



UFS

Slim, intelligent, intuitive to operate – universal solution for label detection

SICK
Sensor Intelligence.

Advantages



Simple integration into compact machine designs

The particularly slim housing of the UFS allows for space-saving installation directly at the dispensing edge. The advantage: higher process accuracy due to minimization of web flutter. The UFS is the first ultrasonic fork sensor with a lower flank height of only 5.5 mm. In spite of its compact design, the sensor is compatible with the mounting systems of the UFN and WFS variants.



Compact size: with a lower flank height of only 5.5 mm, the UFS is significantly slimmer than comparable ultrasonic fork sensors.



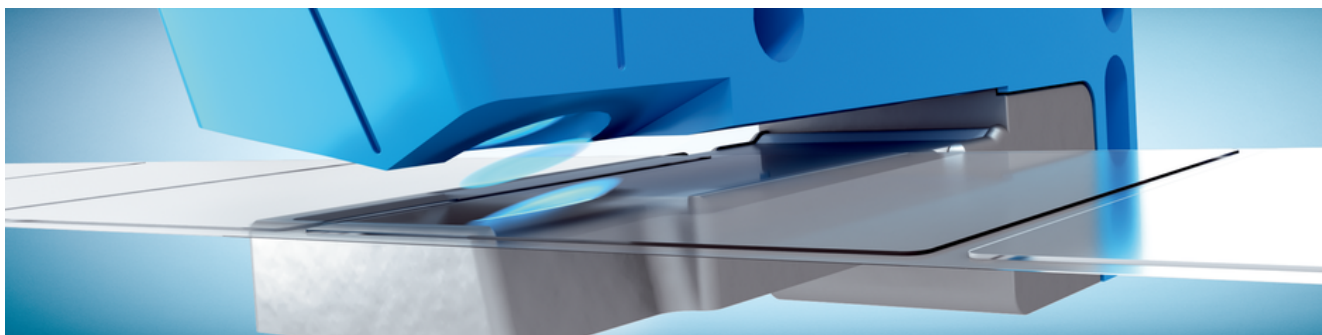
Efficient processes: minimal web flutter by installing directly at the dispensing edge.



Easy changeover: the compact housing make it possible to change from an optical detection solution to ultrasonic technology without adapting the fixture.



Integrate the UFS into countless applications in which ultrasonic fork sensors could not previously be used due to space limitations.

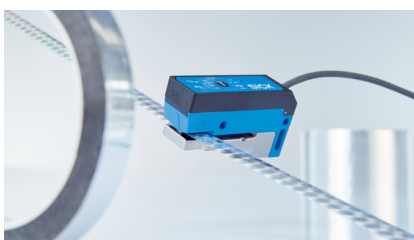


Detects a wide range of labels

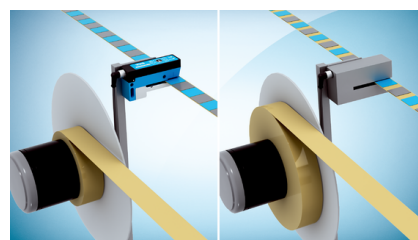
Due to its powerful ultrasonic technology, reflective and transparent materials are no problem for the UFS. The fork sensor distinguishes labels from the carrier material based on their signal attenuation: labels on carrier material dampen the signal more than the carrier material alone. This means that even labels that cannot be detected by optical solutions are identified.



Stable processes: gloss and ambient light pose no problems whatsoever for ultrasonic technology. Even transparent, reflective or deep black labels can be detected easily.



Diverse optical properties: regardless of patterns, colors and labeling, the UFS reliably distinguishes labels from the carrier material.



High material efficiency: even very small label gaps from 1 mm can be detected by the UFS without error at up to 2.2 m/s.



The UFS fork sensor with ultrasonic technology detects optically challenging labels as well as very small distances between the labels (1 mm or higher).



