



WFL

The perfect sensor for the detection of very small parts and precise positioning

SICK
Sensor Intelligence.



Technical data overview

Functional principle	Optical detection principle
Fork width	2 mm ... 120 mm (depends on variant)
Fork depth	42 mm ... 95 mm (depends on variant)
MDO	0.05 mm
Light source	Laser, visible red light
Switching frequency	10 kHz / 11 kHz (depends on variant)
Response time	≤ 100 µs ≤ 60 µs ¹⁾
Connection type	Male connector M8, 4-pin
IO-Link functions	- / ✓, –standardAdvanced
Advanced functions	– Time measurement + decentralized debouncing High speed counter + decentralized debouncing (depends on variant)

¹⁾ Signal transit time with resistive load.

Product description

WF Laser fork sensors are characterized by fast response times and a highly focused visible laser beam. The sender and receiver operate using a through-beam design and are in a single housing. No adjustments therefore need to be made. The sensors guarantee exceptionally high positioning accuracy and impress with their extremely fast response times and very fine resolution. As a result, the sensors are particularly suitable for detecting extremely small objects such as needles or wires. They are also recommended for the detection of transparent objects. A total of 21 WF Laser variants are available for use in a wide range of applications.

At a glance

- Very precise Class 1 laser
- Simple and precise setting of the switching threshold via IO-Link, teach-in button, or plus/minus buttons
- Fast response time: 100 µs
- PNP and NPN switching output
- Light/dark switching function
- Stable aluminum housing with IP 65 enclosure rating
- Smart sensor with integrated IO-Link interface

Your benefits

- A highly precise laser beam ensures consistent measurement accuracy along the entire measuring range and reliable detection of extremely small objects
- A visible laser beam enables easy alignment and fast adjustment
- Reliable and simple setting via teach-in button ensures high process reliability
- A wide range of different fork sizes increases mounting flexibility
- Stable aluminum housing for use in harsh industrial environments
- Thanks to IO-Link or external teach-in, the switching threshold can be adapted while the process is running, increasing process reliability
- Easy to access data from the PLC via IO-Link

Fields of application

Detecting small parts
Detecting transparent objects
Precise object positioning

Ordering information

Other models and accessories → www.sick.com/WFL

- **Adjustment:** Plus/minus button
- **Light source:** laser

Fork width	Fork depth	Switching output	Switching mode	Connection type Detail	Type	Part no.
2 mm	42 mm	PNP/NPN	Light/dark switching	Male connector M8, 4-pin	WFL2-40B416	6036821
	59 mm	PNP/NPN	Light/dark switching	Male connector M8, 4-pin	WFL2-60B416	6036828
	95 mm	PNP/NPN	Light/dark switching	Male connector M8, 4-pin	WFL2-95B416	6036835
5 mm	42 mm	PNP/NPN	Light/dark switching	Male connector M8, 4-pin	WFL5-40B416	6036822
	59 mm	PNP/NPN	Light/dark switching	Male connector M8, 4-pin	WFL5-60B416	6036829
	95 mm	PNP/NPN	Light/dark switching	Male connector M8, 4-pin	WFL5-95B416	6036836
15 mm	42 mm	PNP/NPN	Light/dark switching	Male connector M8, 4-pin	WFL15-40B416	6036823
	59 mm	PNP/NPN	Light/dark switching	Male connector M8, 4-pin	WFL15-60B416	6036830
	95 mm	PNP/NPN	Light/dark switching	Male connector M8, 4-pin	WFL15-95B416	6036837
30 mm	42 mm	PNP/NPN	Light/dark switching	Male connector M8, 4-pin	WFL30-40B416	6036824
	59 mm	PNP/NPN	Light/dark switching	Male connector M8, 4-pin	WFL30-60B416	6036831
	95 mm	PNP/NPN	Light/dark switching	Male connector M8, 4-pin	WFL30-95B416	6036838
50 mm	42 mm	PNP/NPN	Light/dark switching	Male connector M8, 4-pin	WFL50-40B416	6036825
	59 mm	PNP/NPN	Light/dark switching	Male connector M8, 4-pin	WFL50-60B416	6036832
	95 mm	PNP/NPN	Light/dark switching	Male connector M8, 4-pin	WFL50-95B416	6036839
80 mm	42 mm	PNP/NPN	Light/dark switching	Male connector M8, 4-pin	WFL80-40B416	6036826
	59 mm	PNP/NPN	Light/dark switching	Male connector M8, 4-pin	WFL80-60B416	6036833
	95 mm	PNP/NPN	Light/dark switching	Male connector M8, 4-pin	WFL80-95B416	6036840
120 mm	42 mm	PNP/NPN	Light/dark switching	Male connector M8, 4-pin	WFL120-40B416	6036827
	59 mm	PNP/NPN	Light/dark switching	Male connector M8, 4-pin	WFL120-60B416	6036834
	95 mm	PNP/NPN	Light/dark switching	Male connector M8, 4-pin	WFL120-95B416	6036841

