
Dimension (W x H x L)	13.7 mm x 12 mm x 12 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

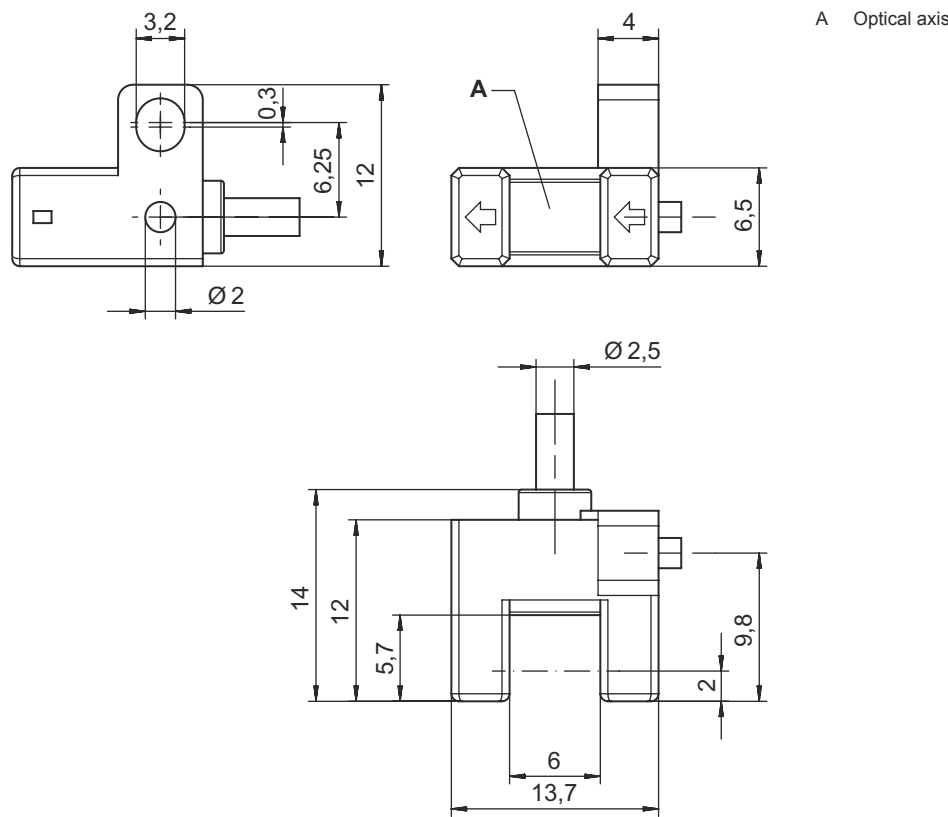
Degree of protection	IP 64
Protection class	III
Standards applied	IEC 60947-5-2

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
ECLASS 16.0	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	3,000 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 not interrupted (light switching)
	Off	Light beam interrupted (light switching)
	Off	Light beam interrupted (dark switching)

Operation and display

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

Part number code

Part designation: **AAAAA/BCC.DE-FFFF**

AAAAA	Operating principle / construction GSM02: miniature fork through-beam photoelectric sensor, aperture 6 mm, aperture depth 5.7 mm GSM04: miniature fork through-beam photoelectric sensor, aperture 6 mm, aperture depth 8.5 mm GSM06: Miniature fork throughbeam photoelectric sensor, slot width 6 mm, slot depth 8.5 (integrated connector)
CC	Switching output / Function 4: PNP transistor output, light switching (input = U_B)/dark switching (input = open) 2: NPN transistor output, light switching (input = U_B)/dark switching (input = open)
D	Assembly type L: L-Type F: F-Type T: T-Type R: R-Type K: K-Type Y: Y-Type U: U-Type
E	LED display when the light beam is not interrupted 1: Red continuous light 0: Off
FFFF	Electrical connection N/a: Connector (2 mm pitch), 4-pin 1000: PVC cable, standard length 1000 mm, 4-wire 3000: PVC cable, length 3000 mm, 4-wire

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.

NOTE



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