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Fork sensors
UF, UFnext

UFN3-70P415

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Model Name > UFN3-70P415
Part No. > 6049679

At a glance

- Detection of transparent, opaque or printed labels
- Unaffected by metallic foils and labels
- Fast response time of 250 µs
- Simple and accurate adjustment via "+"/"-"-buttons or teach-in
- Rugged, IP 65 aluminum housing

Your benefits

- Reliable label detection, regardless if labels are transparent, opaque or have a printed design, ensuring greater flexibility with one sensor
- Fast response times enable precise detection - even at high web speeds
- The aluminum housing meets all requirements for use in harsh industrial conditions
- Setting the switching threshold using the +/- push buttons or teach-in
- Ultrasonic technology prevents false detection, which may be caused by ambient light or shiny surfaces

Features

Functional principle:	Ultrasonic detection principle
Fork width:	3 mm
Fork depth:	69 mm
Label detection:	✓
Adjustment:	Dynamic teach-in Static teach-in
Output function:	Light/darkswitching, selectable via button
Housing design (light emission):	Fork shaped
Minimum detectable object (MDO):	Size of labels: 2 mm, Gap between labels: 2 mm [1]
Dimensions (W x H x D):	18 mm x 47.5 mm x 92.5 mm

[1] Depends on the label thickness

Mechanics/electronics

Residual ripple [1]:	< 10 %
Power consumption [2]:	40 mA
Switching frequency [3]:	1.5 kHz
Response time [4]:	250 µs
Output type:	PNP: HIGH = VS- ≤ 2 V/LOW approx. 0 V
Switching mode:	PNP

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Output current Imax. [5]:	100 mA
Input, teach-in (ET):	Run: U < 2 V Teach: U > 7 V ... < U_V
Initialization time:	100 ms
Protection class [6]:	III
Circuit protection:	Output Q short-circuit protected Interference suppression
Enclosure rating:	IP 65
Weight:	95 g
Housing material:	Aluminum, Metal
Supply voltage:	10 V DC ... 30 V DC [7]
Fieldbus interface:	-

[1] May not exceed or fall short of V_S tolerances [2] Without load [3] With light/dark ratio 1:1, typical, dependent on material and speed [4] Signal transit time with resistive load [5] Output current minimal 0.03 mA [6] Reference voltage DC 50 V [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
EMC:	EN 60947-5-2 [1]
Ambient temperature operation:	+5 °C ... +55 °C [2]
Ambient storage temperature:	-20 °C ... +70 °C

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

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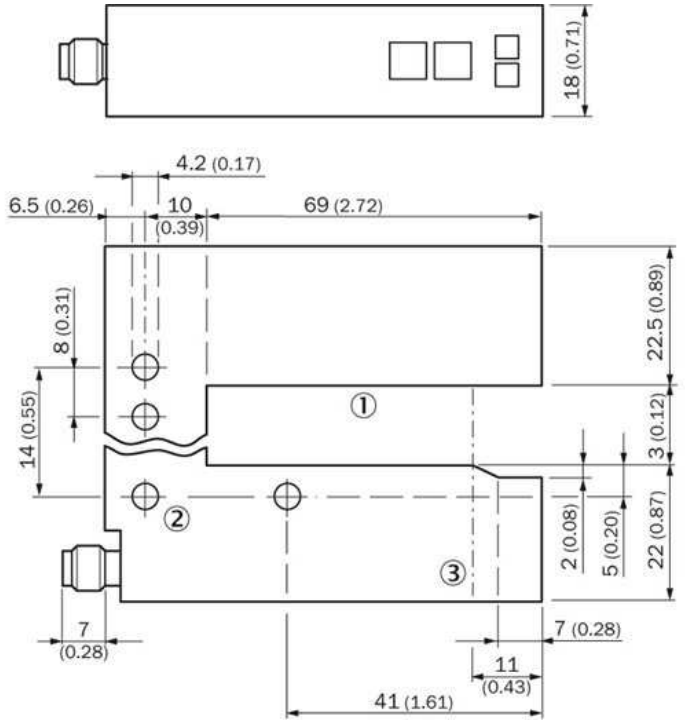
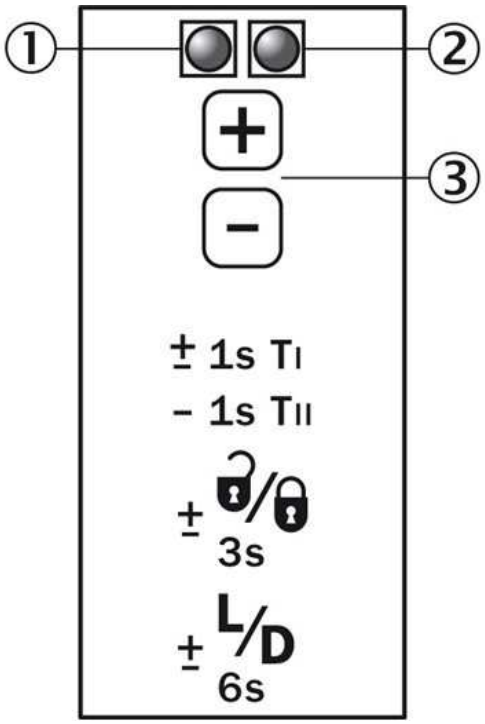
Dimensional drawing



|1| Fork opening: fork width 3 mm, forks depth 69 mm
|2| Mounting hole, Ø 4.2 mm
|3| Detection axis

Adjustments



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

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Bedienhinweis

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

Press both the "+" and "–" buttons together, hold > 1 s and than release the teach-in buttons. The red LED flashes.

2. Move multiple labels through the fork sensor

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.

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

± 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.

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