



## Fork sensors WF, WFnext

WF5-40B410



**Model Name** > **WF5-40B410**  
**Part No.** > **6028429**



*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:	5 mm
Fork depth:	42 mm
MDO <sup>1)</sup> :	0.2 mm
Label detection:	✓
Light source:	LED, infrared
Adjustment:	Manual ("+"/"-" button)
Output function:	Light/darkswitching, selectable via button

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

**Mechanics/electronics**

Supply voltage $V_s$ <sup>1)</sup> :	DC 10 V ... 30 V
Residual 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: VS 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

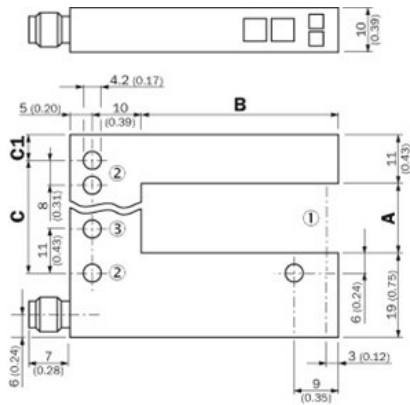
Ambient temperature <sup>1)</sup>: Operation: -20 ... 60 °C  
 Storage: -30 ... 80 °C

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



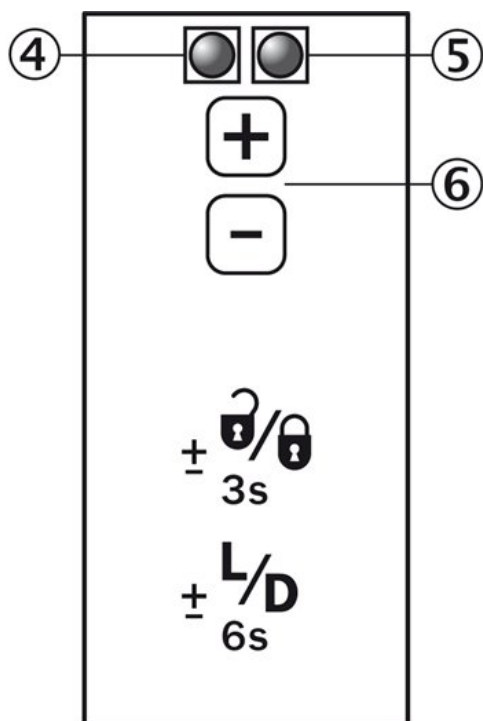
All dimensions in mm (inch)

Dimensions in mm (inch)

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

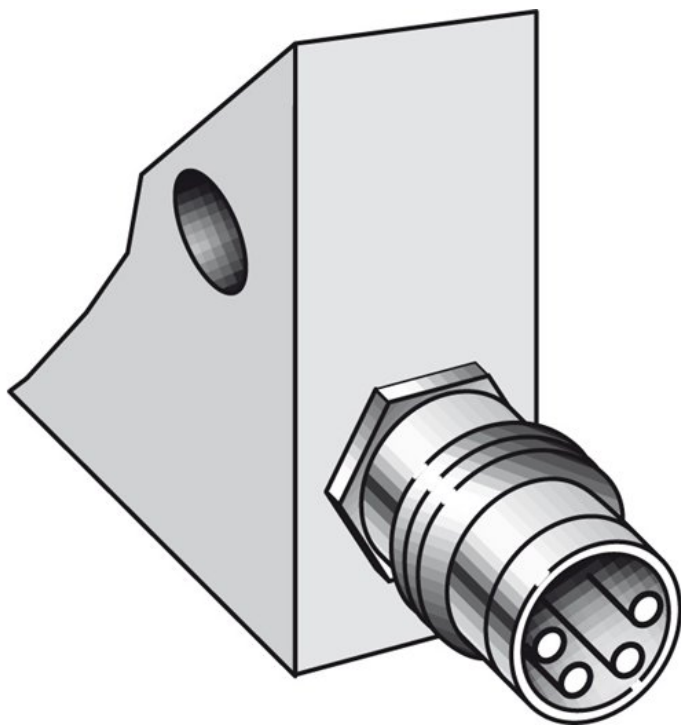
- |1| Optical axis
- |2| Mounting hole,  $\varnothing 4.2$  mm
- |3| WF50/80/120 only

## Adjustments

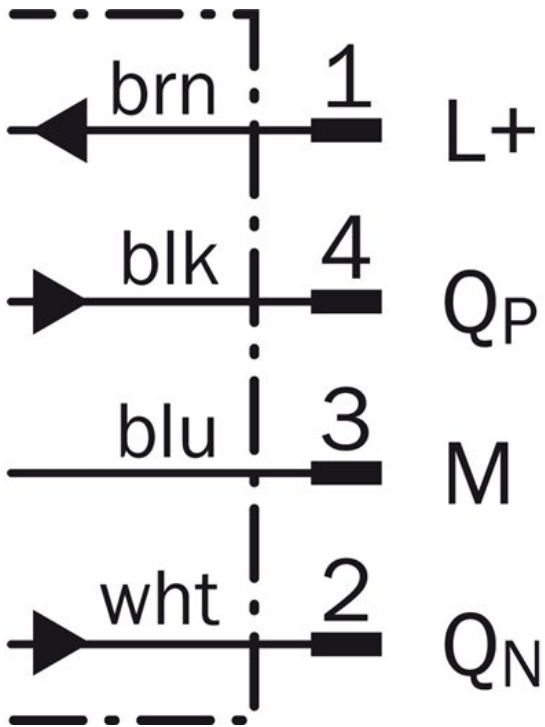


- |4| Function signal indicator (yellow), switching output
- |5| Function indicator (red)
- |6| "+" "-" buttons and function button

## Connection type



Connection diagram



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