LABEL SENSORS

CAPACITIVE, OPTICAL,
ULTRASONIC

di-soric

LABEL SENSORS
FOR VARIOUS LABELS

Dispense quickly, precisely and flexibly

With the diversity of label variants, the requirements of processing sensors continually increase: wafer-thin, transparent labels for the non-label look or partially metallized labels must be detected and applied just as safely and precisely as booklets with an integrated package insert.

The selection of the appropriate functional principle (capacitive, optical or ultrasonic) enables ideally coordinated detection results on a variety of label materials.

KGUTI

Capacitive label sensors

KGUTI80

Ideal for transparent, thin labels

KGUTI50

Which label sensors are best suited for which label tape?

Label material:	Non-transparent	Transparent	Metallized	Thick labels > 0.9 mm
KGUTI Capacitive	☑	☑	☑	☐
OGUTI Optical	☑	☐	☑	☑
UGUTI Ultrasonic	☑	☑	☑	☑

☑ : Suited | ☑ : Partially suited | ☐ : Not suited

Three functional principles – simple teach-in

di-soric label sensors are equipped with auto-teach for simple teach-in. The ideal switching point can be determined with the press of a button while the label tape is moving through the label sensor. Auto-Teach enables teaching to new label materials in the simplest and fastest manner.

In addition to button operation, di-soric label sensors can be taught via remote teach or IO-Link.

OGUTI

Optical label sensors

Ideal for paper labels – economical, fast, precise

UGUTI

Ultrasonic label sensors

Universal solution for nearly all materials

Technical parameters:	Maximum tape speed	Reproducibility	Response time	Maximum label tape thickness
KGUTI Capacitive	≤ 500 m/min [1]	≤ 100 µm [2]	0.3 ms [1]	0.9 mm
OGUTI Optical	≤ 500 m/min	≤ 50 µm	0.16 ms	4.9 mm
UGUTI Ultrasonic	≤ 250 m/min	≤ 200 µm	0.25 ms	5.9 mm

[1] Speed sensor mode, depending on label and carrier tape | [2] Precision sensor mode

CAPACITIVE LABEL SENSORS
KGUTI

For the detection of thin, transparent, film and paper labels

Capacitive label sensors are the cost-effective and high-performance solution for position detection of thin, transparent, foil and paper labels. They show their strengths particularly well wherever high tape speeds are required. Using auto-teach, they are taught in to new materials quickly and intuitively.

Capacitive label sensors from the KGUTI series are available in two different models: KGUTI50 models are flat and may be integrated in a space-saving manner in machines. KGUTI80 models are compatible with a fork depth of 85 mm for wide labels.

Precise detection

of thin labels with high reproducibility

Two models available:

- KGUTI80, ideal for wide labels
- KGUTI50, space-saving with 2 fork widths, 1 mm or 0.4 mm for demanding materials

KGUTI50

Intuitive Auto-teach

- Teach-in and fine adjustment via membrane keypad
- 3 LEDs for status, switching output, and diagnosis

Push-pull output

- pnp or npn function in one device

Robust, separable metal housing

- Upper and lower portions can be unscrewed for cleaning to remove adhesive residue
- Metal plug connector

Ready for digitization

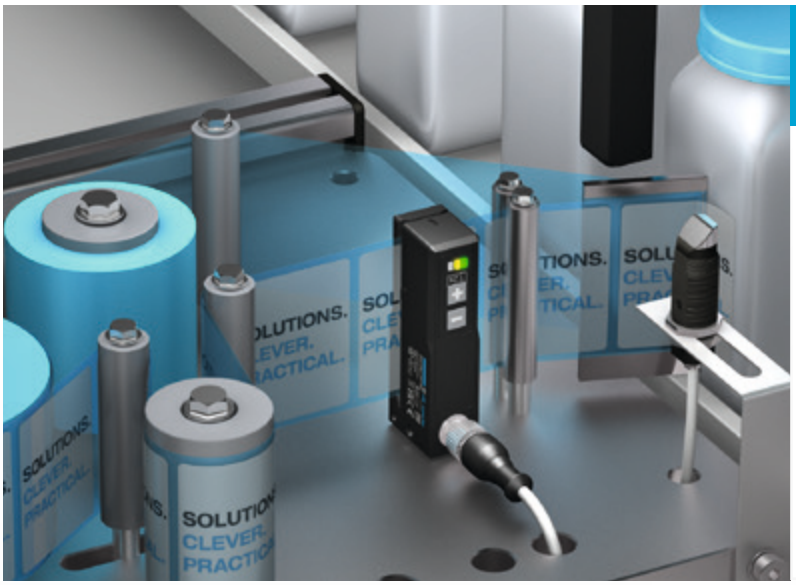
- IO-Link
- Parallel operation switching output (Pin 2) and IO-Link (Pin 4)

