

WFM fork sensors – connect and get started



Product description

WFM fork sensors can be integrated quickly due to Plug and Play installation – no time-consuming alignment is necessary. A 360-degree output indicator makes it easy to see the switching status during the operation. Since the sender and receiver of the sensor are integrated within the same aluminum housing, aligning the sensors is not necessary and detection tasks can be prepared

and solved even faster. The WFM line includes five different types with fork widths from 30 to 180 mm and fork depths from 40 to 120 mm, providing greater application flexibility. This new generation of SICK fork sensors is suited for a variety of applications, such as detecting parts in production processes or checking presence when filling bottles.

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



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→ www.mysick.com/en/WFM

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.



Detailed technical data

Features

Functional principle	Optical detection principle
Light source	LED, red
Adjustment	None

Mechanics/electronics

Supply voltage V_s¹⁾	DC 10 V ... 30 V
Ripple²⁾	< 10 %
Power consumption³⁾	< 20 mA
Switching frequency⁴⁾	4 kHz
Response time⁵⁾	125 μ s
Stability of response time	\pm 15 μ s
Switching output voltage	PNP: HIGH = $V_s - \leq 1.5$ V / LOW = 0 V NPN: HIGH = approx. V_s / LOW ≤ 1.5 V
Output current I_{max}	100 mA
Initialization time	140 ms
Ambient light safety	Sunlight: 10,000 lx
Protection class⁶⁾	III
Circuit protection	V_s connections reverse-polarity protected Output Q short-circuit protected Interference suppression
Enclosure rating	IP 67
Weight⁷⁾	Approx. 80 g ... 190 g
Housing material	Aluminum

¹⁾ Limit values, reverse-polarity protected. Operation in short-circuit protected network max. 8 A.

²⁾ May not exceed or fall short of V_s tolerances.

³⁾ Without load.

⁴⁾ With light/dark ratio 1:1.

⁵⁾ Signal transit time with resistive load.

⁶⁾ Reference voltage 50 V DC.

⁷⁾ Depending on fork width.

Ambient data

Ambient temperature¹⁾	Operation: -10 °C ... +60 °C Storage: -40 °C ... +80 °C
Shock load	According to IEC 60068

¹⁾ Do not bend below 0 °C.

Specific data

Fork width	Fork depth	Model name	Ordering information
30 mm	42 mm	WFM30-40	30
50 mm	60 mm	WFM50-60	30
80 mm	60 mm	WFM80-60	30
120 mm	124 mm	WFM120-120	30
180 mm	124 mm	WFM180-120	31

Ordering information

WFM30-40

- Fork width: 30 mm
- Fork depth: 42 mm

MDO ¹⁾	Connection type	Switching output	Switching function	Model name	Part no.
0.8 mm	Connector M8, 3-pin	PNP	Dark switching	WFM30-40P321	6037819
			Light switching	WFM30-40P311	6037820
		NPN	Dark switching	WFM30-40N321	6037821
			Light switching	WFM30-40N311	6037822
	Cable 2 m, 3-pin	PNP	Dark switching	WFM30-40P121	6037823

¹⁾ Minimum detectable object.

WFM50-60

- Fork width: 50 mm
- Fork depth: 60 mm

MDO ¹⁾	Connection type	Switching output	Switching function	Model name	Part no.
0.8 mm	Connector M8, 3-pin	PNP	Dark switching	WFM50-60P321	6037824
			Light switching	WFM50-60P311	6037825
		NPN	Dark switching	WFM50-60N321	6037826
			Light switching	WFM50-60N311	6037827

¹⁾ Minimum detectable object.

WFM80-60

- Fork width: 80 mm
- Fork depth: 60 mm

MDO ¹⁾	Connection type	Switching output	Switching function	Model name	Part no.
0.8 mm	Connector M8, 3-pin	PNP	Dark switching	WFM80-60P321	6037828
			Light switching	WFM80-60P311	6037829
		NPN	Dark switching	WFM80-60N321	6037830
			Light switching	WFM80-60N311	6037831

¹⁾ Minimum detectable object.

