WF

The specialist for high-speed applications

FORK SENSORS

SICK
Sensor Intelligence.

WF
FORK SENSORS

Technical data overview

Functional principle	Optical detection principle
Fork width	2 mm ... 225 mm (depending on type)
Fork depth	40 mm ... 95 mm (depending on type)
MDO	0.2 mm
Light source	LED, Infrared light LED, Infrared light [1] LED, Infrared light [2]
Switching frequency	10 kHz [3] 15 kHz [3] 10 kHz [4] 0.5 kHz [4]
Response time	100 µs 46 µs [5] 50 µs [5] 30 µs [5] 1 ms [5]
Output function	Light/darkswitching, selectable via button / Light/dark-switching, adjustable via reverse polarity (depending on type)
Connection type	Male connector M8, 4-pin Cable, 4-wire 0.2 m Cable open end 300 mm
IO-Link functions	– / ✔, —standardAdvanced
Advanced functions	— High speed counter + decentralized debouncing Time measurement + decentralized debouncing (depending on type)

[1] Continuous.
[2] Pulsating.
[3] With light/dark ratio 1:1.
[4] With light/dark ratio 1:1, without timer stage.
[5] Signal transit time with resistive load.

Product description

WFnext fork sensors are at work in the detection of labels, marks, double sheets, holes, edges, and various objects. Thanks to the design principle that sees both the sender and receiver integrated in a single housing, no adjustment is necessary. This easy-to-use sensor line includes fork widths between 2 mm and 120 mm with fork depths of 40 mm, 60 mm, and 95 mm. Extremely fast response times and fine resolution means that WFnext fork sensors from SICK can even detect small and flat objects, as well as those traveling at high speeds.

At a glance

• Infrared light source
• 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

- Fast response time and fine resolution ensure reliable detection even at very high object speeds
- Infrared light source provides excellent ambient light immunity
- User-friendly setting via IO-Link, teach-in button, or plus/minus buttons
- A wide range of different fork sizes enables flexible installation
- 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 edges, holes, and objects in production processes at high speeds
- Monitoring the presence of different objects
- Detecting opaque labels

Ordering information

Other models and accessories ➜ www.sick.com/WF

- **Communication interface:** -
- **Adjustment:** Plus/minus button
- **Light source:** LED, Infrared light

Fork width	Fork depth	Switching output	Connection type Detail	Type	Part no.
2 mm	42 mm	PNP/NPN	Male connector M8, 4-pin	WF2-40B410	6028428
				WF2-40B416	6028450
	59 mm	PNP/NPN	Male connector M8, 4-pin	WF2-60B410	6028436
				WF2-60B416	6028457
	95 mm	PNP/NPN	Male connector M8, 4-pin	WF2-95B410	6028443
				WF2-95B416	6028464
5 mm	42 mm	PNP/NPN	Male connector M8, 4-pin	WF5-40B410	6028429
			Male connector M8, 4-pin	WF5-40B416	6028451
	59 mm	PNP/NPN	Male connector M8, 4-pin	WF5-60B410	6028437
				WF5-60B416	6028458
	95 mm	PNP/NPN	Male connector M8, 4-pin	WF5-95B410	6028444
				WF5-95B416	6028465
15 mm	42 mm	PNP/NPN	Male connector M8, 4-pin	WF15-40B410	6028430
				WF15-40B416	6028452
	59 mm	PNP/NPN	Male connector M8, 4-pin	WF15-60B410	6028438
				WF15-60B416	6028459
	95 mm	PNP/NPN	Male connector M8, 4-pin	WF15-95B410	6028445
				WF15-95B416	6028466

Fork width	Fork depth	Switching output	Connection type Detail	Type	Part no.
30 mm	42 mm	PNP/NPN	Male connector M8, 4-pin	WF30-40B410	6028431
				WF30-40B416	6028453
	59 mm	PNP/NPN	Male connector M8, 4-pin	WF30-60B410	6028439
				WF30-60B416	6028460
	95 mm	PNP/NPN	Male connector M8, 4-pin	WF30-95B410	6028446
				WF30-95B416	6028467
50 mm	42 mm	PNP/NPN	Male connector M8, 4-pin	WF50-40B410	6028432
				WF50-40B416	6028454
	59 mm	PNP/NPN	Male connector M8, 4-pin	WF50-60B410	6028440
				WF50-60B416	6028461
	95 mm	PNP/NPN	Male connector M8, 4-pin	WF50-95B410	6028447
				WF50-95B416	6028468
80 mm	42 mm	PNP/NPN	Male connector M8, 4-pin	WF80-40B410	6028433
				WF80-40B416	6028455
	59 mm	PNP/NPN	Cable, 4-wire	WF80-60B410S06	6053233
			Male connector M8, 4-pin	WF80-60B410	6028441
				WF80-60B416	6028462
	95 mm	PNP/NPN	Male connector M8, 4-pin	WF80-95B410	6028448
				WF80-95B416	6028469
120 mm	42 mm	PNP/NPN	Male connector M8, 4-pin	WF120-40B410	6028435
				WF120-40B416	6028456
	59 mm	PNP/NPN	Male connector M8, 4-pin	WF120-60B410	6028442
				WF120-60B416	6028463
	95 mm	PNP/NPN	Male connector M8, 4-pin	WF120-95B410	6028449
				WF120-95B416	6028470