IO-Link

KGUTI80-1-G3-RB4

KGUTI80-1-G3-B4

KGUTI
APPLICATIONS



Detecting and positioning labels

KGUTI models are ideally suited in the case of position detection of thin, transparent film labels at high tape speeds.

The radial cable output of the KGUTI enables place-saving integration with vertical labeling machines.

Capactive label sensor
KGUTI80-1-G3-RB4

Check labels, trigger image processing

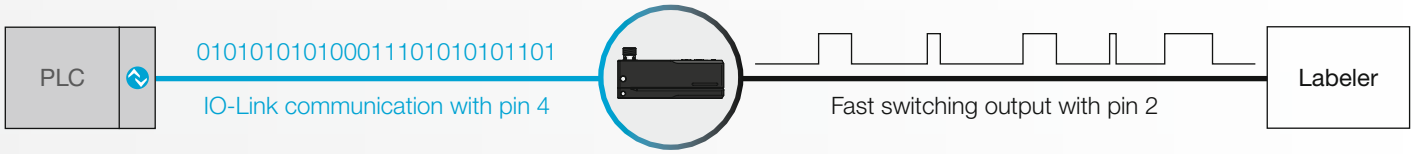
Inspection systems check labels 100% at high tape speeds.

Capacitive label sensors are used for precise triggering of the camera system.

Capactive label sensor
KGUTI50-0.4-G3-T4

Parallel operation via IO-Link

Configuration/diagnostics using IO-Link and fast switching output simultaneously:



KGUTI	Housing dimensions	Fork opening	Fork depth	Remote teach	Connection / plug output
KGUTI50-0.4-G3-T3	32 x 21 x 102 mm	0.4 mm	50 mm	–	Connector, M8, 3-pin (toward back)
KGUTI50-0.4-G3-T4				☑	Connector, M8, 4-pin (toward back)
KGUTI50-1-G3-T3	32 x 22 x 102 mm	1 mm	50 mm	–	Connector, M8, 3-pin (toward back)
KGUTI50-1-G3-T4				☑	Connector, M8, 4-pin (toward back)
KGUTI80-1-G3-B4	24 x 36 x 100 mm	1 mm	85 mm	☑	Connector, M12, 4-pin (toward back)
KGUTI80-1-G3-RB4				☑	Connector, M12, 4-pin (toward top)

OPTICAL LABEL SENSORS
OGUTI

For fast and precise detection of thin and thick paper labels

The cost-effective label sensors from the OGUTI series can be installed near to the dispensing edge due to their compact construction and are suited for paper labels at high tape speeds.
The intuitive Auto-Teach function via the operating button enables simple changing of the product during ongoing operation.

OGUTI are available in three different models with fork openings of 2 - 5 mm and fork depths of 40 - 100 mm.

High-speed label detection

For tape speeds up to 500 m/min

Maximum dispensing precision

- Exact label identification and optimal labeling
- Ideal for detection of paper and non-transparent labels
- High reproducibility: only ±0.05 mm of deviation

Intuitive Auto-teach

With operating key for simple changing of product during ongoing operation

Installation at the label dispensing edge

Through flat leg

Robust

Due to metal housing and metal plug

Large fork width

- For identification of thin and thick labels
- For processing thick booklets with integrated package insert

