Data sheet

WFS3-40N41C

WFS

FORK SENSORS

SICK
Sensor Intelligence.

Illustration may differ

Ordering information

Type	part no.
WFS3-40N41C	6053766

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

Detailed technical data

Features

Functional principle	Optical detection principle
Dimensions (W x H x D)	10 mm x 25 mm x 64.3 mm
Fork width	3 mm
Fork depth	42 mm
Minimum detectable object (MDO)	Gap between Labels / Size of labels: 2 mm [1]
Label detection	✓
Light source	LED, infrared, Infrared light
Adjustment	Plus/minus button, cable (Teach-in, sensitivity, light/dark switching, Teach-in dynamic)
Teach-in mode	2-point teach-in Teach-in dynamic
Safety-related parameters	
$MTTF_D$	97 years
DC_{avg}	0 %

[1] Depends on the label thickness.

Interfaces

IO-Link	✓ , IO-Link V1.1
VendorID	26
DeviceID HEX	80006F
DeviceID DEC	8388719
Cycle time	2.3 ms

Electronics

Supply voltage	10 V DC ... 30 V DC
Ripple	< 10 %
Current consumption	20 mA [1]
Switching frequency	15 kHz
Response time	≤ 46 µs [2]
Stability of response time	± 20 µs
Jitter	17 µs
Switching output	NPN
Switching output (voltage)	NPN: HIGH = approx. U_V / LOW ≤ 2 V
Switching mode	Light/dark switching
Output current $I_{max.}$	100 mA
Input, teach-in (ET)	Teach: U > 5 V ... < U_V
Initialization time	40 ms
Circuit protection	U_V connections, reverse polarity protected Output Q short-circuit protected Interference pulse suppression
Enclosure rating	IP65

[1] Without load.
[2] Signal transit time with resistive load.

Mechanics

Housing material	PA (glass-fiber reinforced)
Connection type	Male connector M8, 4-pin
Weight	Approx. 36 g

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
Protection class	III
UL File No.	NRKH.E191603

[1] Do not bend below 0 °C.

Certificates

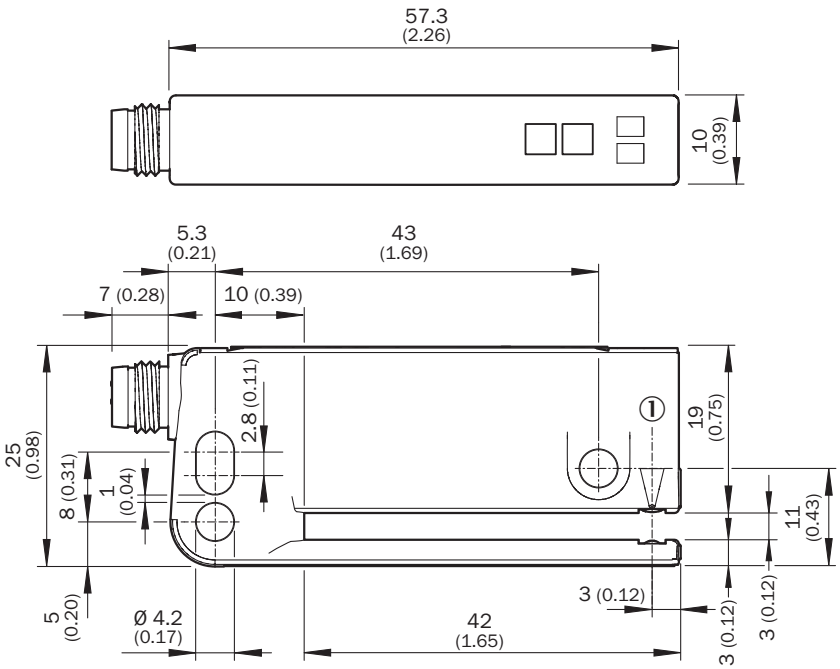
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
cULus certificate	✓
IO-Link	✓

Information according to Art. 3 of Data Act (Regulation EU 2023/2854)	✓

Classifications

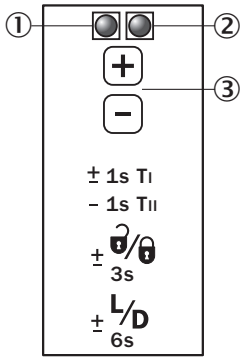
ECLASS 5.0	27270909
ECLASS 5.1.4	27270909
ECLASS 6.0	27270909
ECLASS 6.2	27270909
ECLASS 7.0	27270909
ECLASS 8.0	27270909
ECLASS 8.1	27270909
ECLASS 9.0	27270909
ECLASS 10.0	27270909
ECLASS 11.0	27270909
ECLASS 12.0	27270909
ETIM 5.0	EC002720
ETIM 6.0	EC002720
ETIM 7.0	EC002720
ETIM 8.0	EC002720
UNSPSC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

Dimensional drawing



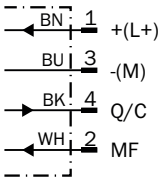
Dimensions in mm (inch)
① Optical axis

Adjustments WFS, IO-Link



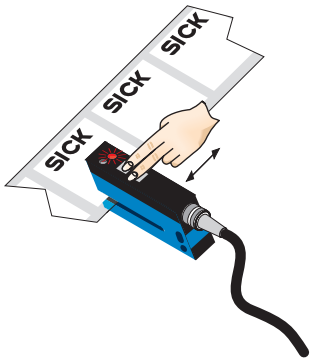
① Function signal indicator (yellow)
② Power on funktion (green)
③ “+”/“–” buttons and function button

Connection diagram Cd-278



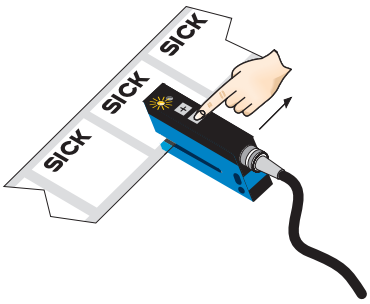
Concept of operation

1. Position label or substrate in the active area of the fork sensor



Press both the “+” and “–” buttons together, hold > 1 s and than release the teach-in buttons. The red LED flashes.

2. Move multiple labels through the fork sensor



Press “–” button, teach-in process is finished.

Notes

Switching threshold adaptation:
Only, the first teach-in procedure after switching on is permanently stored. Teach-in can be repeated cyclically. Switching output also during teach-in active.

+
–

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.

± 3s

Press both the “+” and “–” buttons together (3 seconds) to lock the device and prevent unintentional actuation.

± L/D 6s

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

Teach-in (static): Setting the switching threshold without movements of label, cf. operating instruction.

Recommended accessories

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

	Brief description	Type	part no.
network devices			
		IOLA2US-01101 (SiLink2 Master)	1061790
		SIG200-0A0412200	1089794
		SIG200-0A0G12200	1102605
Mounting systems			
	• **Description:** WFS mounting rod, straight, including 2 x fixing screws • **Material:** Steel • **Details:** Aluminum	BEF-M12GF-A	2059414
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

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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.”

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