



Fork sensors WF, WFnext

WF5-40B416



Model Name > [WF5-40B416](#)
Part No. > [6028451](#)



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:	5 mm
Fork depth:	42 mm
MDO ¹⁾ :	0.2 mm
Label detection:	✓
Light source:	LED, infrared
Adjustment:	Teach-in
Output function:	Light/darkswitching, selectable via button

¹⁾ Minimum detectable object

Mechanics/electronics

Supply voltage Vs ¹⁾ :	DC 10 V ... 30 V
Ripple ²⁾ :	< 10 %
Power consumption ³⁾ :	40 mA
Switching frequency ⁴⁾ :	10 kHz
Response time ⁵⁾ :	100 µs
Stability of response time:	± 20 µs

Output type: NPN: HIGH = approx. V_S / LOW ≤ 2 V
 PNP: HIGH = $V_S - \leq 2$ V / LOW approx. 0 V

Switching mode: PNP/NPN

Output current $I_{max.}$: 100 mA

Initialization time: 100 ms

Connection type: Connector M8, 4-pin

Ambient light safety: Sunlight: $\leq 10,000$ klx

Protection class ⁶⁾: III

Circuit protection: V_S connections reverse-polarity protected
 Output Q short-circuit protected
 Interference suppression

Enclosure rating: IP 65

Weight: Ca. 36 g ... 160 g ⁷⁾

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 DC 50 V ⁷⁾ Depending on fork width

Ambient data

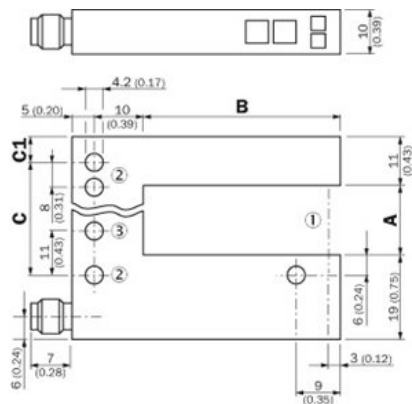
Ambient temperature ¹⁾: Operation: -20 ... 60 °C
 Storage: -30 ... 80 °C

Shock load: According to EN 60068-2-27

UL File-No.: UL No. NRKH.E191603

¹⁾ Do not bend below 0 °C

Dimensional drawing



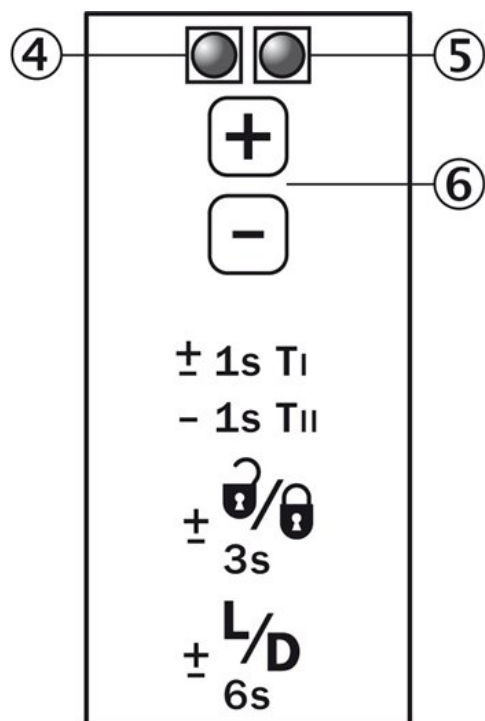
All dimensions in mm (inch)

Dimensions in mm (inch)

	A	B	C	C1
	Fork width	Fork depth		
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, $\varnothing$ 4.2 mm
 |3| WF50/80/120 only

Adjustments

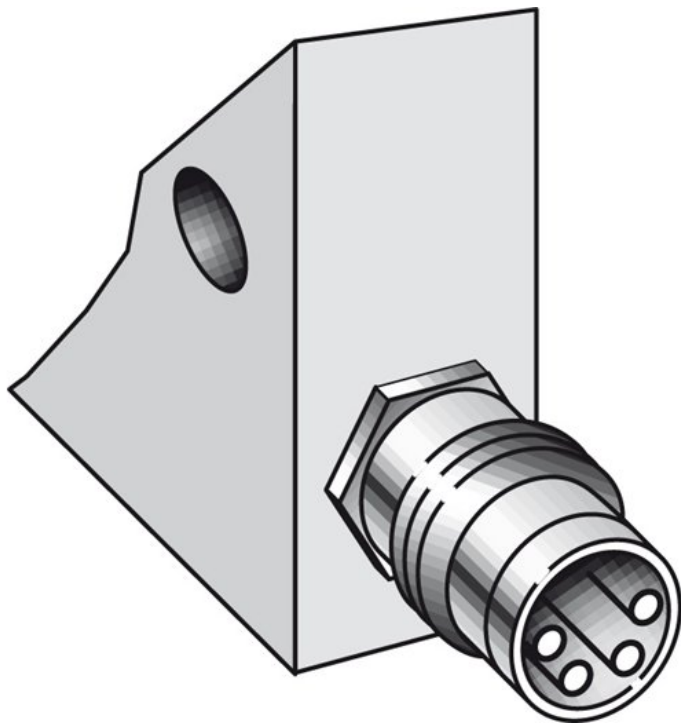


|4| Function signal indicator (yellow), switching output

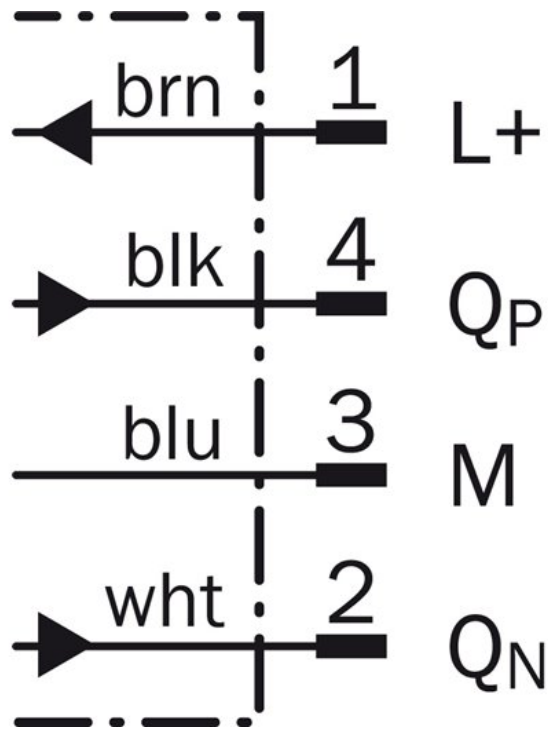
|5| Function indicator (red)

|6| "+"/“-” buttons and function button

Connection type



Connection diagram



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