

SICK.COM



DATA SHEET

**WFL80-95B416**

WFL  
Fork sensors

**SICK** Sensor Intelligence

## FORK SENSORS

# WFL80-95B416

### ORDERING INFORMATION

Type	part no.
WFL80-95B416	6036840

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



Illustration may differ



## DETAILED TECHNICAL DATA

### FEATURES

Functional principle	Optical detection principle				
Dimensions (W x H x D)	10 mm x 118.5 mm x 110 mm				
Fork width	80 mm				
Fork depth	95 mm				
Light source	Laser, visible red light				
Minimum detectable object (MDO)	0.05 mm				
Adjustment	Plus/minus button (Teach-in, sensitivity, light/dark switching)				
Teach-in mode	2-point teach-in				
Safety-related parameters	<table border="0"> <tr> <td>MTTF<sub>D</sub></td> <td>80 years</td> </tr> <tr> <td>DC<sub>avg</sub></td> <td>0 %</td> </tr> </table>	MTTF <sub>D</sub>	80 years	DC <sub>avg</sub>	0 %
MTTF <sub>D</sub>	80 years				
DC <sub>avg</sub>	0 %				

### ELECTRONICS

Supply voltage	10 V DC ... 30 V DC
Ripple	< 10 %
Current consumption	40 mA <sup>1)</sup>
Initialization time	100 ms
Switching frequency	10 kHz
Response time	≤ 100 μs

<sup>1)</sup> Without load.

<sup>2)</sup> Reference voltage DC 50 V.

Stability of response time	$\pm 20 \mu\text{s}$
Jitter	40 $\mu\text{s}$
Switching output	PNP/NPN
Switching output (voltage)	PNP: HIGH = $U_v \leq 2 \text{ V}$ / LOW approx. 0 V NPN: HIGH = approx. $U_v$ / LOW $\leq 2 \text{ V}$
Switching mode	Light/dark switching
Output current $I_{\text{max}}$	100 mA
Protection class	III <sup>2)</sup>
Circuit protection	$U_v$ connections, reverse polarity protected Output Q short-circuit protected Interference pulse suppression
Connection type	Male connector M8, 4-pin

<sup>1)</sup> Without load.

<sup>2)</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

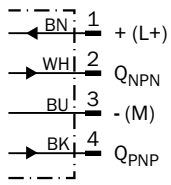
Ambient operating temperature	-20 °C ... +50 °C
Ambient temperature, storage	-30 °C ... +80 °C
Ambient light immunity	$\leq 10,000 \text{ lx}$
Shock load	According to EN 60068-2-27
Enclosure rating	IP65

## 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	✓
Laser safety (IEC 60825-1) declaration of manufacturer	✓



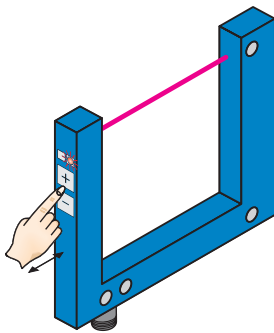
**CONNECTION DIAGRAM CD-086**



**CONCEPT OF OPERATION TEACH-IN**

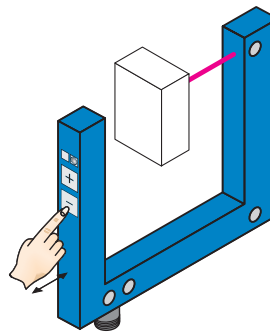
The switching threshold is set automatically. Fine adjustment is possible using the “+”/“–” buttons.

**1. No object or substrate in the beam path**



Press the “+” and “–” buttons together and hold for 1 second. The red function indicator flashes slowly.



**2. Object or label in the beam path**





Press the “–” button for 1 second. Red function indicator goes out.

**Notes**

Material speed = 0 (machine at a standstill).

-  Once teach-in process is complete, the switching threshold can be adjusted at any time using the “+” or “–” button. To make minor adjustments, press the “+” or “–” button once.
-  To configure settings quickly, keep the “+” or “–” button pressed for longer.

 Press both the “+” and “–” buttons together (3 seconds) to lock the device and prevent unintentional actuation.

 Press both the “+” and “–” buttons together (6 seconds) to define the switching function (light/dark switching). Standard setting:  $\bar{Q}$  = light switching.

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/6036840](http://www.sick.com/6036840)



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# 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

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