



WFM180-120N321

WFM

FORK SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	part no.
WFM180-120N321	6037838

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 200 mm x 141.8 mm
Fork width	180 mm
Fork depth	124 mm
Light source	LED, visible red light
Minimum detectable object (MDO)	1 mm
Adjustment	None
Safety-related parameters	
	MTTF _D 131 years
	DC _{avg} 0 %

Electronics

Supply voltage	10 V DC ... 30 V DC
Ripple	< 10 %
Current consumption	< 20 mA ¹⁾
Initialization time	140 ms
Switching frequency	4 kHz
Response time	
	≤ 125 μs
Stability of response time	± 15 μs
Switching output	NPN
Switching output (voltage)	PNP: HIGH = V _S - ≤ 1.5 V / LOW = 0 V

¹⁾ Without load.
²⁾ Reference voltage DC 50 V.

	NPN: HIGH = approx. V_S / LOW ≤ 1.5 V
Switching mode	Dark switching
Output current $I_{\max}$	100 mA
Protection class	III ²⁾
Circuit protection	U_V connections, reverse polarity protected Output Q short-circuit protected Interference pulse suppression
Connection type	Connector M8, 3-pin

¹⁾ Without load.

²⁾ Reference voltage DC 50 V.

Mechanics

Housing material	Aluminum
Weight	Approx. 80 g ... 190 g ¹⁾

¹⁾ Depending on fork width.

Ambient data

Ambient operating temperature	-10 °C ... +60 °C ¹⁾
Ambient temperature, storage	-40 °C ... +80 °C
Ambient light immunity	$\leq 10,000$ lx
Shock load	According to EN 60068-2-27
Enclosure rating	IP67
UL File No.	NRKH.E191603 & NRKH7.E191603

¹⁾ Do not bend below 0 °C.

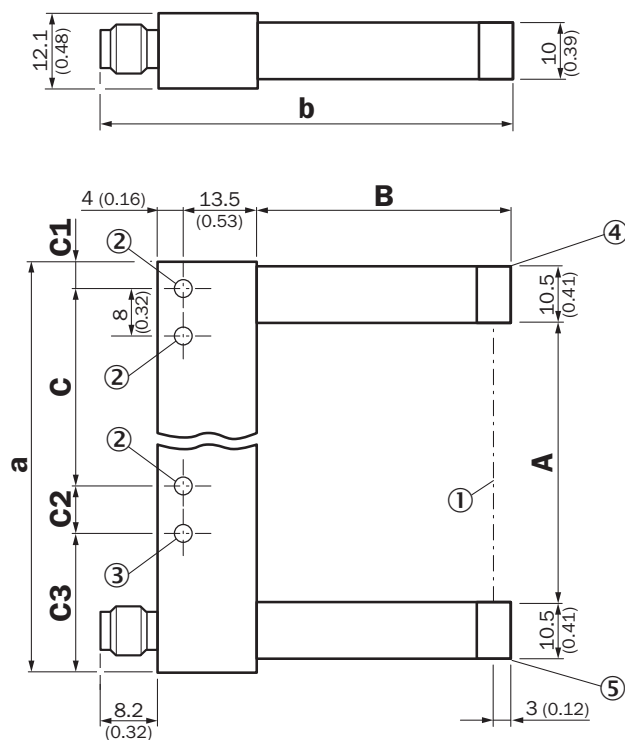
Classifications

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)

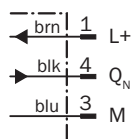
	A Fork width	B Fork depth	C	C1
WFM30	30 (1.18)	42 (1.65)	30 (1.18)	6.5 (0.26)
WFM50	50 (1.97)	60 (2.36)	40 (1.57)	6.5 (0.26)
WFM80	80 (3.15)	60 (2.36)	70 (2.76)	6.5 (0.26)
WFM120	120 (4.72)	124.3 (4.89)	100 (3.94)	17 (0.67)
WFM180	180 (7.09)	124.3 (4.89)	152 (5.98)	22 (0.87)

	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)

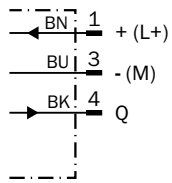
Dimensions in mm (inch)

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

Connection diagram



Connection diagram Cd-045



Recommended accessories

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

	Brief description	Type	part no.
connectors and cables			
	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
	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
	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

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:

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