



## Fork sensors WF, WFnext

WF30-40B416



**Model Name** > [WF30-40B416](#)  
**Part No.** > [6028453](#)



*Illustration may differ*

#### At a glance

- Infrared light source
- Simple and accurate adjustment via teach-in or manually via "+" / "-" buttons
- Fast response time (max. 100 µs)
- PNP and NPN switching output
- Light/dark switching function
- 21 different models with different fork widths and depths
- Rugged, IP 65 aluminum housing

#### Your benefits

- Fast response time and fine resolution ensure reliable detection even at high speeds
- Infrared light source provides excellent ambient light immunity
- User friendly setting via teach-in or "+" / "-" button
- A wide range of different fork sizes enables flexible installation
- The aluminum housing meets all requirements for use in harsh industrial conditions



#### Features

|                       |                                            |
|-----------------------|--------------------------------------------|
| Functional principle: | Optical detection principle                |
| Fork width:           | 30 mm                                      |
| Fork depth:           | 42 mm                                      |
| MDO <sup>1)</sup> :   | 0.2 mm                                     |
| Label detection:      | -                                          |
| Light source:         | LED, infrared                              |
| Adjustment:           | Teach-in                                   |
| Output function:      | Light/darkswitching, selectable via button |

<sup>1)</sup> Minimum detectable object

#### Mechanics/electronics

|                                     |                  |
|-------------------------------------|------------------|
| Supply voltage Vs <sup>1)</sup> :   | DC 10 V ... 30 V |
| Ripple <sup>2)</sup> :              | < 10 %           |
| Power consumption <sup>3)</sup> :   | 40 mA            |
| Switching frequency <sup>4)</sup> : | 10 kHz           |
| Response time <sup>5)</sup> :       | 100 µs           |
| Stability of response time:         | ± 20 µs          |

Output type: NPN: HIGH = approx.  $V_S$  / LOW  $\leq 2$  V  
 PNP: HIGH =  $V_S - \leq 2$  V / LOW approx. 0 V

Switching mode: PNP/NPN

Output current  $I_{max.}$ : 100 mA

Initialization time: 100 ms

Connection type: Connector M8, 4-pin

Ambient light safety: Sunlight:  $\leq 10,000$  klx

Protection class <sup>6)</sup>: III

Circuit protection:  $V_S$  connections reverse-polarity protected  
 Output Q short-circuit protected  
 Interference suppression

Enclosure rating: IP 65

Weight: Ca. 36 g ... 160 g <sup>7)</sup>

Housing material: Aluminum

<sup>1)</sup> Limit values, reverse-polarity protected, operation in short-circuit protected network, max. 8 A <sup>2)</sup> May not exceed or fall short of  $V_S$  tolerances <sup>3)</sup> Without load <sup>4)</sup>  
 With light/dark ratio 1:1 <sup>5)</sup> Signal transit time with resistive load <sup>6)</sup> Reference voltage DC 50 V <sup>7)</sup> Depending on fork width

## Ambient data

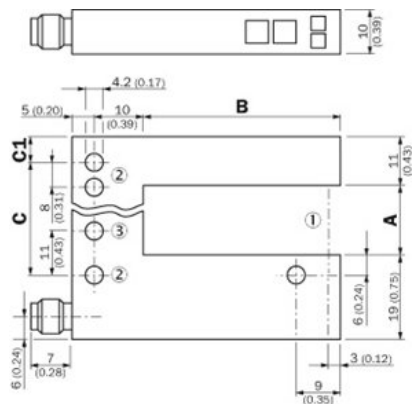
Ambient temperature <sup>1)</sup>: Operation: -20 ... 60 °C  
 Storage: -30 ... 80 °C

