



## Fork sensors WFL

WFL15-40B416



**Model Name** > [WFL15-40B416](#)  
**Part No.** > [6036823](#)



*Illustration may differ*

**At a glance**

- Very precise laser beam (Class 1 laser)
- Simple and accurate adjustment via teach-in
- Fast response time (max. 100 µs)
- Minimum detectable object size of 0.05 mm
- 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**

- A highly precise laser beam ensures consistent measurement accuracy along the entire measuring range and reliable detection of the smallest objects
- A visible laser light spot enables easy alignment and fast adjustment
- Reliable and simple setting via teach-in ensures high process reliability
- A wide range of different fork sizes increases installation flexibility
- The aluminum housing meets all requirements for use in harsh industrial conditions



**Features**

Functional principle:	Optical detection principle
Fork width:	15 mm
Fork depth:	42 mm
MDO <sup>1)</sup> :	0.05 mm
Label detection:	-
Light source:	Laser, Class 1, 670 nm
Adjustment:	Teach-in
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
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. VS / LOW ≤ 2 V PNP: HIGH = VS- ≤ 2 V / LOW approx. 0 V
Switching mode:	PNP/NPN
Output current I <sub>max.</sub> :	100 mA
Initialization time:	100 ms
Connection type:	Connector M8, 4-pin
Ambient light safety:	Sunlight: ≤ 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

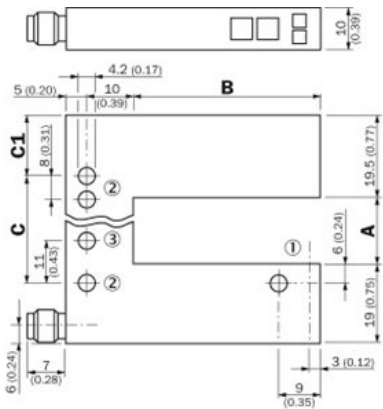
<sup>1)</sup> Limit values, reverse-polarity protected, operation in short-circuit protected network, max. 8 A <sup>2)</sup> May not exceed or fall short of V<sub>S</sub> tolerances <sup>3)</sup> Without load <sup>4)</sup>  
 With light/dark ratio 1:1 <sup>5)</sup> Signal transit time with resistive 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 ... 50 °C Storage: -30 ... 80 °C
Shock load:	According to EN 60068-2-27
UL File-No.:	UL No. NRKH.E191603 & cUL No. NRKH7.E191603, CDRH-conform

<sup>1)</sup> Do not bend below 0 °C

## Dimensional drawing



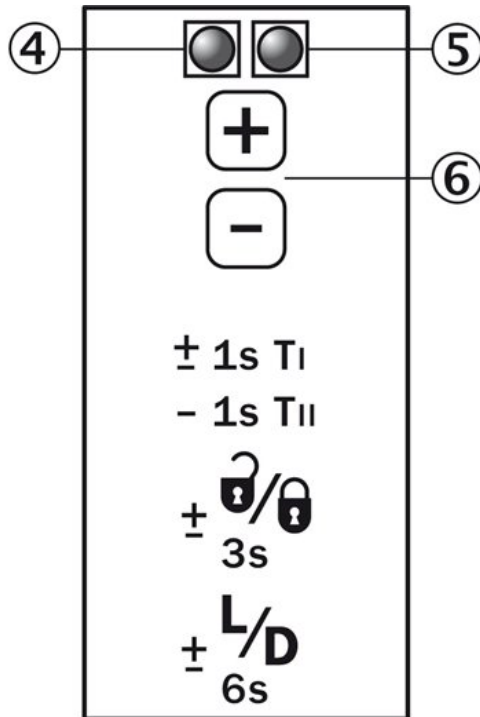
All dimensions in mm (inch)

### Dimensions in mm (inch)

	A Fork width	B Fork depth	C	C1
WFL2	2 (0.08)	42/59/95 (1.65/2.32/3.74)	14 (0.55)	13.5 (0.53)
WFL5	5 (0.20)	42/59/95 (1.65/2.32/3.74)	14 (0.55)	15 (0.59)
WFL15	15 (0.59)	42/59/95 (1.65/2.32/3.74)	27 (1.06)	13.5 (0.53)
WFL30	30 (1.18)	42/59/95 (1.65/2.32/3.74)	42 (1.65)	13.5 (0.53)
WFL50	50 (1.97)	42/59/95 (1.65/2.32/3.74)	51 (2.01)	24.5 (0.96)
WFL80	80 (3.15)	42/59/95 (1.65/2.32/3.74)	81 (3.19)	24.5 (0.96)
WFL120	120 (4.72)	42/59/95 (1.65/2.32/3.74)	121 (4.76)	24.5 (0.96)

- |1| Optical axis
- |2| Mounting hole,  $\varnothing$  4.2 mm
- |3| WFL50/80/120 only

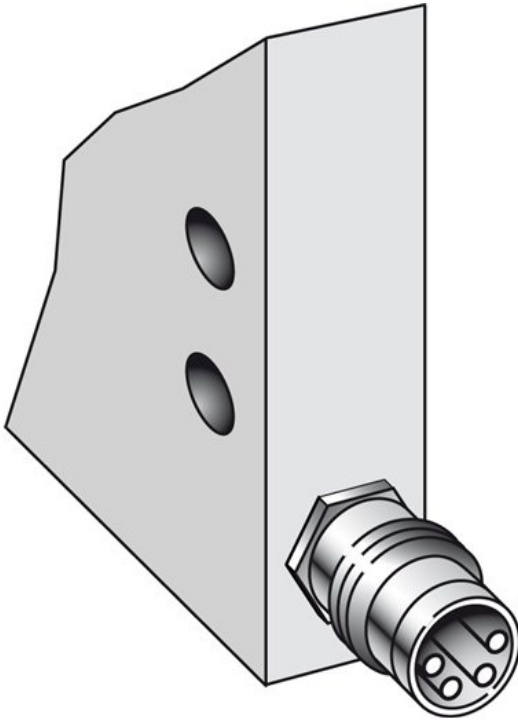
## Adjustments



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

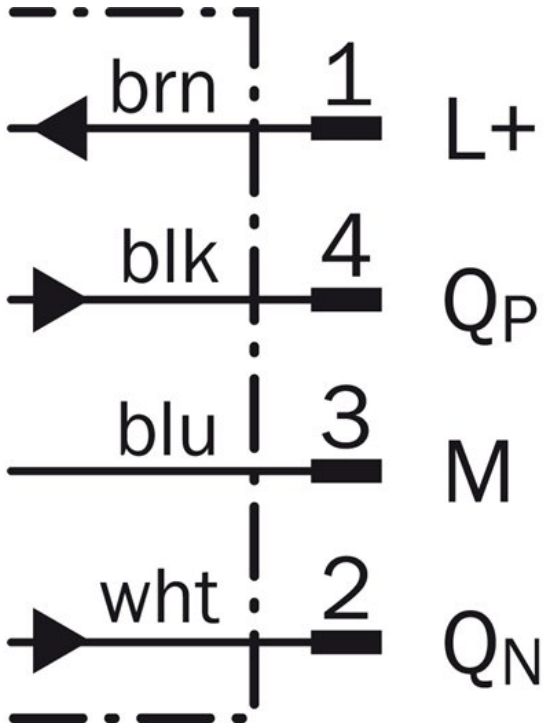
Connection type

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Connection diagram

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