WFM120-120

- Fork width: 120 mm
- Fork depth: 124 mm

MDO ¹⁾	Connection type	Switching output	Switching function	Model name	Part no.
0.8 mm	Connector M8, 3-pin	PNP	Dark switching	WFM120-120P321	6037832
			Light switching	WFM120-120P311	6037833
		NPN	Dark switching	WFM120-120N321	6037834
			Light switching	WFM120-120N311	6037835

¹⁾ Minimum detectable object.

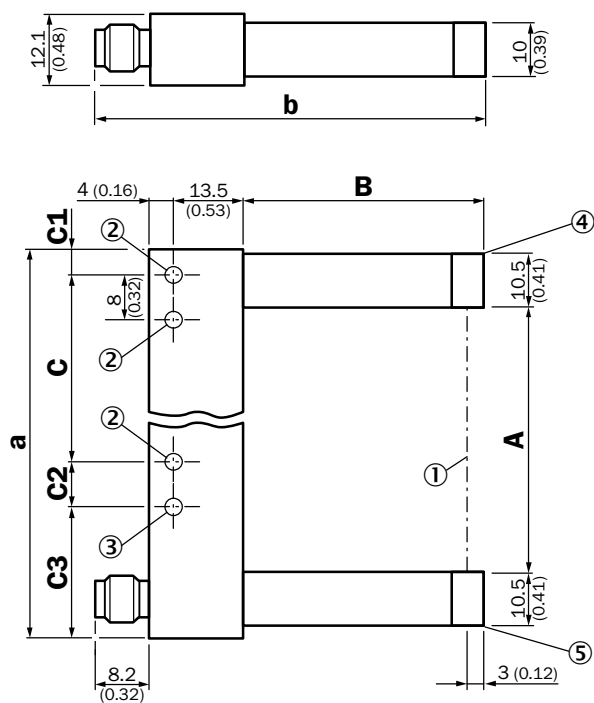
WFM180-120

- Fork width: 180 mm
- Fork depth: 124 mm

MDO ¹⁾	Connection type	Switching output	Switching function	Model name	Part no.
1 mm	Connector M8, 3-pin	PNP	Dark switching	WFM180-120P321	6037836
			Light switching	WFM180-120P311	6037837
		NPN	Dark switching	WFM180-120N321	6037838
			Light switching	WFM180-120N311	6037839

¹⁾ Minimum detectable object.

Dimensional drawing



All dimensions in mm (inch)

Dimensions in mm (inch)

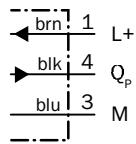
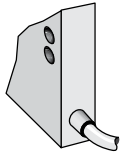
	A Fork width	B Fork depth	C	C1
WFM30	30 (1.18)	42 (1.65)	30 (1.18)	6.5 (0.26)
WFM50	50 (1.97)	60 (2.36)	40 (1.57)	6.5 (0.26)
WFM80	80 (3.15)	60 (2.36)	70 (2.76)	6.5 (0.26)
WFM120	120 (4.72)	124.3 (4.89)	100 (3.94)	17 (0.67)
WFM180	180 (7.09)	124.3 (4.89)	152 (5.98)	22 (0.87)

	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)

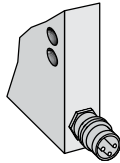
- ① Optical axis
- ② Mounting hole, Ø 4.3 mm
- ③ WFM50/80/120/180
- ④ Transmitted light (red)
- ⑤ Function signal indicator (yellow), switching output

Connection type and diagram

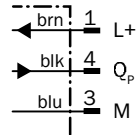
Cable 2 m 3-pin



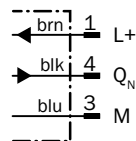
Connector M8 3-pin



WFM PNP



WFM NPN



Recommended accessories

Plug connectors and cables

Connector M8, 3-pin

Connector type	Enclosure rating	Flying leads	Sheath material	Cable length	Model name	Part no.	
Female connector	IP 67	Straight	PVC	2 m	DOL-0803-G02M	6010785	
				5 m	DOL-0803-G05M	6022009	
				10 m	DOL-0803-G10M	6022011	
		Angled	PVC	2 m	DOL-0803-W02M	6008489	
				5 m	DOL-0803-W05M	6022010	
				10 m	DOL-0803-W10M	6022012	
		Straight	-	-	-	DOS-0803-G	7902077
					Angled	-	-

For dimensional drawings, please see page 39.

For additional accessories, please see www.mysick.com/en/WFM