



WF50-60B410

WF

FORK SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	part no.
WF50-60B410	6028440

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 80 mm x 74 mm
Fork width	50 mm
Fork depth	59 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
	± 20 µs
Stability of response time	± 20 µs

¹⁾ Reference voltage DC 50 V.

Jitter	40 µs
Switching output	PNP/NPN
Switching output (voltage)	PNP: HIGH = $U_V \leq 2 \text{ V}$ / LOW approx. 0 V NPN: HIGH = approx. U_V / LOW $\leq 2 \text{ V}$
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	$\leq 10,000 \text{ lx}$
Shock load	According to EN 60068-2-27
Enclosure rating	IP65
UL File No.	NRKH.E191603

¹⁾ Do not bend below 0 °C.

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

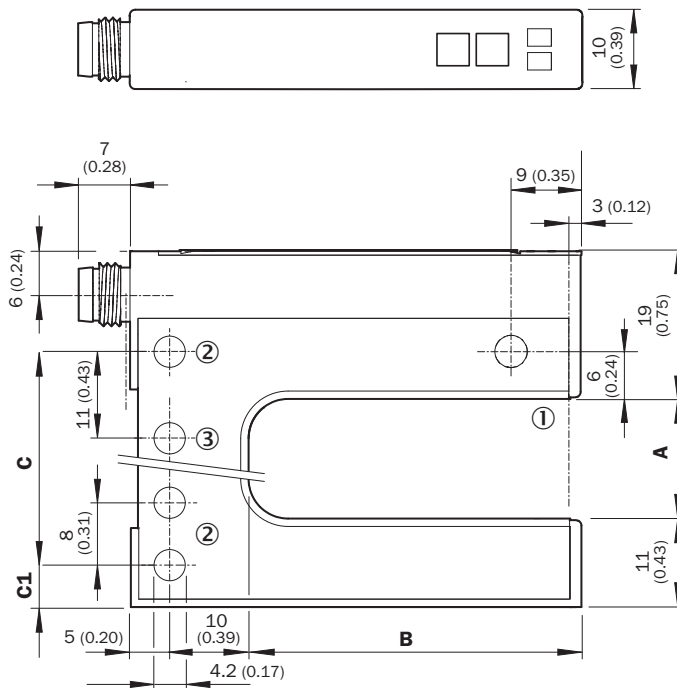
UNSPSC 16.0901

39121528

Certificates

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
cULus certificate	✓
Photobiological safety (IEC EN 62471)	✓

Dimensional drawing



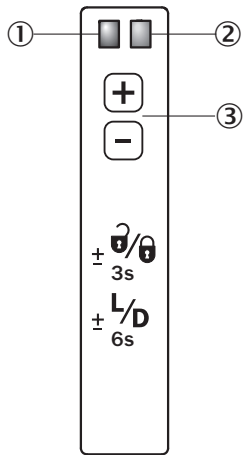
Dimensions in mm (inch)

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

Dimensions in mm (inch)

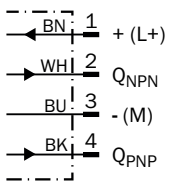
	A Fork width	B Fork depth	C	C1
WF2	2 (0.08)	42/59/95 (1.65/2.32/3.74)	14 (0.55)	5 (0.20)
WF5	5 (0.20)	42/59/95 (1.65/2.32/3.74)	14 (0.55)	6.5 (0.20)
WF15	15 (0.59)	42/59/95 (1.65/2.32/3.74)	27 (1.06)	5 (0.20)
WF30	30 (1.18)	42/59/95 (1.65/2.32/3.74)	42 (1.65)	5 (0.20)
WF50	50 (1.97)	42/59/95 (1.65/2.32/3.74)	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.
connectors and cables			
	• Connection type head A: Male connector, M8, 4-pin, straight, A-coded • Description: Unshielded • Connection systems: Screw-type terminals • Permitted cross-section: 0.14 mm² ... 0.5 mm²	STE-0804-G	6037323
	• 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, Uncontaminated zones	YF8U14-050VA3XLEAX	2095889

SICK AT A GLANCE

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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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