



## Fork sensors WFM

WFM120-120P311



**Model Name** > [WFM120-120P311](#)  
**Part No.** > [6037833](#)



*Illustration may differ*

**At a glance**

- Highly visible red emitted light
- No setup, out-of-the-box operation
- 360° output indicator
- 5 fork sizes: maximum depth 120 mm, maximum width 180 mm
- Rugged, IP 67 aluminum housing

**Your benefits**

- Fixed housings guarantee a high level of operational safety with simple commissioning
- A visible red light enables easy alignment and fast adjustment
- The 360-degree yellow output indicator makes continual process control possible
- A wide range of different fork sizes increases installation flexibility
- The aluminum housing meets all requirements for use in harsh industrial conditions



**Features**

Functional principle:	Optical detection principle
Fork width:	120 mm
Fork depth:	124 mm
Label detection:	-
Light source:	LED
Type of light:	Visible red light
Adjustment:	None
Output function:	Light switching
Housing design (light emission):	Fork shaped
Minimum detectable object (MDO):	0.8 mm

**Mechanics/electronics**

Residual ripple <sup>1)</sup> :	< 10 %
Power consumption <sup>2)</sup> :	< 20 mA
Switching frequency <sup>3)</sup> :	4 kHz
Response time <sup>4)</sup> :	125 µs
Stability of response time:	± 15 µs
Output type:	NPN: HIGH = approx. VS/LOW ≤ 1.5 V PNP: HIGH = VS - ≤ 1.5 V/LOW = 0 V
Switching mode:	PNP
Output current I <sub>max.</sub> :	100 mA

Initialization time: 140 ms  
 Electrical connection: Connector M8, 3-pin  
 Protection class <sup>5)</sup>: III  
 Circuit protection: VS connections reverse-polarity protected  
 Output Q short-circuit protected  
 Interference suppression  
 Enclosure rating: IP 67  
 Weight: Ca. 80 g ... 190 g <sup>6)</sup>  
 Housing material: Aluminum, Metal  
 Supply voltage: 10 V DC ... 30 V DC <sup>7)</sup>  
 Ambient light immunity: Sunlight: ≤ 10,000 klx  
 Fieldbus interface: -

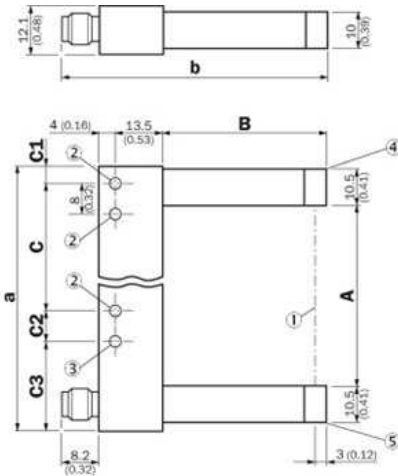
<sup>1)</sup> May not exceed or fall short of  $V_S$  tolerances <sup>2)</sup> Without load <sup>3)</sup> With light/dark ratio 1:1 <sup>4)</sup> Signal transit time with resistive load <sup>5)</sup> Reference voltage DC 50 V <sup>6)</sup>  
 Depending on fork width <sup>7)</sup> Limit values, reverse-polarity protected, operation in short-circuit protected network: max. 8 A

### Ambient data

Shock load: According to EN 60068-2-27  
 UL File No.: NRKH.E191603 & NRKH7.E191603  
 Ambient temperature operation: -10 °C ... +60 °C <sup>1)</sup>  
 Ambient storage temperature: -40 °C ... +80 °C