Smart detection thanks to IO-Link

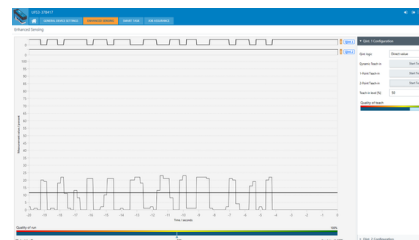
The UFS is a smart sensor with IO-Link. The integrated communication interface enables quick configuration during operation, eliminating the need for local access to the sensor. Format changes, fine adjustments, analyses and monitoring are also convenient via IO-Link.



Smart integration: IO-Link allows for easy parameterization of the sensor and convenient adjustment of the settings during operation.



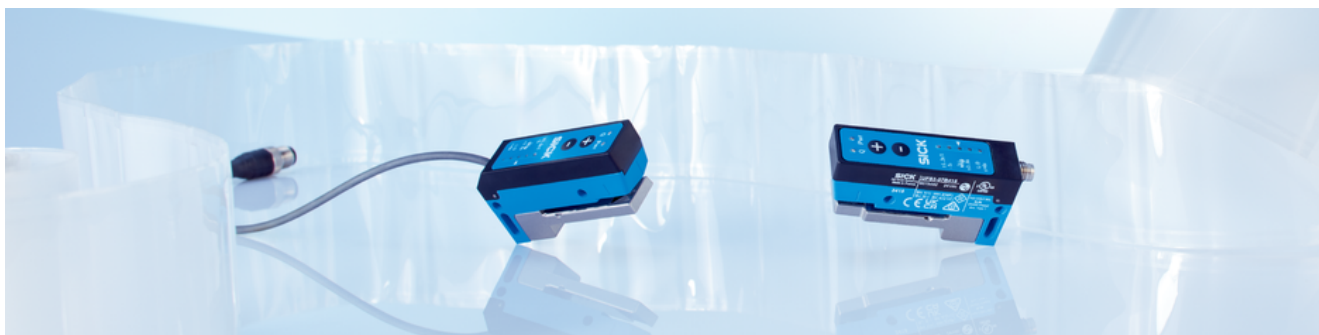
Continuous monitoring: the UFS constantly sends current process data via IO-Link, which can be used for automatic reporting of upset conditions and predictive maintenance planning.



Individual adaptation: the SOPAS configuration software can be used to make a large number of additional settings.



Thanks to IO-Link and diagnostic functions, the UFS reduces the risk of downtime with the high detection quality at the same time thanks to individual sensor settings.



Sensor performance always in view

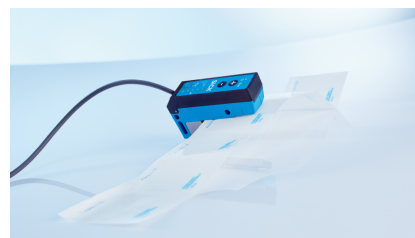
Receive immediate feedback from the bar graph on the sensor display: Assess the quality of the teach-in instantly and determine whether the sensor is adjusted correctly or needs to be readjusted. During operation, the display indicates the stability of the detection performance (Quality of Run) at a glance.



Parameterization in one step using UFS with teach-in button



Simple on-site monitoring: you can see at a glance if maintenance is required or if settings need to be adjusted.



Precise sensitivity adjustment: Switching thresholds can be easily adjusted using the UFS with plus/minus button



Check teach-in quality, sensor settings and power reserve easily – the bar graph makes it possible.



Technical data overview

Functional principle	Ultrasonic detection principle
Fork width	2.6 mm
Fork depth	42.5 mm
MDO	Label size: 2 mm ¹⁾ Label gap: 1 mm ¹⁾
Switching frequency	1.1 kHz ²⁾
Response time	440 µs ³⁾
Connection type	Cable with M12 male connector, 4-pin 0.31 m PVC Male connector M8, 4-pin Cable open end, 4-wire 2 m PVC

¹⁾ Depends on the label thickness.
²⁾ With light/dark ratio 1:1.
³⁾ Signal transit time with resistive load.