For wide labels

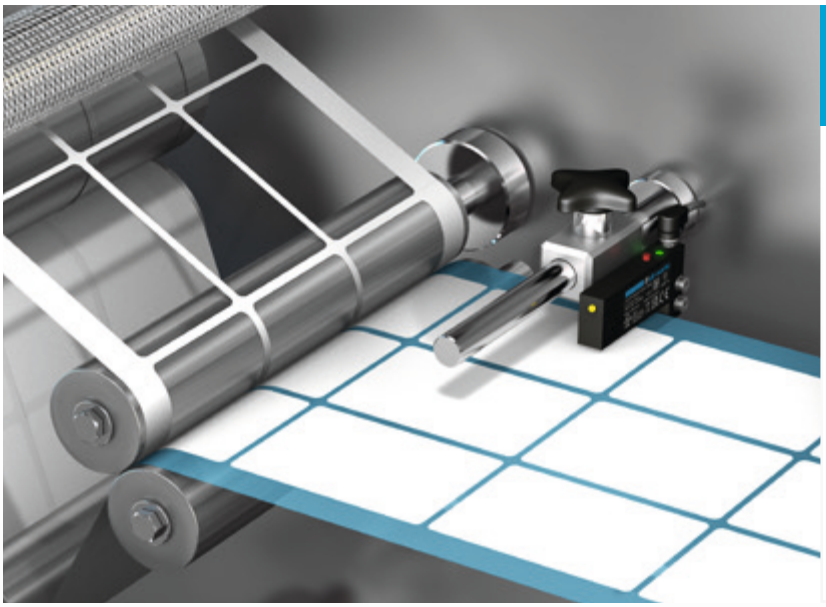
Variants with fork widths up to 100 mm (OGUTI 005/100)

OGUTI 002

OGUTI 005/50

OGUTI 005/100

OGUTI
APPLICATIONS



Punching and detecting labels

After fully automated punching, the number of the labels is detected.

Optical OGUTI label sensors reliably detect labels even at very high tape speeds.

Optical label sensor
OGUTI 005/50 FG3K-TSSL

Detecting and positioning labels

OGUTI optical label sensors are the economical solution for precise positioning of paper labels. The flat side enables installation near the dispensing edge.

This makes OGUTI the ideal solution for high-performance labelers.

Optical label sensor
OGUTI 005/50 FG3K-TSSL

OGUTI	Housing dimensions	Fork opening	Fork depth	Remote teach	Switching output
OGUTI 002 P3K-TSSL	35 x 60 x 14 mm	2 mm	40 mm	–	pnp
OGUTI 002 FP3K-TSSL				☑	pnp
OGUTI 005/50 G3K-TSSL	60 x 28.5 x 10 mm	5 mm	50 mm	–	Push-pull
OGUTI 005/50 FG3K-TSSL				☑	
OGUTI 005/100 FP3K-TSSL	35 x 120 x 14 mm	5 mm	100 mm	☑	pnp

ULTRASONIC LABEL SENSORS
UGUTI

Flexible, fast, precise, simple and robust – Universally suitable for nearly all label materials

Ultrasonic label sensors do not just detect very thin and transparent foil labels. They also reliably detect metalized labels and provide sufficient clearance for thicker, folded booklets. The innovative dual operating design – alternately configuration and diagnostics via IO-Link or Auto-Teach with manual threshold value adjustment via plus/minus keys – enables quick commissioning of the sensor.

Rugged, compact design with straight or angled plug connector

- Metal housings and metal connectors
- Quick cleaning with blow-out hole

Intuitive Auto-teach

- Teach-in and fine adjustment via membrane keypad
- 3 LEDs for status, switching output, and diagnostics

Precise detection

- Response time of just 0.25 ms
- Tape speed of up to 250 m/min
- High reproducibility

Maximum flexibility

thanks to ultrasound and a fork width of 6 mm and a fork depth of 70 mm for a wide variety of label material, such as:

- Metallized film labels
- Transparent labels
- Paper labels
- Booklets up to 5.9 mm thickness
- Short labels with length of only 2 mm

Ready for digitization

- IO-Link
- Parallel operation switching output (pin 2) and IO-Link (pin 4)

Operation with process reliability

Fast, efficient cleaning
thanks to large blow-out hole

IO-Link

c UL us LISTED

UK CA CE

UGUTI 6/70 G6-B5

UGUTI 6/70 G6-RB5

ONE LABEL SENSOR FOR
A VARIETY OF LABEL MATERIALS

Detecting and positioning thin and booklet labels

A container has a transparent design label on the front side On the back side is a booklet label with instructions for use. With ultrasonic label sensors from the UGUTI series, nearly all label materials can be processed.

