





Illustration may differ



### Ordering information

Type	Part no.
WFM120-120P311	6037833

Other models and accessories → [www.sick.com/WFM](http://www.sick.com/WFM)

### Detailed technical data

#### Features

<b>Functional principle</b>	Fork sensor
<b>Functional principle detail</b>	Optical detection principle
<b>Dimensions (W x H x D)</b>	10 mm x 140 mm x 141.8 mm
<b>Fork width</b>	120 mm
<b>Fork depth</b>	124 mm
<b>Minimum detectable object (MDO)</b>	0.8 mm
<b>Light source</b>	LED, red
<b>Adjustment</b>	None

#### Mechanics/electronics

<b>Current consumption</b>	< 20 mA <sup>1)</sup>
<b>Switching frequency</b>	4 kHz <sup>2)</sup>
<b>Stability of response time</b>	± 15 µs
<b>Switching output</b>	PNP
<b>Switching output (voltage)</b>	PNP: HIGH = $V_S - \leq 1.5 \text{ V}$ / LOW = 0 V NPN: HIGH = approx. $V_S$ / LOW ≤ 1.5 V
<b>Switching mode</b>	Light switching
<b>Output current <math>I_{max.}</math></b>	100 mA
<b>Initialization time</b>	140 ms
<b>Connection type</b>	Connector M8, 3-pin
<b>Protection class</b>	III <sup>3)</sup>
<b>Circuit protection</b>	$U_V$ connections, reverse polarity protected Output Q short-circuit protected

<sup>1)</sup> Without load.

<sup>2)</sup> With light/dark ratio 1:1.

<sup>3)</sup> Reference voltage DC 50 V.

<sup>4)</sup> Depending on fork width.

	Interference pulse suppression
<b>Enclosure rating</b>	IP67
<b>Weight</b>	Approx. 80 g ... 190 g <sup>4)</sup>
<b>Housing material</b>	Metal, Aluminum

<sup>1)</sup> Without load.

<sup>2)</sup> With light/dark ratio 1:1.

<sup>3)</sup> Reference voltage DC 50 V.

<sup>4)</sup> Depending on fork width.

### Safety-related parameters

<b>MTTF<sub>D</sub></b>	131 years
<b>DC<sub>avg</sub></b>	0 %

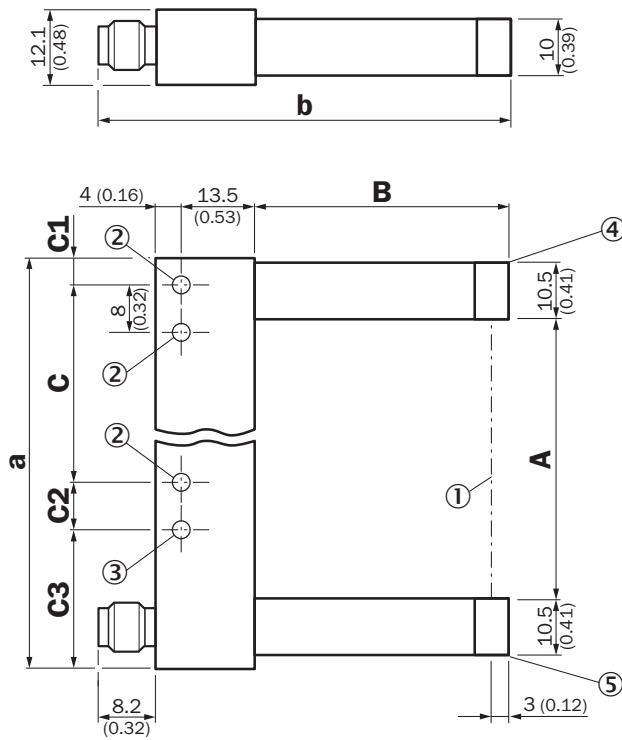
### Ambient data

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

### Classifications

<b>ECLASS 5.0</b>	27270909
<b>ECLASS 5.1.4</b>	27270909
<b>ECLASS 6.0</b>	27270909
<b>ECLASS 6.2</b>	27270909
<b>ECLASS 7.0</b>	27270909
<b>ECLASS 8.0</b>	27270909
<b>ECLASS 8.1</b>	27270909
<b>ECLASS 9.0</b>	27270909
<b>ECLASS 10.0</b>	27270909
<b>ECLASS 11.0</b>	27270909
<b>ECLASS 12.0</b>	27270909
<b>ETIM 5.0</b>	EC002720
<b>ETIM 6.0</b>	EC002720
<b>ETIM 7.0</b>	EC002720
<b>ETIM 8.0</b>	EC002720
<b>UNSPSC 16.0901</b>	39121528

### Dimensional drawing (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

### Dimensions in mm (inch)

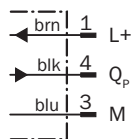
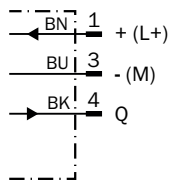
	<b>A</b> Fork width	<b>B</b> Fork depth	<b>C</b>	<b>C1</b>
<b>WFM30</b>	30 (1.18)	42 (1.65)	30 (1.18)	6.5 (0.26)
<b>WFM50</b>	50 (1.97)	60 (2.36)	40 (1.57)	6.5 (0.26)
<b>WFM80</b>	80 (3.15)	60 (2.36)	70 (2.76)	6.5 (0.26)
<b>WFM120</b>	120 (4.72)	124.3 (4.89)	100 (3.94)	17 (0.67)
<b>WFM180</b>	180 (7.09)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

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




### Connection diagram

Cd-045



## Recommended accessories

Other models and accessories → [www.sick.com/WFM](http://www.sick.com/WFM)

	Brief description	Type	Part no.
Plug connectors and cables			
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M8, 3-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 5 m, 3-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with chemicals</li> </ul>	YF8U13-050VA1XLEAX	2095884
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M8, 3-pin, straight</li> <li>• <b>Description:</b> Unshielded</li> <li>• <b>Connection systems:</b> Screw-type terminals</li> <li>• <b>Permitted cross-section:</b> 0.14 mm<sup>2</sup> ... 0.5 mm<sup>2</sup></li> </ul>	DOS-0803-G	7902077
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Male connector, M8, 3-pin, straight</li> <li>• <b>Description:</b> Unshielded</li> <li>• <b>Connection systems:</b> Screw-type terminals</li> <li>• <b>Permitted cross-section:</b> 0.14 mm<sup>2</sup> ... 0.5 mm<sup>2</sup></li> </ul>	STE-0803-G	6037322

## SICK AT A GLANCE

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For us, that is “Sensor Intelligence.”

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