

ONLINE DATA SHEET
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Fork sensors
WF, WFnext

WF30-40B416



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WF, WFnext

Model Name > WF30-40B416
Part No. > 6028453



Illustration may differ

At a glance

- Infrared light source
- Simple and accurate adjustment via teach-in or manually via "+"/"-" buttons
- Fast response time (max. 100 µs)
- PNP and NPN switching output
- Light/dark switching function
- 21 different models with different fork widths and depths
- Rugged, IP 65 aluminum housing

Your benefits

- Fast response time and fine resolution ensure reliable detection even at high speeds
- Infrared light source provides excellent ambient light immunity
- User friendly setting via teach-in or "+"/"-" button
- A wide range of different fork sizes enables flexible installation
- The aluminum housing meets all requirements for use in harsh industrial conditions

Features

Functional principle:	Optical detection principle
Fork width:	30 mm
Fork depth:	42 mm
Label detection:	-
Light source:	LED
Type of light:	Infrared light
Adjustment:	Teach-in
Output function:	Light/darkswitching, selectable via button
Housing design (light emission):	Fork shaped
Minimum detectable object (MDO):	0.2 mm

Mechanics/electronics

Residual ripple [1]:	< 10 %
Power consumption [2]:	40 mA
Switching frequency [3]:	10 kHz
Response time [4]:	100 µs
Stability of response time:	± 20 µs
Output type:	NPN: HIGH = approx. VS / LOW ≤ 2 V PNP: HIGH = VS- ≤ 2 V / LOW approx. 0 V

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Switching mode:	PNP/NPN
Output current Imax.:	100 mA
Initialization time:	100 ms
Electrical connection:	Connector M8, 4-pin
Protection class [5]:	III
Circuit protection:	VS connections reverse-polarity protected Output Q short-circuit protected Interference suppression
Enclosure rating:	IP 65
Weight:	Ca. 36 g ... 160 g [6]
Housing material:	Aluminum, Metal
Supply voltage:	10 V DC ... 30 V DC [7]
Ambient light immunity:	Sunlight: ≤ 10,000 klx
Fieldbus interface:	-

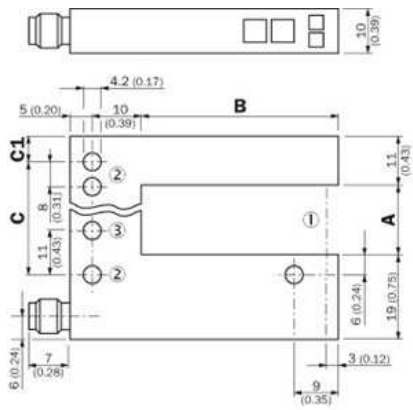
[1] May not exceed or fall short of V_S tolerances [2] Without load [3] With light/dark ratio 1:1 [4] Signal transit time with resistive load [5] Reference voltage DC 50 V [6] Depending on fork width [7] Limit values, reverse-polarity protected, operation in short-circuit protected network: max. 8 A

Ambient data

Shock load:	According to EN 60068-2-27
UL File No.:	NRKH.E191603
Ambient temperature operation:	-20 °C ... +60 °C [1]
Ambient storage temperature:	-30 °C ... +80 °C

[1] Do not bend below 0 °C

Dimensional drawing



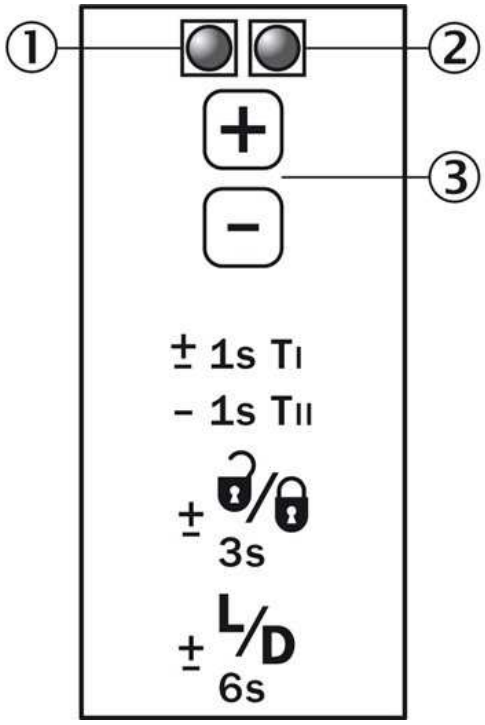
Dimensions in mm (inch)

	A Fork width	B Fork depth	C	C1
WF2	2 (0.08)	42/59/95 (1.65/2.32/3.74)	14 (0.55)	5 (0.20)
WF5	5 (0.20)	42/59/95 (1.65/2.32/3.74)	14 (0.55)	6.5 (0.20)
WF15	15 (0.59)	42/59/95 (1.65/2.32/3.74)	27 (1.06)	5 (0.20)
WF30	30 (1.18)	42/59/95 (1.65/2.32/3.74)	42 (1.65)	5 (0.20)
WF50	50 (1.97)	42/59/95 (1.65/2.32/3.74)	51 (2.01)	16 (0.63)
WF80	80 (3.15)	42/59/95 (1.65/2.32/3.74)	81 (3.19)	16 (0.63)
WF120	120 (4.72)	42/59/95 (1.65/2.32/3.74)	121 (4.76)	16 (0.63)

|1| Optical axis
|2| Mounting hole, Ø 4.2 mm
|3| WF50/80/120 only

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Adjustments

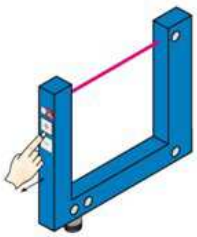


|1| Function signal indicator (yellow), switching output
|2| Function indicator (red)
|3| "+"/"-" buttons and function button

Bedienhinweis

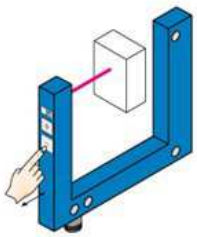
The switching threshold is set automatically. Fine adjustment is possible using the "+"/"–" buttons.

1. No object or substrate in the beam path



Press the "+" and "–" buttons together and hold for 1 second.
The red function indicator flashes slowly.

2. Object or label in the beam path



Press the "–" button for 1 second.
Red function indicator goes out.

Notes

Material speed = 0 (machine at a standstill).

Once teach-in process is complete, the switching threshold can be adjusted at any time using the "+" or "–" button. To make minor adjustments, press the "+" or "–" button once.
To configure settings quickly, keep the "+" or "–" button pressed for longer.

Press both the "+" and "–" buttons together (3 seconds) to lock the device and prevent unintentional actuation.

Press both the "+" and "–" buttons together (6 seconds) to define the switching function (light/dark switching). Standard setting: $\bar{Q}$ = light switching.

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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**

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