



DATA SHEET

WF30-95B410

WF  
Fork sensors

**SICK** Sensor Intelligence



Illustration may differ

# FORK SENSORS

## WF30-95B410

### ORDERING INFORMATION

| Type        | part no. |
|-------------|----------|
| WF30-95B410 | 6028446  |

Further device versions and accessories at [www.sick.com/WF](http://www.sick.com/WF)



### DETAILED TECHNICAL DATA

#### FEATURES

|                                 |                                                                 |
|---------------------------------|-----------------------------------------------------------------|
| Functional principle            | Optical detection principle                                     |
| Dimensions (W x H x D)          | 10 mm x 60 mm x 110 mm                                          |
| Fork width                      | 30 mm                                                           |
| Fork depth                      | 95 mm                                                           |
| Light source                    | LED, Infrared light                                             |
| Label detection                 | ✓                                                               |
| Minimum detectable object (MDO) | 0.2 mm                                                          |
| Adjustment                      | Plus/minus button (Sensitivity, light/dark switching, key lock) |
| Teach-in mode                   | —                                                               |
| Output function                 | Light/darkswitching, selectable via button                      |
| Safety-related parameters       |                                                                 |
|                                 | MTTF <sub>D</sub> 97 years                                      |
|                                 | DC <sub>avg</sub> 0 %                                           |

#### ELECTRONICS

|                            |                                                    |
|----------------------------|----------------------------------------------------|
| Supply voltage             | 10 V DC ... 30 V DC                                |
| Ripple                     | < 10 %                                             |
| Current consumption        | 40 mA                                              |
| Initialization time        | 100 ms                                             |
| Switching frequency        | 10 kHz                                             |
| Response time              | ≤ 100 µs                                           |
| Stability of response time | ± 20 µs                                            |
| Jitter                     | 40 µs                                              |
| Switching output           | PNP/NPN                                            |
| Switching output (voltage) | PNP: HIGH = U <sub>v</sub> ≤ 2 V / LOW approx. 0 V |

<sup>1)</sup> Reference voltage DC 50 V.

|                          |                                                                                                                     |
|--------------------------|---------------------------------------------------------------------------------------------------------------------|
|                          | NPN: HIGH = approx. $U_V$ / LOW $\leq 2$ V                                                                          |
| Switching mode           | Light/dark switching                                                                                                |
| Output current $I_{max}$ | 100 mA                                                                                                              |
| Protection class         | III <sup>1)</sup>                                                                                                   |
| Circuit protection       | $U_V$ connections, reverse polarity protected<br>Output Q short-circuit protected<br>Interference pulse suppression |
| Connection type          | Male connector M8, 4-pin                                                                                            |

<sup>1)</sup> Reference voltage DC 50 V.

## MECHANICS

|                  |                                      |
|------------------|--------------------------------------|
| Housing material | Aluminum                             |
| Weight           | Approx. 36 g ... 160 g <sup>1)</sup> |

<sup>1)</sup> Depending on fork width.

## AMBIENT DATA

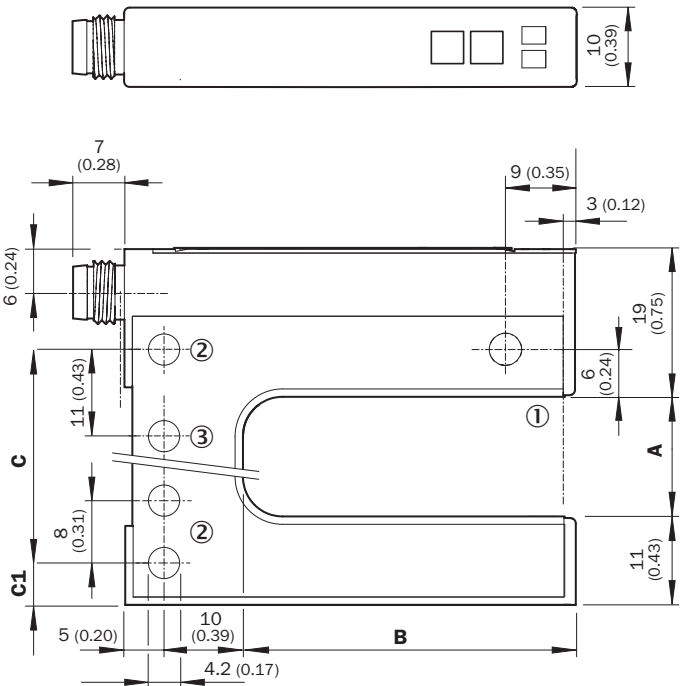
|                               |                                 |
|-------------------------------|---------------------------------|
| Ambient operating temperature | -20 °C ... +60 °C <sup>1)</sup> |
| Ambient temperature, storage  | -30 °C ... +80 °C               |
| Ambient light immunity        | $\leq 10,000$ lx                |
| Shock load                    | According to EN 60068-2-27      |
| Enclosure rating              | IP65                            |
| UL File No.                   | NRKH.E191603                    |

<sup>1)</sup> Do not bend below 0 °C.