<sup>1)</sup> Do not bend below 0 °C

### 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)

- [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

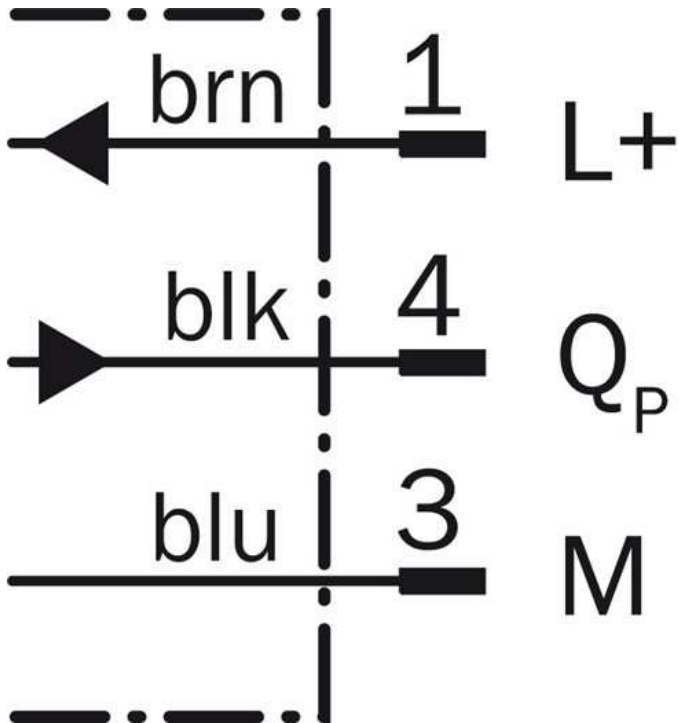
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Connection diagram

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**Australia**

Phone +61 3 9457 0600  
1800 33 48 02 – tollfree  
E-Mail sales@sick.com.au

**Belgium/Luxembourg**

Phone +32 (0)2 466 55 66  
E-Mail info@sick.be

**Brasil**

Phone +55 11 3215-4900  
E-Mail marketing@sick.com.br

**Canada**

Phone +1 905 771 14 44  
E-Mail information@sick.com

**Česká republika**

Phone +420 2 57 91 18 50  
E-Mail sick@sick.cz

**China**

Phone +86 4000 121 000  
E-Mail info.china@sick.net.cn  
Phone +852-2153 6300  
E-Mail ghk@sick.com.hk

**Danmark**

Phone +45 45 82 64 00  
E-Mail sick@sick.dk

**Deutschland**

Phone +49 211 5301-301  
E-Mail info@sick.de

**España**

Phone +34 93 480 31 00  
E-Mail info@sick.es

**France**

Phone +33 1 64 62 35 00  
E-Mail info@sick.fr

**Great Britain**

Phone +44 (0)1727 831121  
E-Mail info@sick.co.uk

**India**

Phone +91-22-4033 8333  
E-Mail info@sick-india.com

**Israel**

Phone +972-4-6881000  
E-Mail info@sick-sensors.com

**Italia**

Phone +39 02 27 43 41  
E-Mail info@sick.it

**Japan**

Phone +81 (0)3 5309 2112  
E-Mail support@sick.jp

**Magyarország**

Phone +36 1 371 2680  
E-Mail office@sick.hu

**Nederland**

Phone +31 (0)30 229 25 44  
E-Mail info@sick.nl

**Norge**

Phone +47 67 81 50 00  
E-Mail sick@sick.no

**Österreich**

Phone +43 (0)22 36 62 28 8-0  
E-Mail office@sick.at

**Polska**

Phone +48 22 837 40 50  
E-Mail info@sick.pl

**România**

Phone +40 356 171 120  
E-Mail office@sick.ro

**Russia**

Phone +7-495-775-05-30  
E-Mail info@sick.ru

**Schweiz**

Phone +41 41 619 29 39  
E-Mail contact@sick.ch

**Singapore**

Phone +65 6744 3732  
E-Mail sales.gsg@sick.com

**Slovenija**

Phone +386 (0)1-47 69 990  
E-Mail office@sick.si

**South Africa**

Phone +27 11 472 3733  
E-Mail info@sickautomation.co.za

**South Korea**

Phone +82 2 786 6321/4  
E-Mail info@sickkorea.net

**Suomi**

Phone +358-9-25 15 800  
E-Mail sick@sick.fi

**Sverige**

Phone +46 10 110 10 00  
E-Mail info@sick.se

**Taiwan**

Phone +886 2 2375-6288  
E-Mail sales@sick.com.tw

**Türkiye**

Phone +90 (216) 528 50 00  
E-Mail info@sick.com.tr

**United Arab Emirates**

Phone +971 (0) 4 88 65 878  
E-Mail info@sick.ae

**USA/México**

Phone +1(952) 941-6780  
1 (800) 325-7425 – tollfree  
E-Mail info@sickusa.com

More representatives and agencies  
at [www.sick.com](http://www.sick.com)