- **Communication interface:** IO-Link
- **Adjustment:** Teach-in button, cable
- **Light source:** LED, Infrared light

Fork width	Fork depth	Switching output	Connection type Detail	Type	Part no.
2 mm	42 mm	Push-pull: PNP/NPN	Male connector M8, 4-pin	WF2-40B41CA00	6058568
				WF2-40B41CA70	6058615
				WF2-40B41CA71	6058616
	59 mm	Push-pull: PNP/NPN	Male connector M8, 4-pin	WF2-60B41CA00	6058601
	95 mm	Push-pull: PNP/NPN	Male connector M8, 4-pin	WF2-95B41CA00	6058608

Fork width	Fork depth	Switching output	Connection type Detail	Type	Part no.
5 mm	42 mm	Push-pull: PNP/NPN	Male connector M8, 4-pin	WF5-40B41CA00	6058595
	59 mm	Push-pull: PNP/NPN	Male connector M8, 4-pin	WF5-60B41CA00	6058602
	95 mm	Push-pull: PNP/NPN	Male connector M8, 4-pin	WF5-95B41CA00	6058609
15 mm	42 mm	Push-pull: PNP/NPN	Male connector M8, 4-pin	WF15-40B41CA00	6058596
	59 mm	Push-pull: PNP/NPN	Male connector M8, 4-pin	WF15-60B41CA00	6058603
	95 mm	Push-pull: PNP/NPN	Male connector M8, 4-pin	WF15-95B41CA00	6058610
30 mm	42 mm	Push-pull: PNP/NPN	Male connector M8, 4-pin	WF30-40B41CA00	6058597
				WF30-40B41CA70	6058617
				WF30-40B41CA71	6058619
	59 mm	Push-pull: PNP/NPN	Male connector M8, 4-pin	WF30-60B41CA00	6058604
	95 mm	Push-pull: PNP/NPN	Male connector M8, 4-pin	WF30-95B41CA00	6058611
50 mm	42 mm	Push-pull: PNP/NPN	Male connector M8, 4-pin	WF50-40B41CA00	6058598
				WF50-40B41CA71	6059834
	59 mm	Push-pull: PNP/NPN	Male connector M8, 4-pin	WF50-60B41CA00	6058605
				WF50-60B41CA70	6059993
				WF50-60B41CA71	6059994
	95 mm	Push-pull: PNP/NPN	Male connector M8, 4-pin	WF50-95B41CA00	6058612
80 mm	42 mm	Push-pull: PNP/NPN	Male connector M8, 4-pin	WF80-40B41CA00	6058599
	59 mm	Push-pull: PNP/NPN	Cable open end	WF80-60B41CB01	6064109
			Male connector M8, 4-pin	WF80-60B41CA00	6058606
	95 mm	Push-pull: PNP/NPN	Male connector M8, 4-pin	WF80-95B41CA00	6058613
120 mm	42 mm	Push-pull: PNP/NPN	Male connector M8, 4-pin	WF120-40B41CA00	6058600
	59 mm	Push-pull: PNP/NPN	Male connector M8, 4-pin	WF120-60B41CA00	6058607
	95 mm	Push-pull: PNP/NPN	Male connector M8, 4-pin	WF120-95B41CA00	6058614

- **Communication interface:** -
- **Light source:** LED, Infrared light (Continuous.)

Fork width	Fork depth	Switching output	Connection type Detail	Type	Part no.
3 mm	60 mm	PNP/NPN	Male connector M8, 4-pin	WF3T-B4210	6020874
5 mm	60 mm	PNP/NPN	Male connector M8, 4-pin	WF5T-B4210	6021220

- **Communication interface:** -
- **Light source:** LED, Infrared light

Fork width	Fork depth	Switching output	Connection type Detail	Type	Part no.
2 mm	40 mm	PNP/NPN	Male connector M8, 4-pin	WF2-B4210	6012062

- **Communication interface:** -
- **Light source:** LED, Infrared light (Pulsating.)

Fork width	Fork depth	Switching output	Connection type Detail	Type	Part no.
225 mm	60 mm	PNP/NPN	Male connector M8, 4-pin	WF225-B4150	6022139

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:

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