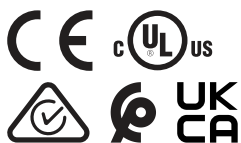


Illustration may differ



## Ordering information

Type	part no.
UFN3-70N415	6049680

Other models and accessories →

## Detailed technical data

### Features

<b>Functional principle</b>	Ultrasonic detection principle
<b>Housing design</b>	Fork shaped
<b>Dimensions (W x H x D)</b>	18 mm x 47.5 mm x 92.5 mm
<b>Fork width</b>	3 mm
<b>Fork depth</b>	69 mm
<b>Label detection</b>	✓
<b>Minimum detectable object (MDO)</b>	Gap between Labels / Size of labels: 2 mm <sup>1)</sup>
<b>Adjustment</b>	Plus/minus button, cable (Teach-in, sensitivity, light/dark switching, Teach-in dynamic)
<b>Teach-in mode</b>	2-point teach-in Teach-in dynamic
<b>Safety-related parameters</b>	
	MTTF <sub>D</sub> 207 years
	DC <sub>avg</sub> 0 %

<sup>1)</sup> Depends on the label thickness.

### Electronics

<b>Supply voltage</b>	10 V DC ... 30 V DC <sup>1)</sup>
<b>Ripple</b>	< 10 % <sup>2)</sup>
<b>Current consumption</b>	40 mA <sup>3)</sup>

<sup>1)</sup> Limit values, reverse-polarity protected, operation in short-circuit protected network: max. 8 A.

<sup>2)</sup> May not fall below or exceed  $U_Y$  tolerances.

<sup>3)</sup> Without load.

<sup>4)</sup> With light/dark ratio 1:1, typical, depending on material and speed.

<sup>5)</sup> Output current minimal 0.3 mA.

<sup>6)</sup> Reference voltage DC 50 V.

<b>Initialization time</b>	100 ms
<b>Switching frequency</b>	1.5 kHz <sup>4)</sup>
<b>Response time</b>	≤ 250 μs
<b>Switching output</b>	NPN
<b>Switching output (voltage)</b>	NPN: HIGH = approx. $U_V$ / LOW ≤ 2 V
<b>Switching mode</b>	Light/dark switching
<b>Output current <math>I_{max}</math></b>	100 mA <sup>5)</sup>
<b>Input, teach-in (ET)</b>	Teach: $U > 7 V \dots < U_V$ Run: $U < 2 V$
<b>Protection class</b>	III <sup>6)</sup>
<b>Circuit protection</b>	Output Q short-circuit protected Interference pulse suppression
<b>Connection type</b>	Male connector M8, 4-pin

- 1) Limit values, reverse-polarity protected, operation in short-circuit protected network: max. 8 A.
- 2) May not fall below or exceed  $U_V$  tolerances.
- 3) Without load.
- 4) With light/dark ratio 1:1, typical, depending on material and speed.
- 5) Output current minimal 0.3 mA.
- 6) Reference voltage DC 50 V.

### Mechanics

<b>Housing material</b>	Aluminum
<b>Weight</b>	95 g

### Ambient data

<b>Ambient operating temperature</b>	+5 °C ... +55 °C <sup>1)</sup>
<b>Ambient temperature, storage</b>	-20 °C ... +70 °C
<b>Shock load</b>	According to EN 60068-2-27
<b>EMC</b>	EN 60947-5-2 <sup>2)</sup>
<b>Enclosure rating</b>	IP65
<b>UL File No.</b>	NRKH.E191603 & NRKH7.E191603

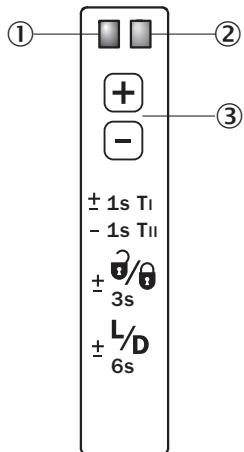
- 1) Do not bend below 0 °C.
- 2) The UFN complies with the Radio Safety Requirements (EMC) for the industrial sector (Radio Safety Class A). It may cause radio interference if used in residential areas.

### Classifications

<b>ECLASS 5.0</b>	27270909
<b>ECLASS 5.1.4</b>	27270909
<b>ECLASS 6.0</b>	27270909
<b>ECLASS 6.2</b>	27270909
<b>ECLASS 7.0</b>	27270909
<b>ECLASS 8.0</b>	27270909
<b>ECLASS 8.1</b>	27270909
<b>ECLASS 9.0</b>	27270909

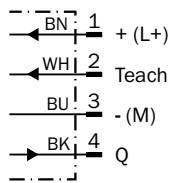


Adjustments Adjustment: teach-in via plus/minus buttons (WFxx-B416)



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

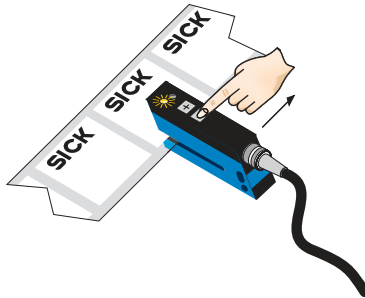
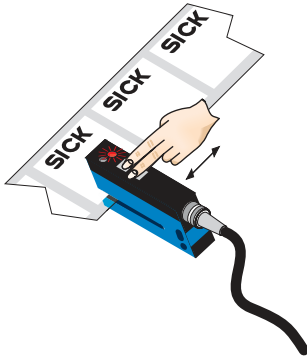
Connection diagram Cd-092



Concept of operation Teach-in dynamic via plus/minus buttons

**1. Position label or substrate in the active area of the fork sensor**

**2. Move multiple labels through the fork sensor**



Press both the “+” and “-” buttons together, hold > 1 s and then release the teach-in buttons. The red LED flashes.

Press “-” button, teach-in process is finished.

**Notes**

Switching threshold adaptation:

Only, the first teach-in procedure after switching on is permanently stored. Teach-in can be repeated cyclically. Switching output also during teach-in active.

- + 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.



$\pm \frac{0}{3s}$  Press both the “+” and “-” buttons together (3 seconds) to lock the device and prevent unintentional actuation.

$\pm \frac{L/D}{6s}$  Press both the “+” and “-” buttons together (6 seconds) to define the switching function (light/dark switching). Standard setting: Q = light switching.

Teach-in (static): Setting the switching threshold without movements of label, cf. operating instruction.

Recommended accessories

Other models and accessories →

	Brief description	Type	part no.
connectors and cables			
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Male connector, M8, 4-pin, straight, A-coded</li> <li>• <b>Description:</b> Unshielded</li> <li>• <b>Connection systems:</b> Screw-type terminals</li> <li>• <b>Permitted cross-section:</b> 0.14 mm<sup>2</sup> ... 0.5 mm<sup>2</sup></li> </ul>	STE-0804-G	6037323
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M8, 4-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 5 m, 4-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul>	YF8U14-050VA3XLEAX	2095889