Shock load: According to EN 60068-2-27

UL File-No.: UL No. NRKH.E191603

<sup>1)</sup> Do not bend below 0 °C

## Dimensional drawing



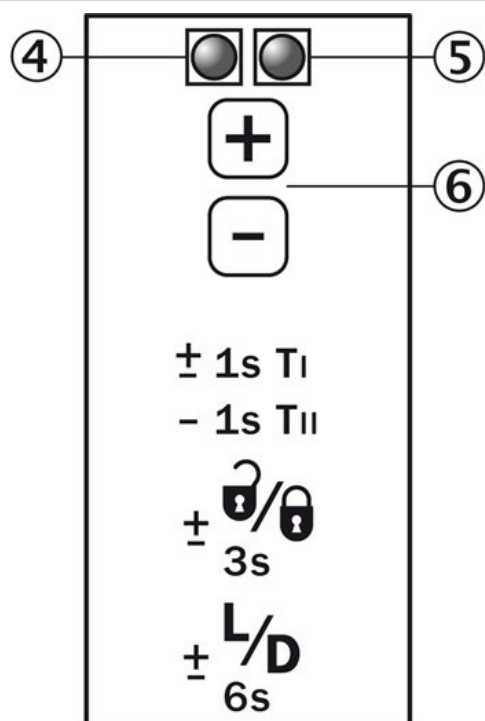
All dimensions in mm (inch)

Dimensions in mm (inch)

|       | A             | B                            | C             | C1            |
|-------|---------------|------------------------------|---------------|---------------|
|       | Fork width    | Fork depth                   |               |               |
| 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)  |

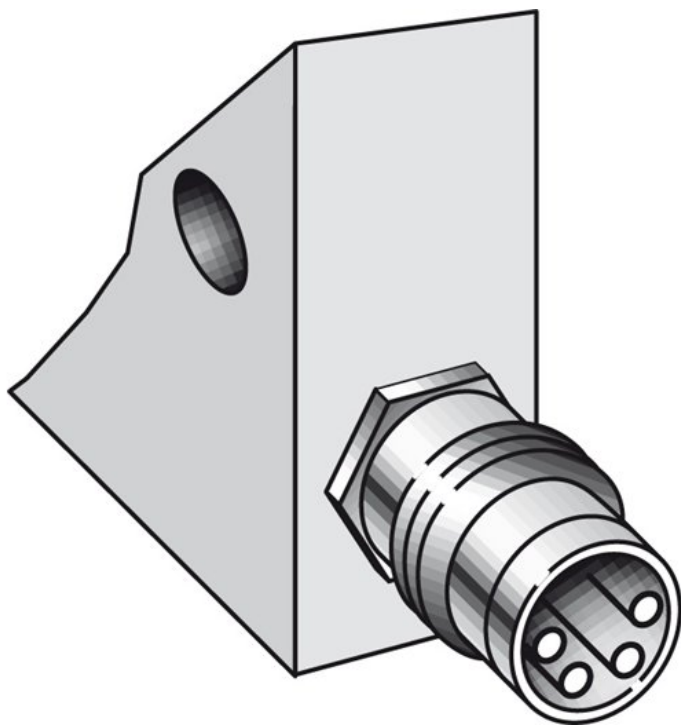
|1| Optical axis  
 |2| Mounting hole,  $\varnothing$  4.2 mm  
 |3| WF50/80/120 only

## Adjustments

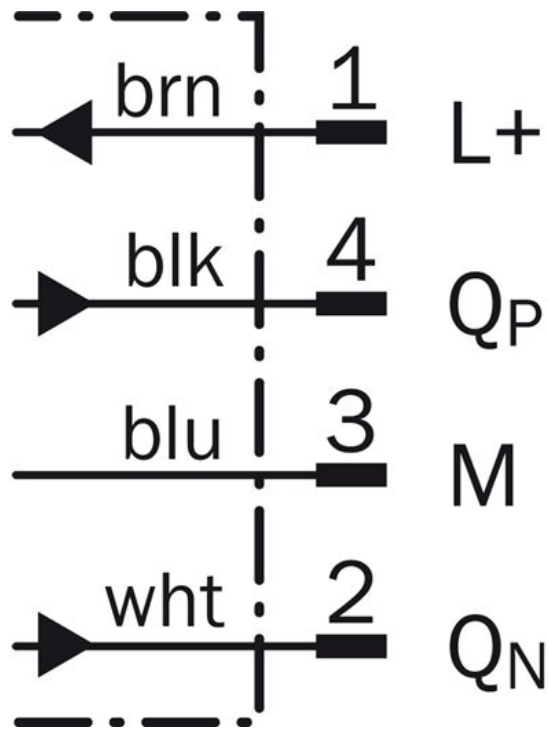


- |4| Function signal indicator (yellow), switching output
- |5| Function indicator (red)
- |6| "+" / "-" buttons and function button