- **Communication interface:** IO-Link
- **Adjustment:** Teach-in button, cable
- **Light source:** laser

Fork width	Fork depth	Switching output	Switching mode	Connection type Detail	Type	Part no.
2 mm	42 mm	Push-pull: PNP/NPN	Light/dark switching	Male connector M8, 4-pin	WFL2-40B41CA00	6058620
	59 mm	Push-pull: PNP/NPN	Light/dark switching	Male connector M8, 4-pin	WFL2-60B41CA00	6058627
	95 mm	Push-pull: PNP/NPN	Light/dark switching	Male connector M8, 4-pin	WFL2-95B41CA00	6058635
5 mm	42 mm	Push-pull: PNP/NPN	Light/dark switching	Male connector M8, 4-pin	WFL5-40B41CA00	6058621
	59 mm	Push-pull: PNP/NPN	Light/dark switching	Male connector M8, 4-pin	WFL5-60B41CA00	6058628
	95 mm	Push-pull: PNP/NPN	Light/dark switching	Male connector M8, 4-pin	WFL5-95B41CA00	6058636
15 mm	42 mm	Push-pull: PNP/NPN	Light/dark switching	Male connector M8, 4-pin	WFL15-40B41CA00	6058622
	59 mm	Push-pull: PNP/NPN	Light/dark switching	Male connector M8, 4-pin	WFL15-60B41CA00	6058629
	95 mm	Push-pull: PNP/NPN	Light/dark switching	Male connector M8, 4-pin	WFL15-95B41CA00	6058637
30 mm	42 mm	Push-pull: PNP/NPN	Light/dark switching	Male connector M8, 4-pin	WFL30-40B41CA00	6058623
	59 mm	Push-pull: PNP/NPN	Light/dark switching	Male connector M8, 4-pin	WFL30-60B41CA00	6058631
	95 mm	Push-pull: PNP/NPN	Light/dark switching	Male connector M8, 4-pin	WFL30-95B41CA00	6058638
50 mm	42 mm	Push-pull: PNP/NPN	Light/dark switching	Male connector M8, 4-pin	WFL50-40B41CA00	6058624
					WFL50-40B41CA70	6058645
					WFL50-40B41CA71	6058646
	59 mm	Push-pull: PNP/NPN	Light/dark switching	Male connector M8, 4-pin	WFL50-60B41CA00	6058632
	95 mm	Push-pull: PNP/NPN	Light/dark switching	Male connector M8, 4-pin	WFL50-95B41CA00	6058639
80 mm	42 mm	Push-pull: PNP/NPN	Light/dark switching	Male connector M8, 4-pin	WFL80-40B41CA00	6058625
	59 mm	Push-pull: PNP/NPN	Light/dark switching	Male connector M8, 4-pin	WFL80-60B41CA00	6058633
	95 mm	Push-pull: PNP/NPN	Light/dark switching	Male connector M8, 4-pin	WFL80-95B41CA00	6058640
120 mm	42 mm	Push-pull: PNP/NPN	Light/dark switching	Male connector M8, 4-pin	WFL120-40B41CA00	6058626
	59 mm	Push-pull: PNP/NPN	Light/dark switching	Male connector M8, 4-pin	WFL120-60B41CA00	6058634
	95 mm	Push-pull: PNP/NPN	Light/dark switching	Male connector M8, 4-pin	WFL120-95B41CA00	6058641

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

WORLDWIDE PRESENCE:

Contacts and other locations –www.sick.com