



WFS3-40P01CS01

WFS

FORK SENSORS

SICK
Sensor Intelligence.



Ordering information

Type	part no.
WFS3-40P01CS01	6053761

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

Illustration may differ



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	Teach-in button, cable (Teach-in, sensitivity, light/dark switching, key lock, Teach-in dynamic)
Teach-in mode	1-point teach-in 2-point teach-in Teach-in dynamic

¹⁾ Depends on the label thickness.

Mechanics/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⁾

¹⁾ Without load.²⁾ Signal transit time with resistive load.

Stability of response time	± 20 µs
Jitter	17 µs
Switching output	PNP
Switching output (voltage)	Push-pull: PNP/NPN High = U _V - < 2 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 Run: U < 4 V
Initialization time	40 ms
Connection type	Cable, 4-wire, 0.5 m
Protection class	III
Circuit protection	U _V connections, reverse polarity protected Output Q short-circuit protected Interference pulse suppression
Enclosure rating	IP65
Weight	Approx. 36 g
Housing material	PA (glass-fiber reinforced)

1) Without load.

2) Signal transit time with resistive load.

Communication interface

IO-Link	✓, IO-Link V1.1
VendorID	26
DeviceID HEX	800091
DeviceID DEC	8388753
Cycle time	2.3 ms

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.

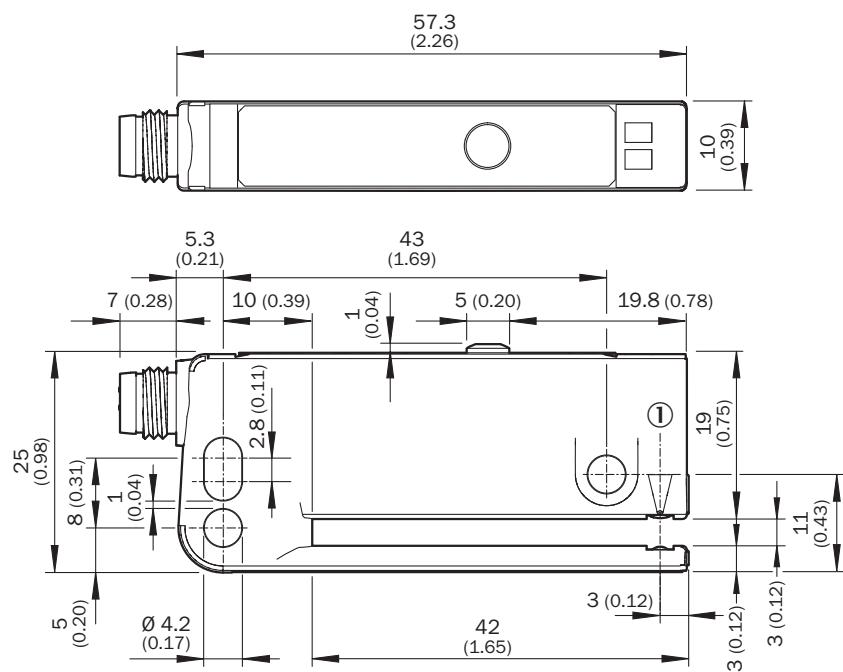
Certificates

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

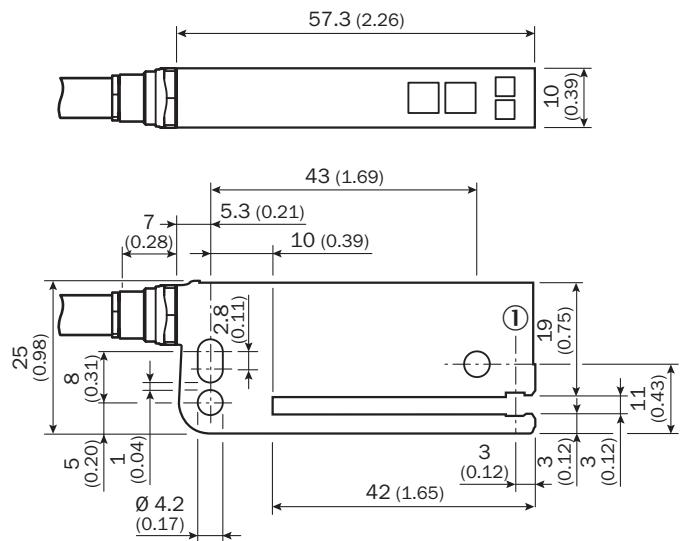
Classifications

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



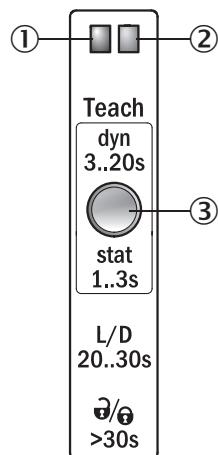
Dimensional drawing



Dimensions in mm (inch)

