

WFM

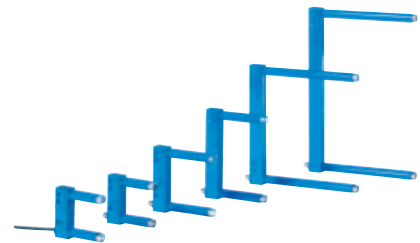
SICK fork sensors: connect and get started

With the WFM series, SICK expands its solution portfolio for standard applications. Plug & Play means quick integration of the WFM sensors: installation is fast and commissioning just as easy. In operation, the sensor feedback – with the yellow all-around-visible signal strength indicator, signalling the switching behaviour – providing additional assistance to the user.

SICK fork sensors, due to the construction in which sender and receiver of this through-beam sensor are in the opposing forks, are simple in alignment. Ensuring that applications are solved quickly and easily.

A wide range of size options in the robust aluminium housing provides flexibility in sensor selection to suit the particular application requirements. The five variants offering fork widths from 30 mm to 180 mm and fork depths from 40 mm to 120 mm. Available in plug and cable variants.

This new generation of SICK fork sensors is suited to a multitude of applications: detection of parts in production processes, presence checking during bottling or intralogistic operations.



Further benefits

- Clearly visible red light source
- All-around-visible signal strength indicator
- “Plug & Play”: connect, ready
- 5 fork sizes:
 - widths from 30 to 180 mm
 - depths from 40 to 120 mm
- Stable aluminium housing

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SICK
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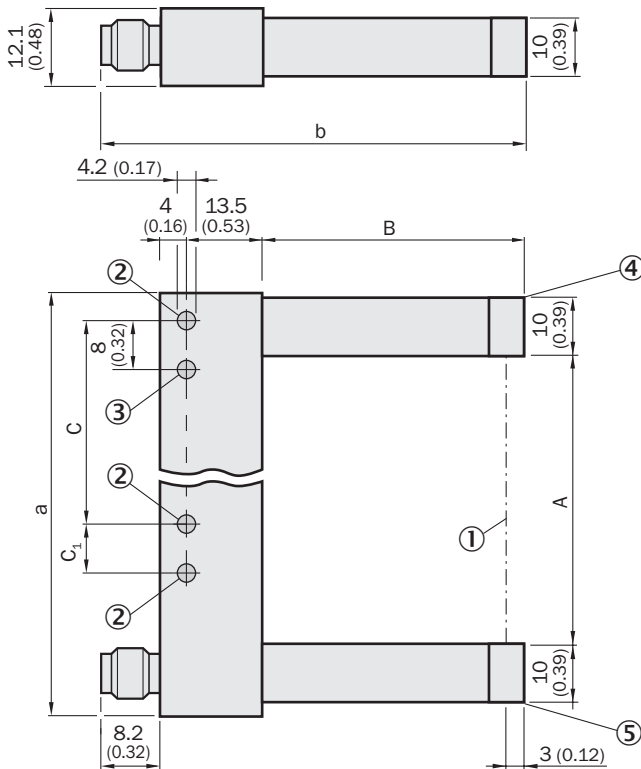


- Clearly visible red emitted light
- Easy adjustment
- No setting, immediately ready to operate
- All-around-visible signal strength indicator
- 5 fork sizes: – max. depth 120 mm
– max. width 180 mm
- Stable aluminium housing



Dimensional drawing

WFM xxx - xxx x xxx

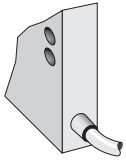


Dimensions in mm (inch)

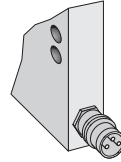
	A	B	C	C ₁	a	b
WFM30	30	40	30	-	54	65.7
WFM50	50	60	40	8	74	85.7
WFM80	80	60	70	8	104	85.7
WFM120	120	124.3	100	10	144	150.2
WFM180	180	124.3	152	8	204	150.2

