Product data sheet



WFM50-60N321

WFM

FORK SENSORS

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

Type	Part no.
WFM50-60N321	6037826

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

Detailed technical data

Features

Functional principle	Fork sensor
Functional principle detail	Optical detection principle
Dimensions (W x H x D)	10 mm x 70 mm x 77.5 mm
Fork width	50 mm
Fork depth	60 mm
Minimum detectable object (MDO)	0.8 mm
Light source	LED, red
Adjustment	None

Mechanics/electronics

Current consumption	< 20 mA [1]
Switching frequency	4 kHz [2]
Stability of response time	± 15 µs
Switching output	NPN
Switching output (voltage)	PNP: HIGH = V_S – ≤ 1.5 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
Connection type	Connector M8, 3-pin
Protection class	III [3]
Circuit protection	U_V connections, reverse polarity protected Output Q short-circuit protected

[1] Without load.
[2] With light/dark ratio 1:1.
[3] Reference voltage DC 50 V.
[4] Depending on fork width.

	Interference pulse suppression
Enclosure rating	IP67
Weight	Approx. 80 g ... 190 g [4]
Housing material	Metal, Aluminum

[1] Without load.
[2] With light/dark ratio 1:1.
[3] Reference voltage DC 50 V.
[4] Depending on fork width.

Safety-related parameters

$MTTF_D$	131 years
DC_{avg}	0 %

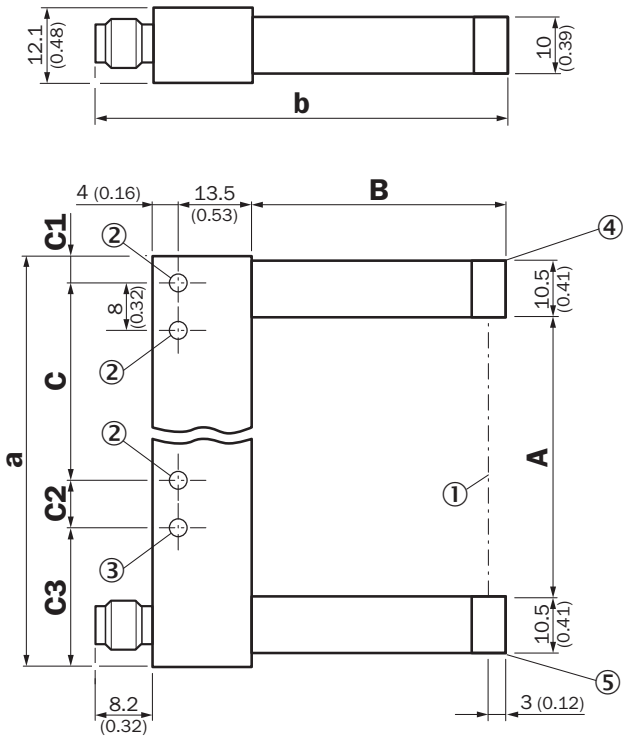
Ambient data

Ambient light immunity	≤ 10,000 lx
Shock load	According to EN 60068-2-27
UL File No.	NRKH.E191603 & NRKH7.E191603

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))



Dimensions in mm (inch)

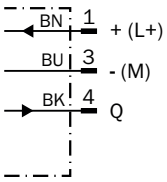
	A Fork width	B Fork depth	C	C1
WFM30	30 (1.18)	42 (1.65)	30 (1.18)	6.5 (0.26)
WFM50	50 (1.97)	60 (2.36)	40 (1.57)	6.5 (0.26)
WFM80	80 (3.15)	60 (2.36)	70 (2.76)	6.5 (0.26)
WFM120	120 (4.72)	124.3 (4.89)	100 (3.94)	17 (0.67)
WFM180	180 (7.09)	124.3 (4.89)	152 (5.98)	22 (0.87)

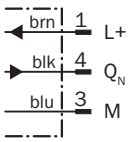
	C2	C3	a	b
WFM30	– (–)	– (–)	54 (2.13)	67.7 (2.67)
WFM50	8 (0.31)	19.5 (0.77)	74 (2.91)	85.7 (3.37)
WFM80	8 (0.31)	19.5 (0.77)	104 (4.09)	85.7 (3.37)
WFM120	10 (0.39)	17 (0.67)	144 (5.67)	150.2 (5.91)
WFM180	8 (0.31)	22 (0.87)	204 (8.03)	150.2 (5.91)

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.
Plug connectors and cables			
	• **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	YF8U13-050VA1XLEAX	2095884
	• **Connection type head A:** Female connector, M8, 3-pin, straight • **Description:** Unshielded • **Connection systems:** Screw-type terminals • **Permitted cross-section:** 0.14 mm² ... 0.5 mm²	DOS-0803-G	7902077
	• **Connection type head A:** Male connector, M8, 3-pin, straight • **Description:** Unshielded • **Connection systems:** Screw-type terminals • **Permitted cross-section:** 0.14 mm² ... 0.5 mm²	STE-0803-G	6037322

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

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.”

WORLDWIDE PRESENCE:

Contacts and other locations –www.sick.com