Product description

The innovative, small UFS fork sensor from SICK allows space-saving installation, for example directly on the dispensing edge of a labeling machine. Thanks to ultrasonic technology, the UFS reliably detects a variety of labels on carrier material – regardless of their color, pattern, marking, transparency level and gloss level. It flawlessly detects even very small label gaps of just 1 mm in size. And the display shows its actual operating reserve at a glance. The IO-Link communication interface also opens up numerous possibilities such as fine adjustment, analyses and monitoring, e.g., for automatic reporting of a web tear, as well as teach-in and sensor configuration during the running process.

At a glance

- Small housing with especially slim lower flange (5.5 mm high)
- Detects numerous labels and films – even transparent materials
- Detects label separations of 1 mm and greater
- Display shows teach-in quality and operating reserve
- Intelligent sensor with integrated IO-Link interface

Your benefits

- Space-saving installation with minimized belt flutter when mounted on the dispensing edge
- Detects numerous labels and films – even transparent materials
- Reduction in waste as more labels fit on the carrier material
- Fast and easy commissioning through direct feedback on the quality of the teach-in or run via a bar graph
- Reduces downtimes, as teach-in and configuration of settings can be performed via IO-Link while the process is running

Fields of application

- Detection of labels on carrier material for synchronizing the labeling process as well as triggering cutting, punching and folding processes
- Detection of film tears
- Distinguishes between single- and double-layer material
- Detection of adhesive areas (splice)
- Example industries: food and beverage, printing, packaging

Ordering information

Other models and accessories → www.sick.com/UFS

- **Communication interface:** IO-Link
- **Adjustment:** Teach-in button, cable
- **Enclosure rating:** IP65

Fork width	Fork depth	Switching output	Switching mode	Connection type Detail	Type	Part no.
2.6 mm	42.5 mm	NPN	Light/dark switching	Cable open end, 4-wire	UFS3-37N117	6075481
				Cable with M12 male connector, 4-pin	UFS3-37N517	6075478
				Male connector M8, 4-pin	UFS3-37N417	6075475
		PNP	Light/dark switching	Cable open end, 4-wire	UFS3-37P117	6075480
				Cable with M12 male connector, 4-pin	UFS3-37P517	6075477
				Male connector M8, 4-pin	UFS3-37P417	6075474
		Push-pull: PNP/NPN	Light/dark switching	Cable open end, 4-wire	UFS3-37B117	6075479
				Cable with M12 male connector, 4-pin	UFS3-37B517	6075476
				Male connector M8, 4-pin	UFS3-37B417	6075473

- **Communication interface:** IO-Link
- **Adjustment:** Plus/minus button, cable
- **Enclosure rating:** IP65

Fork width	Fork depth	Switching output	Switching mode	Connection type Detail	Type	Part no.
2.6 mm	42.5 mm	NPN	Light/dark switching	Cable open end, 4-wire	UFS3-37N115	6075490
				Cable with M12 male connector, 4-pin	UFS3-37N515	6075487
				Male connector M8, 4-pin	UFS3-37N415	6075484
		PNP	Light/dark switching	Cable open end, 4-wire	UFS3-37P115	6075489
				Cable with M12 male connector, 4-pin	UFS3-37P515	6075486
				Male connector M8, 4-pin	UFS3-37P415	6075483
		Push-pull: PNP/NPN	Light/dark switching	Cable open end, 4-wire	UFS3-37B115	6075488
				Cable with M12 male connector, 4-pin	UFS3-37B515	6075485
				Male connector M8, 4-pin	UFS3-37B415	6075482

- **Communication interface:** -
- **Adjustment:** Teach-in button, cable
- **Enclosure rating:** IP65

Fork width	Fork depth	Switching output	Switching mode	Connection type Detail	Type	Part no.
2.6 mm	42.5 mm	Push-pull: PNP/NPN	Light/dark switching	Male connector M8, 4-pin	UFS3-37B417S01	6085611

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

WORLDWIDE PRESENCE:

Contacts and other locations –www.sick.com