Product data sheet

WF80-60B410

WF

FORK SENSORS

SICK
Sensor Intelligence.

Illustration may differ

Ordering information

Type	Part no.
WF80-60B410	6028441

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

Detailed technical data

Features

Functional principle	Optical detection principle
Dimensions (W x H x D)	10 mm x 110 mm x 74 mm
Housing design	Fork shaped
Fork width	80 mm
Fork depth	59 mm
Minimum detectable object (MDO)	0.2 mm
Label detection	✓
Light source	LED, infrared, Infrared light
Wave length	850 nm
Adjustment	Plus/minus button (Sensitivity, light/dark switching, key lock)
Teach-in mode	–
Output function	Light/darkswitching, selectable via button

Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC [1]
Ripple	< 10 % [2]
Current consumption	40 mA
Switching frequency	10 kHz [3]
Response time	100 µs
Stability of response time	± 20 µs
Jitter	40 µs
Switching output	PNP/NPN

[1] Limit values, reverse-polarity protected, operation in short-circuit protected network: max. 8 A.
[2] May not exceed or fall below U_V tolerances.
[3] With light/dark ratio 1:1.
[4] Reference voltage DC 50 V.
[5] Depending on fork width.

Switching output (voltage)	PNP: HIGH = U_V ≤ 2 V / LOW approx. 0 V NPN: HIGH = approx. U_V / LOW ≤ 2 V
Switching mode	Light/dark switching
Output current $I_{max.}$	100 mA
Initialization time	100 ms
Connection type	Male connector M8, 4-pin
Protection class	III [4]
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 [5]
Housing material	Metal, Aluminum

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[3] With light/dark ratio 1:1.
[4] Reference voltage DC 50 V.
[5] Depending on fork width.

Ambient data

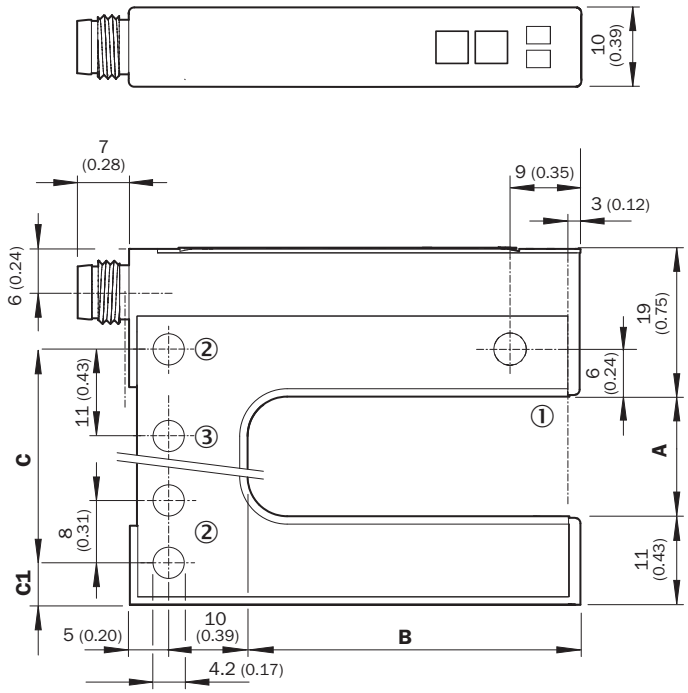
Ambient operating temperature	–20 °C ... +60 °C [1]
Ambient temperature, storage	–30 °C ... +80 °C
Ambient light immunity	≤ 10,000 lx
Shock load	According to EN 60068-2-27
UL File No.	NRKH.E191603

[1] Do not bend below 0 °C.

Classifications

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

Dimensional drawing (Dimensions in mm (inch))



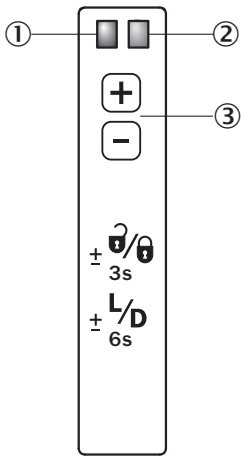
① Optical axis
② Mounting hole, Ø 4.2 mm
③ WF50/80/120 only

Dimensions in mm (inch)

	A Fork width	B Fork depth	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)

Adjustments

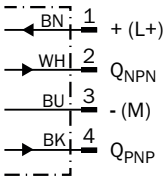
Adjustment: plus/minus buttons (WFxx-B410)



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

Connection diagram

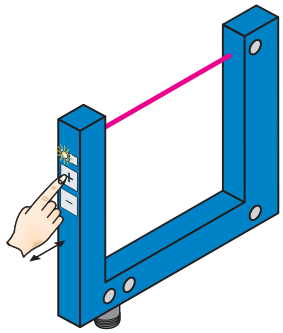
Cd-086



Concept of operation

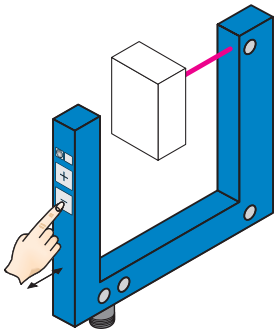
Setting the switching threshold via plus/minus buttons (WFxx-B410)

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.

Recommended accessories

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

	Brief description	Type	Part no.
Plug connectors and cables			
	Head A: female connector, M8, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m	YF8U14-050VA3XLEAX	2095889
	Head A: male connector, M8, 4-pin, straight Cable: unshielded	STE-0804-G	6037323

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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.”

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