



Illustration may differ



Ordering information

Type	Part no.
WF2-40B416	6028450

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 32 mm x 57 mm
Housing design	Fork shaped
Fork width	2 mm
Fork depth	42 mm
Minimum detectable object (MDO)	0.2 mm
Light source	LED, infrared, Infrared light
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

Supply voltage	10 V DC ... 30 V DC ¹⁾
Ripple	< 10 % ²⁾
Switching frequency	10 kHz ³⁾
Response time	100 µs
Stability of response time	± 20 µs
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 $\leq 2 \text{ V}$

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 mode	Light/dark switching
Output current I_{max}	100 mA
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

Connection diagram

Cd-086

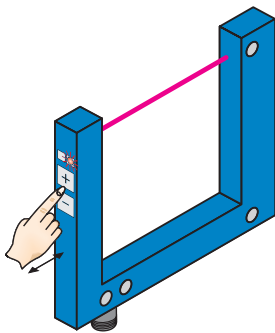


Concept of operation

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

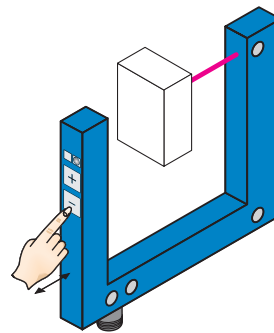
The switching threshold is set automatically. Fine adjustment is possible using the “+”/“–” buttons.

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.
-  Press both the “+” and “–” buttons together (6 seconds) to define the switching function (light/dark switching). Standard setting: \bar{Q} = light switching.

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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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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