Connection type

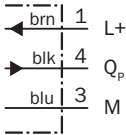
WFM xxx - xxx x 1xx



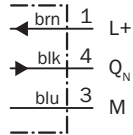
WFM xxx - xxx x 3xx



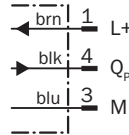
WFM xxx - xxx P 1xx



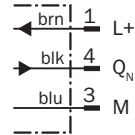
WFM xxx - xxx N 1xx



WFM xxx - xxx P 3xx



WFM xxx - xxx N 3xx



General technical data

Light source	Red light
Supply voltage V_S ¹⁾	10 ... 30 V DC
Current consumption ²⁾	< 20 mA
Ripple ³⁾	< 10 %
Signal voltage	PNP High = $V_S - (<1,5 \text{ V})$ /LOW = 0 V NPN High = V_S /Low = < 1.5 V
Output current I_A ⁴⁾	100 mA
Response time ⁵⁾	125 μ s
Stability of response time	$\pm 15 \mu$ s
Switching frequency ⁶⁾	4,000/s
Initialisation time	140 ms
Ambient light immunity	Incandescent lamp: 5,000 Lux Sunlight: 10,000 Lux
VDE protection class	\diamond
Enclosure rating	IP 67
Circuit protection ⁷⁾	A, B, C
Ambient temperature ⁸⁾	Operation: -10 ... +60 °C Storage: -40 ... +80 °C
Housing	Aluminium
Weight	Approx. 80 ... 190 g ⁹⁾

¹⁾ Limit values, reverse-polarity protected
²⁾ Without load
³⁾ May not exceed or fall short of V_S -tolerances

⁴⁾ Minimum load 2 mA
⁵⁾ Signal transit time with resistive load
⁶⁾ With light/dark ratio 1:1

⁷⁾ A = V_S connections reverse-polarity protected
B = Outputs short-circuit protected
C = Interference pulse suppression

⁸⁾ Do not bend below 0 °C
⁹⁾ Depending on fork width

WFM Fork sensor

Pre-selection list by fork width

		Fork width	Fork depth		
WFM	30 – 40	30 mm	40 mm		
WFM	50 – 60	50 mm	60 mm		
WFM	80 – 60	80 mm	60 mm		
WFM	120 – 120	120 mm	120 mm		
WFM	180 – 120	180 mm	120 mm		

Technical data specific to type incl. order information

		Fork width	Fork depth		
WFM	30 – 40	30 mm	40 mm		
Type	Order no.	Switching output	Switching mode	Connection type	MDO
WFM30-40P321	6037819	dark-switching	PNP	M8, 3-pin	0.8 mm
WFM30-40P311	6037820	light-switching	PNP	M8, 3-pin	0.8 mm
WFM30-40N321	6037821	dark-switching	NPN	M8, 3-pin	0.8 mm
WFM30-40N311	6037822	light-switching	NPN	M8, 3-pin	0.8 mm
WFM30-40P121	6037823	dark-switching	PNP	Cable, 2 m	0.8 mm

		Fork width	Fork depth		
WFM	50 – 60	50 mm	60 mm		
Type	Order no.	Switching output	Switching mode	Connection type	MDO
WFM50-60P321	6037824	dark-switching	PNP	M8, 3-pin	0.8 mm
WFM50-60P311	6037825	light-switching	PNP	M8, 3-pin	0.8 mm
WFM50-60N321	6037826	dark-switching	NPN	M8, 3-pin	0.8 mm
WFM50-60N311	6037827	light-switching	NPN	M8, 3-pin	0.8 mm

		Fork width	Fork depth		
WFM	80 – 60	80 mm	60 mm		
Type	Order no.	Switching output	Switching mode	Connection type	MDO
WFM80-60P321	6037828	dark-switching	PNP	M8, 3-pin	0.8 mm
WFM80-60P311	6037829	light-switching	PNP	M8, 3-pin	0.8 mm
WFM80-60N321	6037830	dark-switching	NPN	M8, 3-pin	0.8 mm
WFM80-60N311	6037831	light-switching	NPN	M8, 3-pin	0.8 mm

