

WF120-95B416

WF

FORK SENSORS





Ordering information

Туре	Part no.
WF120-95B416	6028470

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

Illustration may differ



Detailed technical data

Features

Functional principle	Fork sensor
Functional principle detail	Optical detection principle
Dimensions (W x H x D)	10 mm x 150 mm x 110 mm
Fork width	120 mm
Fork depth	95 mm
Minimum detectable object (MD0)	0.2 mm
Light source	LED, infrared
Wave length	850 nm
Adjustment	Plus/minus button (Teach-in, sensitivity, light/dark switching, key lock)
Teach-in mode	2-point teach-in
Output function	Light/darkswitching, selectable via button

Mechanics/electronics

Switching frequency	10 kHz ¹⁾
Response time	100 μs
Stability of response time	± 20 µs
Jitter	40 μs
Switching output	PNP/NPN
Switching output (voltage)	PNP: HIGH = $U_V \le 2 \text{ V} / \text{LOW approx. 0 V}$ NPN: HIGH = approx. $U_V / \text{LOW} \le 2 \text{ V}$
Switching mode	Light/dark switching
Output current I _{max.}	100 mA
Connection type	Male connector M8, 4-pin

¹⁾ With light/dark ratio 1:1.

²⁾ Reference voltage DC 50 V.

³⁾ Depending on fork width.

Protection class	III ²⁾
Circuit protection	U _V connections, reverse polarity protected Output Q short-circuit protected Interference pulse suppression
Enclosure rating	IP65
Weight	Approx. 36 g 160 g ³⁾
Housing material	Metal, Aluminum

¹⁾ With light/dark ratio 1:1.

Safety-related parameters

MTTF _D	97 years
DC _{avg}	0 %

Ambient data

Ambient light immunity	≤ 10,000 lx
Shock load	According to EN 60068-2-27
UL File No.	NRKH.E191603

Classifications

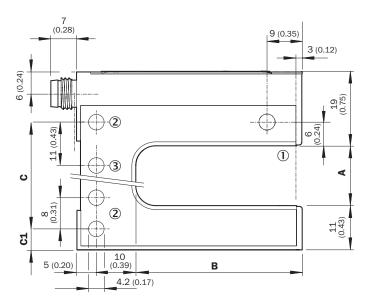
ECLASS 5.0	27270909
ECLASS 5.1.4	27270909
ECLASS 6.0	27270909
ECLASS 6.2	27270909
ECLASS 7.0	27270909
ECLASS 8.0	27270909
ECLASS 8.1	27270909
ECLASS 9.0	27270909
ECLASS 10.0	27270909
ECLASS 11.0	27270909
ECLASS 12.0	27270909
ETIM 5.0	EC002720
ETIM 6.0	EC002720
ETIM 7.0	EC002720
ETIM 8.0	EC002720
UNSPSC 16.0901	39121528

²⁾ Reference voltage DC 50 V.

³⁾ Depending on fork width.

Dimensional drawing (Dimensions in mm (inch))





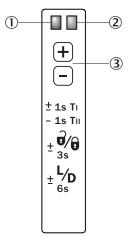
- ① Optical axis
- ② Mounting hole, Ø 4.2 mm
- ③ WF50/80/120 only

Dimensions in mm (inch)

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

Adjustments

Adjustment: teach-in via plus/minus buttons (WFxx-B416)



- ① Function signal indicator (yellow), switching output
- ② Function indicator (red)
- ③ "+"/"-" buttons and function button

Connection diagram

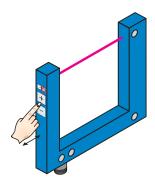
Cd-086

Concept of operation

Teach-in via plus/minus buttons (WFxx-B416)

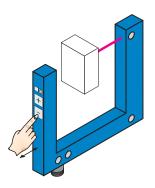
The switching threshold is set automatically. Fine adjustment is possible using the "+"/"-" buttons.

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.



 $\begin{tabular}{ll} $ \underline{\textbf{L}/\textbf{D}} \\ \underline{\textbf{G}} \\ \hline \end{tabular} $ & $\text{Press both the "+" and "-" buttons together (6 seconds) to define the switching function (light/dark switching). Standard setting: $\overline{\textbf{Q}}$ = light switching. \end{tabular}$

Recommended accessories

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

	Brief description	Туре	Part no.		
Plug connecto	Plug connectors and cables				
	 Connection type head A: Female connector, M8, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals 	YF8U14- 050VA3XLEAX	2095889		
	 Connection type head A: Male connector, M8, 4-pin, straight Description: Unshielded Connection systems: Screw-type terminals Permitted cross-section: 0.14 mm² 0.5 mm² 	STE-0804-G	6037323		

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