



WFS3-40P115

WFS

FORK SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

| Type | part no. |
|-------------|----------|
| WFS3-40P115 | 6055433 |

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 |
| Light source | LED, Infrared light |
| Label detection | ✓ |
| Minimum detectable object (MDO) | Gap between Labels / Size of labels: 2 mm ¹⁾ |
| 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.

Electronics

| | |
|----------------------------|---------------------|
| Supply voltage | 10 V DC ... 30 V DC |
| Ripple | < 10 % |
| Current consumption | 20 mA ¹⁾ |
| Initialization time | 20 ms |
| Switching frequency | 10 kHz |
| Response time | ≤ 50 μs |

¹⁾ Without load.

| | |
|---|---|
| Stability of response time | $\pm 20 \mu\text{s}$ |
| Jitter | 40 μs |
| Switching output | PNP |
| Switching output (voltage) | PNP: HIGH = $U_V \leq 2 \text{ V}$ / LOW approx. 0 V |
| Switching mode | Light/dark switching |
| Output current I_{max} | 100 mA |
| Input, teach-in (ET) | PNP Teach: $U > 5 \text{ V} \dots < U_V$ Run: $U < 4 \text{ V}$ |
| Protection class | III |
| Circuit protection | U_V connections, reverse polarity protected Output Q short-circuit protected Interference pulse suppression |
| Connection type | Cable, 4-wire, 2 m |

¹⁾ Without load.

Mechanics

| | |
|-------------------------|-----------------------------|
| Housing material | PA (glass-fiber reinforced) |
| Weight | Approx. 36 g |

Ambient data

| | |
|--------------------------------------|---|
| Ambient operating temperature | $-20 \text{ }^\circ\text{C} \dots +60 \text{ }^\circ\text{C}$ ¹⁾ |
| Ambient temperature, storage | $-30 \text{ }^\circ\text{C} \dots +80 \text{ }^\circ\text{C}$ |
| 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 $^\circ\text{C}$.

Classifications

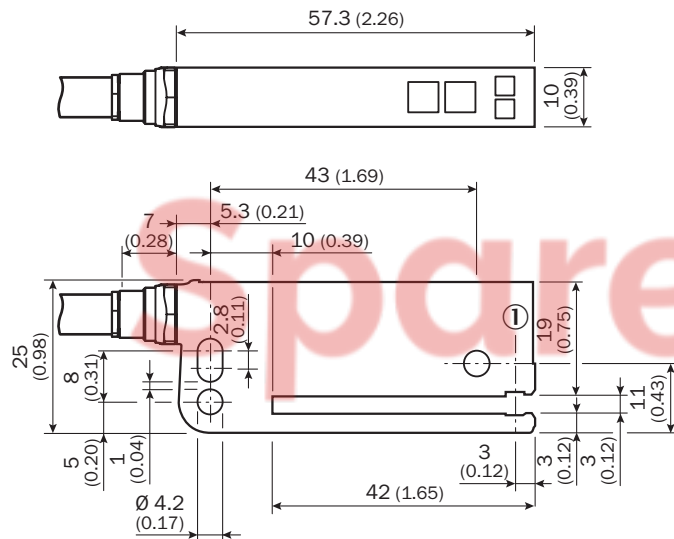
| | |
|---------------------|----------|
| ECLASS 5.0 | 27270909 |
| ECLASS 5.1.4 | 27270909 |
| ECLASS 6.0 | 27270909 |
| ECLASS 6.2 | 27270909 |
| ECLASS 7.0 | 27270909 |
| ECLASS 8.0 | 27270909 |
| ECLASS 8.1 | 27270909 |
| ECLASS 9.0 | 27270909 |
| ECLASS 10.0 | 27270909 |
| ECLASS 11.0 | 27270909 |
| 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 | ✓ |

Dimensional drawing



Dimensions in mm (inch)

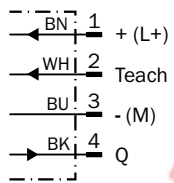
① Optical axis

Adjustments Adjustment: teach-in via plus/minus buttons (WFxx-B416)



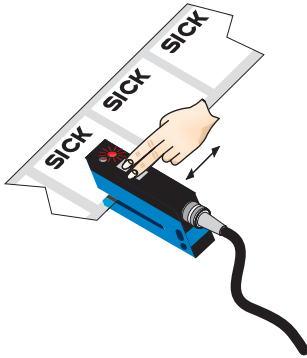
- ① Function signal indicator (yellow), switching output
- ② Function indicator (red)
- ③ “+”/“-” buttons and function button

Connection diagram Cd-092



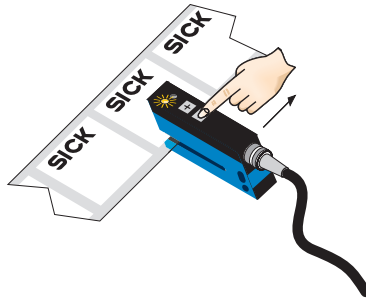
Concept of operation

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



Press both the “+” and “-” buttons together, hold > 1 s and then 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.
-
- $\pm \frac{0}{3s}$ Press both the “+” and “-” buttons together (3 seconds) to lock the device and prevent unintentional actuation.
- $\pm \frac{L/D}{6s}$ 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. |
|---|---|-------------|----------|
| Mounting systems | | | |
|  | <ul style="list-style-type: none"> • Description: WFS mounting rod, straight, including 2 x fixing screws • Material: Steel • Details: Aluminum | BEF-M12GF-A | 2059414 |

| | Brief description | Type | part no. |
|---|--|--------------------|----------|
| connectors and cables | | | |
|  | <ul style="list-style-type: none"> • 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 |
|  | <ul style="list-style-type: none"> • 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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