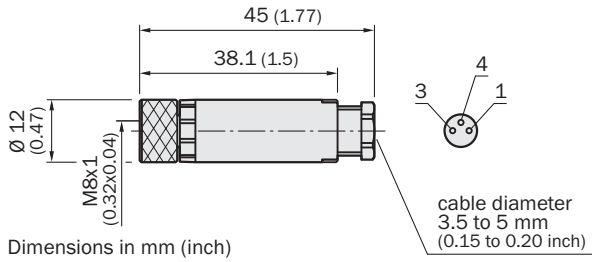
		Fork width	Fork depth		
WFM	120 – 120	120 mm	120 mm		
Type	Order no.	Switching output	Switching mode	Connection type	MDO
WFM120-120P321	6037832	dark-switching	PNP	M8, 3-pin	0.8 mm
WFM120-120P311	6037833	light-switching	PNP	M8, 3-pin	0.8 mm
WFM120-120N321	6037834	dark-switching	NPN	M8, 3-pin	0.8 mm
WFM120-120N311	6037835	light-switching	NPN	M8, 3-pin	0.8 mm

		Fork width	Fork depth		
WFM	180 – 120	180 mm	120 mm		
Type	Order no.	Switching output	Switching mode	Connection type	MDO
WFM180-120P321	6037836	dark-switching	PNP	M8, 3-pin	1.0 mm
WFM180-120P311	6037837	light-switching	PNP	M8, 3-pin	1.0 mm
WFM180-120N321	6037838	dark-switching	NPN	M8, 3-pin	1.0 mm
WFM180-120N311	6037839	light-switching	NPN	M8, 3-pin	1.0 mm

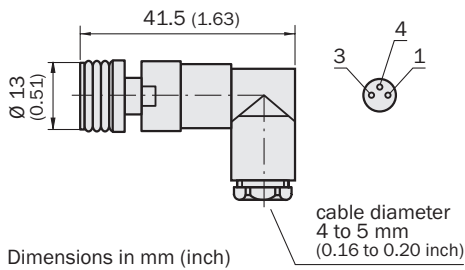
¹⁾ MDO = Minimum detectable object size, centric

Cables and connectors

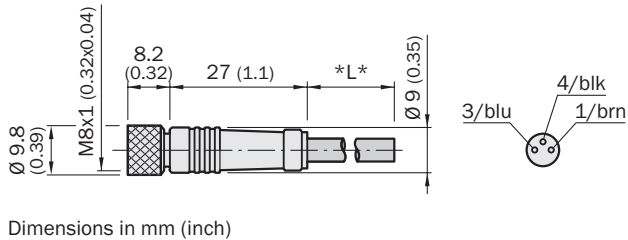
Type	Order no.	Description
DOS-0803-G	7902077	Female connector, M8, 3-pin, straight



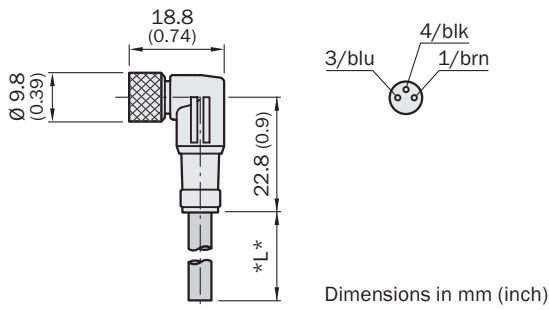
Type	Order no.	Description
DOS-0803-W	7902078	Female connector, M8, 3-pin, angled



Type	Order no.	Description
DOL-0803-G02M	6010785	Female connector, M8, 3-pin, straight, cable length 2 m
DOL-0803-G05M	6022009	Female connector, M8, 3-pin, straight, cable length 5 m
DOL-0803-G10M	6022011	Female connector, M8, 3-pin, straight, cable length 10 m



Type	Order no.	Description
DOL-0803-W02M	6008489	Female connector, M8, 3-pin, angled, cable length 2 m
DOL-0803-W05M	6022010	Female connector, M8, 3-pin, angled, cable length 5 m
DOL-0803-W10M	6022012	Female connector, M8, 3-pin, angled, cable length 10 m



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