



WFM30-40P321

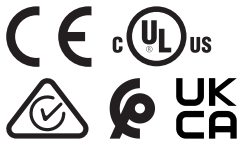
WFM

FORK SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

| Type | part no. |
|--------------|----------|
| WFM30-40P321 | 6037819 |

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

Detailed technical data

Features

| | |
|--|-----------------------------|
| Functional principle | Optical detection principle |
| Dimensions (W x H x D) | 10 mm x 50 mm x 59.5 mm |
| Fork width | 30 mm |
| Fork depth | 42 mm |
| Minimum detectable object (MDO) | 0.8 mm |
| Light source | LED, red |
| Adjustment | None |

Mechanics/electronics

| | |
|---|---|
| Supply voltage | 10 V DC ... 30 V DC |
| Ripple | < 10 % |
| Current consumption | < 20 mA ¹⁾ |
| Switching frequency | 4 kHz |
| Response time | ≤ 125 μs ²⁾ |
| Stability of response time | ± 15 μs |
| Switching output | PNP |
| Switching output (voltage) | PNP: HIGH = $V_S - \leq 1.5 \text{ V}$ / LOW = 0 V NPN: HIGH = approx. V_S / LOW ≤ 1.5 V |
| Switching mode | Dark switching |
| Output current I_{max} | 100 mA |
| Initialization time | 140 ms |

¹⁾ Without load.

²⁾ Signal transit time with resistive load.

³⁾ Reference voltage DC 50 V.

⁴⁾ Depending on fork width.

| | |
|---------------------------|--|
| Connection type | Connector M8, 3-pin |
| Protection class | III ³⁾ |
| Circuit protection | U _V connections, reverse polarity protected Output Q short-circuit protected Interference pulse suppression |
| Enclosure rating | IP67 |
| Weight | Approx. 80 g ... 190 g ⁴⁾ |
| Housing material | Aluminum |

¹⁾ Without load.

²⁾ Signal transit time with resistive load.

³⁾ Reference voltage DC 50 V.

⁴⁾ Depending on fork width.

Safety-related parameters

| | |
|-------------------------|-----------|
| MTTF_D | 131 years |
| DC_{avg} | 0 % |

Ambient data

| | |
|--------------------------------------|---------------------------------|
| Ambient operating temperature | -10 °C ... +60 °C ¹⁾ |
| Ambient temperature, storage | -40 °C ... +80 °C |
| Ambient light immunity | ≤ 10,000 lx |
| Shock load | According to EN 60068-2-27 |
| UL File No. | NRKH.E191603 & NRKH7.E191603 |

¹⁾ Do not bend below 0 °C.

Certificates

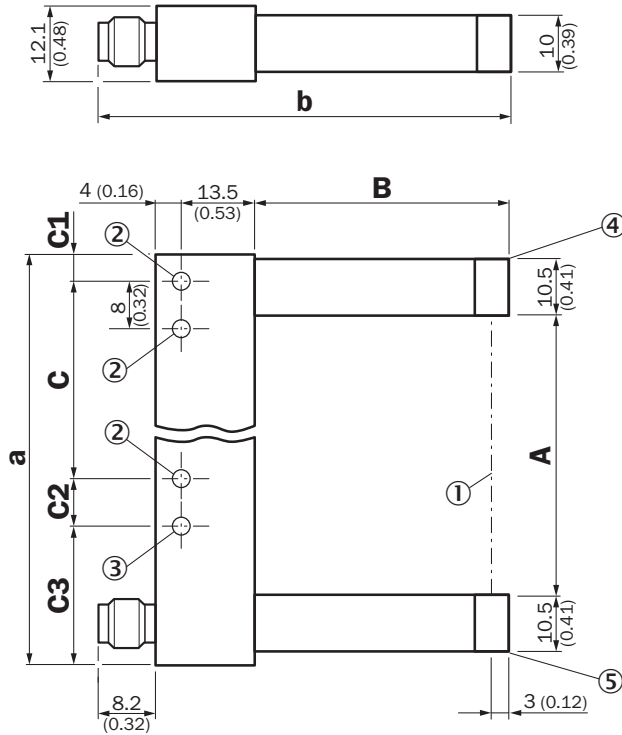
| | |
|---|---|
| EU declaration of conformity | ✓ |
| UK declaration of conformity | ✓ |
| ACMA declaration of conformity | ✓ |
| Moroccan declaration of conformity | ✓ |
| China-RoHS | ✓ |
| cULus certificate | ✓ |

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)

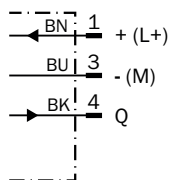
| | A Fork width | B Fork depth | C | C1 |
|---------------|------------------------|------------------------|---------------|---------------|
| WFM30 | 30 (1.18) | 42 (1.65) | 30 (1.18) | 6.5 (0.26) |
| WFM50 | 50 (1.97) | 60 (2.36) | 40 (1.57) | 6.5 (0.26) |
| WFM80 | 80 (3.15) | 60 (2.36) | 70 (2.76) | 6.5 (0.26) |
| WFM120 | 120 (4.72) | 124.3 (4.89) | 100 (3.94) | 17 (0.67) |
| WFM180 | 180 (7.09) | 124.3 (4.89) | 152 (5.98) | 22 (0.87) |

| | C2 | C3 | a | b |
|---------------|--------------|----------------|---------------|-----------------|
| WFM30 | - (-) | - (-) | 54 (2.13) | 67.7 (2.67) |
| WFM50 | 8 (0.31) | 19.5 (0.77) | 74 (2.91) | 85.7 (3.37) |
| WFM80 | 8 (0.31) | 19.5 (0.77) | 104 (4.09) | 85.7 (3.37) |
| WFM120 | 10 (0.39) | 17 (0.67) | 144 (5.67) | 150.2 (5.91) |
| WFM180 | 8 (0.31) | 22 (0.87) | 204 (8.03) | 150.2 (5.91) |

Dimensions in mm (inch)




- ① Optical axis
- ② Mounting hole, Ø 4.3 mm
- ③ WFM50/80/120/180
- ④ Transmitted light (red)
- ⑤ Function signal indicator (yellow), switching output

Connection diagram Cd-045



Recommended accessories

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

| | Brief description | Type | part no. |
|---|---|--------------------|----------|
| connectors and cables | | | |
|  | <ul style="list-style-type: none">• Connection type head A: Female connector, M8, 3-pin, straight, A-coded• Description: Unshielded• Connection systems: Screw-type terminals• Permitted cross-section: 0.14 mm² ... 0.5 mm² | DOS-0803-G | 7902077 |
|  | <ul style="list-style-type: none">• Connection type head A: Male connector, M8, 3-pin, straight, A-coded• Description: Unshielded• Connection systems: Screw-type terminals• Permitted cross-section: 0.14 mm² ... 0.5 mm² | STE-0803-G | 6037322 |
|  | <ul style="list-style-type: none">• Connection type head A: Female connector, M8, 3-pin, straight, A-coded• Connection type head B: Flying leads• Signal type: Sensor/actuator cable• Cable: 5 m, 3-wire, PVC• Description: Sensor/actuator cable, unshielded• Application: Zones with chemicals, Uncontaminated zones | YF8U13-050VA1XLEAX | 2095884 |

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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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