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DATA SHEET

WF2-40B410

WF
Fork sensors

SICK Sensor Intelligence



Illustration may differ

FORK SENSORS

WF2-40B410

ORDERING INFORMATION

Type	part no.
WF2-40B410	6028428

Further device versions and accessories at www.sick.com/WF

DETAILED TECHNICAL DATA

FEATURES

Functional principle	Optical detection principle
Dimensions (W x H x D)	10 mm x 32 mm x 57 mm
Fork width	2 mm
Fork depth	42 mm
Light source	LED, Infrared light
Label detection	✓
Minimum detectable object (MDO)	0.2 mm
Adjustment	Plus/minus button (Sensitivity, light/dark switching, key lock)
Teach-in mode	–
Output function	Light/darkswitching, selectable via button
Safety-related parameters	
$MTTF_D$	97 years
DC_{avg}	0 %

ELECTRONICS

Supply voltage	10 V DC ... 30 V DC
Ripple	< 10 %
Current consumption	40 mA
Initialization time	100 ms
Switching frequency	10 kHz
Response time	≤ 100 µs
Stability of response time	± 20 µs
Jitter	40 µs
Switching output	PNP/NPN
Switching output (voltage)	PNP: HIGH = U_V ≤ 2 V / LOW approx. 0 V

[1] Reference voltage DC 50 V.

	NPN: HIGH = approx. U_V / LOW ≤ 2 V
Switching mode	Light/dark switching
Output current $I_{max.}$	100 mA
Protection class	III [1]
Circuit protection	U_V connections, reverse polarity protected Output Q short-circuit protected Interference pulse suppression
Connection type	Male connector M8, 4-pin

[1] Reference voltage DC 50 V.

MECHANICS

Housing material	Aluminum
Weight	Approx. 36 g ... 160 g [1]

[1] Depending on fork width.

AMBIENT DATA

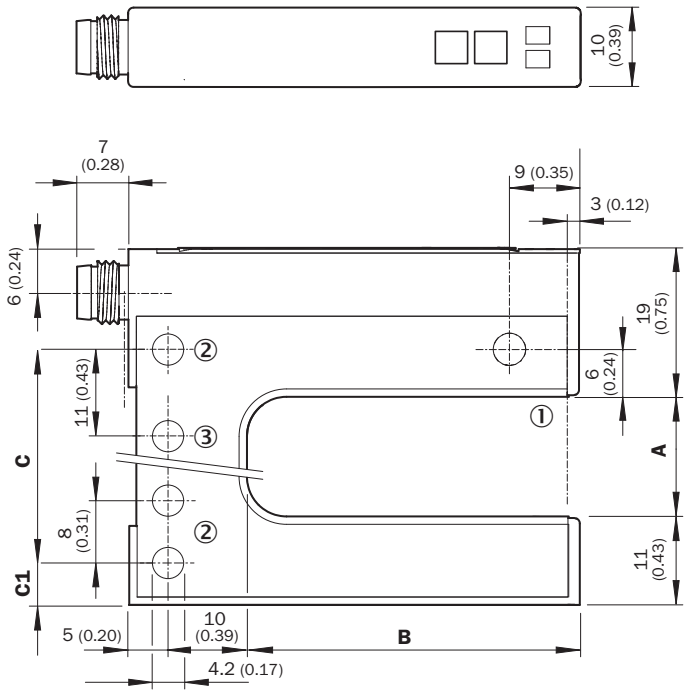
Ambient operating temperature	–20 °C ... +60 °C [1]
Ambient temperature, storage	–30 °C ... +80 °C
Ambient light immunity	≤ 10,000 lx
Shock load	According to EN 60068-2-27
Enclosure rating	IP65
UL File No.	NRKH.E191603

[1] Do not bend below 0 °C.

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	✓
Photobiological safety (IEC EN 62471)	✓

DIMENSIONAL DRAWING

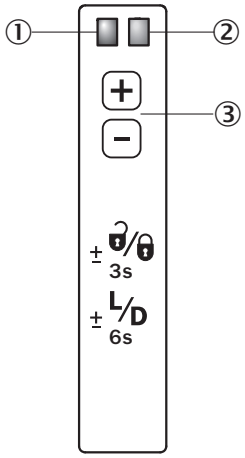


Dimensions in mm (inch)

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

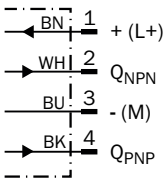
Dimensions in mm (inch)
① Optical axis
② Mounting hole, Ø 4.2 mm
③ WF50/80/120 only

ADJUSTMENTS ADJUSTMENT: PLUS/MINUS BUTTONS (WFXX-B410)



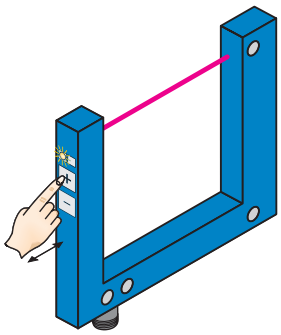
① Function signal indicator (yellow), switching output
② Function indicator (red)
③ “+”/“–” buttons and function button

CONNECTION DIAGRAM CD-086



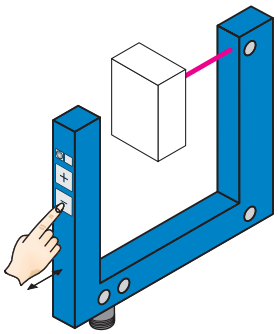
CONCEPT OF OPERATION SETTING THE SWITCHING THRESHOLD VIA PLUS/MINUS BUTTONS (WFXX-B410)

1. No object in the beam path



The yellow function indicator illuminates when the light received is at its optimum level. If necessary, increase sensitivity using the “+” button.

2. Object in the beam path



Yellow function indicator goes out. If necessary, reduce sensitivity using the “–” button.

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/6028428

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