## Connection type



Connection diagram



#### **Australia**

Phone +61 3 9457 0600  
1800 334 802 – tollfree  
E-Mail sales@sick.com.au

#### **Belgium/Luxembourg**

Phone +32 (0)2 466 55 66  
E-Mail info@sick.be

#### **Brasil**

Phone +55 11 3215-4900  
E-Mail sac@sick.com.br

#### **Canada**

Phone +1 905 771 14 44  
E-Mail information@sick.com

#### **Ceská Republika**

Phone +420 2 57 91 18 50  
E-Mail sick@sick.cz

#### **China**

Phone +86 4000 121 000  
E-Mail info.china@sick.net.cn  
Phone +852-2153 6300  
E-Mail ghk@sick.com.hk

#### **Danmark**

Phone +45 45 82 64 00  
E-Mail sick@sick.dk

#### **Deutschland**

Phone +49 211 5301-301  
E-Mail kundenservice@sick.de

#### **España**

Phone +34 93 480 31 00  
E-Mail info@sick.es

#### **France**

Phone +33 1 64 62 35 00  
E-Mail info@sick.fr

#### **Great Britain**

Phone +44 (0)1727 831121  
E-Mail info@sick.co.uk

#### **India**

Phone +91-22-4033 8333  
E-Mail info@sick-india.com

#### **Israel**

Phone +972-4-6801000  
E-Mail info@sick-sensors.com

#### **Italia**

Phone +39 02 27 43 41  
E-Mail info@sick.it

#### **Japan**

Phone +81 (0)3 3358 1341  
E-Mail support@sick.jp

#### **Magyarország**

Phone +36 1 371 2680  
E-Mail office@sick.hu

#### **Nederlands**

Phone +31 (0)30 229 25 44  
E-Mail info@sick.nl

#### **Norge**

Phone +47 67 81 50 00  
E-Mail austefjord@sick.no

#### **Österreich**

Phone +43 (0)22 36 62 28 8-0  
E-Mail office@sick.at

#### **Polska**

Phone +48 22 837 40 50  
E-Mail info@sick.pl

#### **România**

Phone +40 356 171 120  
E-Mail office@sick.ro

#### **Russia**

Phone +7-495-775-05-30  
E-Mail info@sick.ru

#### **Schweiz**

Phone +41 41 619 29 39  
E-Mail contact@sick.ch

#### **Singapore**

Phone +65 6744 3732  
E-Mail admin@sicksgp.com.sg

#### **Slovenija**

Phone +386 (0)1-47 69 990  
E-Mail office@sick.si

#### **South Africa**

Phone +27 11 472 3733  
E-Mail info@sickautomation.co.za

#### **South Korea**

Phone +82 2 786 6321/4  
E-Mail info@sickkorea.net

#### **Suomi**

Phone +358-9-25 15 800  
E-Mail sick@sick.fi

#### **Sverige**

Phone +46 10 110 10 00  
E-Mail info@sick.se

#### **Taiwan**

Phone +886-2-2375-6288  
E-Mail sales@sick.com.tw

#### **Türkiye**

Phone +90 (216) 528 50 00  
E-Mail info@sick.com.tr

#### **United Arab Emirates**

Phone +971 (0) 4 8865 878  
E-Mail info@sick.ae

#### **USA/México**

Phone +1(952) 941-6780  
1 800-325-7425 – tollfree  
E-Mail info@sickusa.com

More representatives and agencies  
at [www.sick.com](http://www.sick.com)