① Optical axis

Adjustments Adjustment: teach-in via Teach-in button (WFxx-B41Cxx)

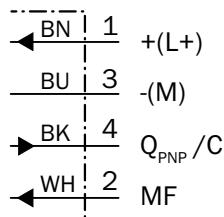


① Function signal indicator (yellow), switching output

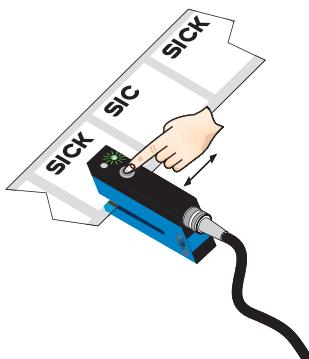
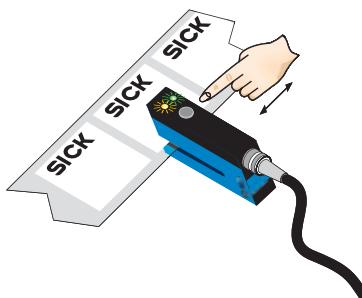
② Function signal indicator (green)

③ Teach-in button and function button

Connection diagram Cd-314



Concept of operation Teach-in dynamic via Teach-in button

1. Start teach-in: Position carrier or label between the fork**2. End teach-in:**

Press the teach-in button for 3 - 20 s. With the pushbutton pressed down, move several label with carrier material (label) through the sensor. The yellow LED flashes at 3 Hz during the teach-in procedure. Recommendation: Move at least 3 label + carrier through the sensor.

Release the teach-in button for < 20 s. If teach-in is successful, the function indicator (yellow LED) directly indicates the output state of the sensor. The switching threshold is now optimally set between carrier and label. The best possible operational safety is provided.

Note**Fine adjustment**

In order to obtain a higher operating reserve, a fine adjustment can be carried out after successful teach-in. For this purpose, the switching threshold is set close to the taught-in object. The teach-in button must be pressed and released within 10 s of successful teach-in. Successful setting is signaled by flashing twice at 1 Hz.

Light/dark switching

- You can change between light switching and dark switching by pressing the teach-in button for 20 - 30 s.

Pushbutton lock

- The device can be locked against unintended operation by pressing the teach-in button for > 30 s.
- The device can be unlocked by pressing the teach-in button again for > 30 s.

Recommended accessories

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

	Brief description	Type	part no.
Mounting systems			
	<ul style="list-style-type: none">Description: WFS mounting rod, straight, including 2 x fixing screwsMaterial: SteelDetails: Aluminum	BEF-M12GF-A	2059414
connectors and cables			
	<ul style="list-style-type: none">Connection type head A: Male connector, M8, 4-pin, straight, A-codedDescription: UnshieldedConnection systems: Screw-type terminalsPermitted cross-section: 0.14 mm² ... 0.5 mm²	STE-0804-G	6037323
	<ul style="list-style-type: none">Connection type head A: Female connector, M8, 4-pin, straight, A-codedConnection type head B: Flying leadsSignal type: Sensor/actuator cableCable: 5 m, 4-wire, PVCDescription: Sensor/actuator cable, unshieldedApplication: Zones with chemicals, Uncontaminated zones	YF8U14-050VA3XLEAX	2095889
	<ul style="list-style-type: none">Connection type head A: Female connector, M8, 4-pin, straight, A-codedConnection type head B: Male connector, M12, 4-pin, straight, A-codedSignal type: Sensor/actuator cableCable: 5 m, 4-wire, PVCDescription: Sensor/actuator cable, unshieldedApplication: Zones with chemicals, Uncontaminated zones	YF8U14-050VA3M2A14	2096609
network devices			
		IOLA2US-01101 (SiLink2 Master)	1061790
		SIG200-0A0412200	1089794
		SIG200-0A0G12200	1102605

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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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