## CERTIFICATES

|                                                     |   |
|-----------------------------------------------------|---|
| EU declaration of conformity                        | ✓ |
| UK declaration of conformity                        | ✓ |
| ACMA declaration of conformity                      | ✓ |
| Moroccan declaration of conformity                  | ✓ |
| China RoHS                                          | ✓ |
| China Compulsory Product Certification (CCC) exempt | ✓ |
| cULus certificate                                   | ✓ |
| Photobiological safety (IEC EN 62471)               | ✓ |

DIMENSIONAL DRAWING

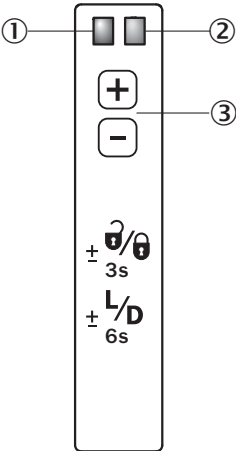


- Dimensions in mm (inch)
- ① Optical axis
  - ② Mounting hole, Ø 4.2 mm
  - ③ WF50/80/120 only

Dimensions in mm (inch)

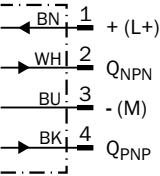
|       | A<br>Fork width | B<br>Fork depth              | C             | C1            |
|-------|-----------------|------------------------------|---------------|---------------|
| WF2   | 2<br>(0.08)     | 42/59/95<br>(1.65/2.32/3.74) | 14<br>(0.55)  | 5<br>(0.20)   |
| WF5   | 5<br>(0.20)     | 42/59/95<br>(1.65/2.32/3.74) | 14<br>(0.55)  | 6.5<br>(0.20) |
| WF15  | 15<br>(0.59)    | 42/59/95<br>(1.65/2.32/3.74) | 27<br>(1.06)  | 5<br>(0.20)   |
| WF30  | 30<br>(1.18)    | 42/59/95<br>(1.65/2.32/3.74) | 42<br>(1.65)  | 5<br>(0.20)   |
| WF50  | 50<br>(1.97)    | 42/59/95<br>(1.65/2.32/3.74) | 51<br>(2.01)  | 16<br>(0.63)  |
| WF80  | 80<br>(3.15)    | 42/59/95<br>(1.65/2.32/3.74) | 81<br>(3.19)  | 16<br>(0.63)  |
| WF120 | 120<br>(4.72)   | 42/59/95<br>(1.65/2.32/3.74) | 121<br>(4.76) | 16<br>(0.63)  |

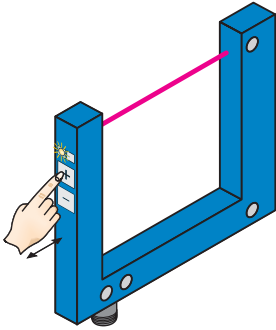
ADJUSTMENTS ADJUSTMENT: PLUS/MINUS BUTTONS (WFXML-B410)



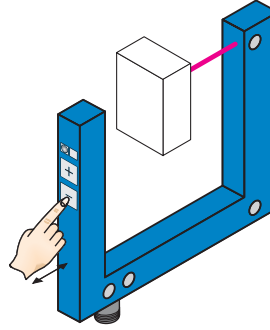
- ① Function signal indicator (yellow), switching output
- ② Function indicator (red)
- ③ “+”/“-” buttons and function button

CONNECTION DIAGRAM CD-086



**CONCEPT OF OPERATION SETTING THE SWITCHING THRESHOLD VIA PLUS/MINUS BUTTONS (WFXX-B410)****1. No object in the beam path**

The yellow function indicator illuminates when the light received is at its optimum level. If necessary, increase sensitivity using the "+" button.

**2. Object in the beam path**

Yellow function indicator goes out. If necessary, reduce sensitivity using the "-" button.

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at [www.sick.com/6028446](http://www.sick.com/6028446)



SICK AG  
WALDKIRCH  
GERMANY  
SICK.COM

# SICK AT A GLANCE

SICK is a leading global technology company for intelligent sensors and integrated solutions in industrial automation. Our technologies set benchmarks, making your industrial processes more efficient, safer and more sustainable – both in logistics and manufacturing operations.

SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

**SICK**  
Sensor Intelligence