Ultrasonic label sensor
UGUTI 6/70 G6-B5

Detecting and positioning labels

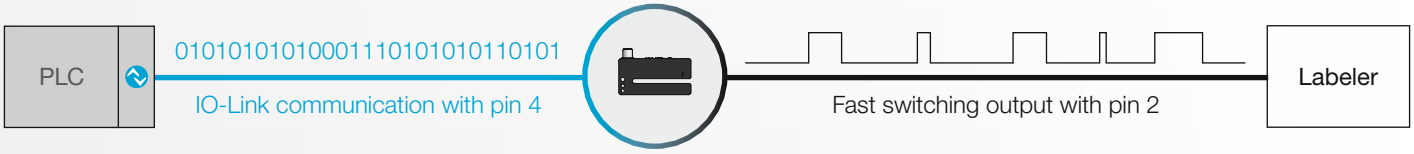
Ultrasonic label sensors can be used universally for a wide variety of label materials. They reliably detect not only thin and thick transparent, film and paper labels but also metallized labels.

The sensors are therefore extremely flexible and are suited for frequently varying labels.

Ultrasonic label sensor
UGUTI 6/70 G6-RB5

Parallel operation via IO-Link

Configuration/diagnostics using IO-Link and fast switching output simultaneously:



UGUTI	Housing dimensions	Fork opening	Fork depth	Remote teach	Connection / plug output
UGUTI 6/70 G6-B5	45 x 18 x 90 mm	6 mm	70 mm	☑	Connector, M12, 5-pin (toward back)
UGUTI 6/70 G6-RB5				☑	Connector, M12, 5-pin (toward top)

MORE FLEXIBLE, TRANSPARENT AND EFFICIENT PRODUCTION PROCESSES WITH IO-LINK

IO-Link is a worldwide communication standard according to IEC 61131-9. Sensors and actuators become intelligent devices through their variety of function and performance with IO-Link. Production processes thereby become more flexible, more transparent, and more cost-efficient. With IO-Link, sensors become digital products. This enables Industry 4.0 system designs.

di-soric products and their IO-Link benefits

1 Configuration facilitates commissioning

With their coordinated configuration, di-soric label sensors can be adapted to the application case.

Sensor settings are directly visible in the control and shorten the commissioning times of machines and systems.

Detected switching thresholds for various label materials can be stored in the control for administering format and be repeatedly adjusted.

2 IO-Link process data with additional benefits

IO-Link label sensors from di-soric are designed according to the smart profile as measuring and switching sensors.

The switching state of the sensor and a measured value are transmitted with the cyclical process data.

The measured value depends on the damping of the label material, and specific properties of the carrier tape and label can thereby by assessed quantitatively.

3 Preventive maintenance through diagnosis

The reliable function of sensors is of the utmost importance in automation.

Label sensors with IO-Link from di-soric signal the functional safety of the teaching process. With IO-Link diagnostic functions on the device status and on maximum and minimum process values, new and difficult materials can be quantitatively assessed during production operation.

Diagnosis supports coordinated service cycles and enables the use of remote maintenance of production systems.

4 Parallel operation of IO-Link with additional fast switching output

The main function of label sensors is the precise, fast positioning of labels. The labeler is controlled directly via a fast switching output.

In addition to and simultaneous to the fast labeling process, important sensor functions can be configured and controlled via IO-Link. IO-Link enables diagnosis and remote monitoring during ongoing operation.

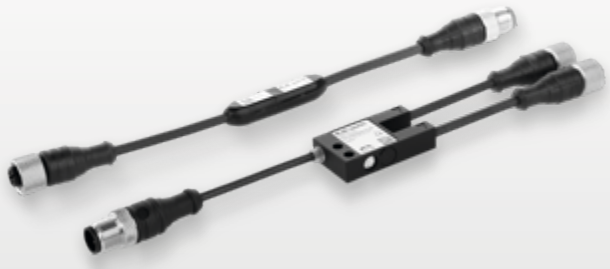
UNIVERSAL ACCESSORIES

Connection technology

In the area of connection technology, a wide variety of electrical contacts for customized industrial installation are available.

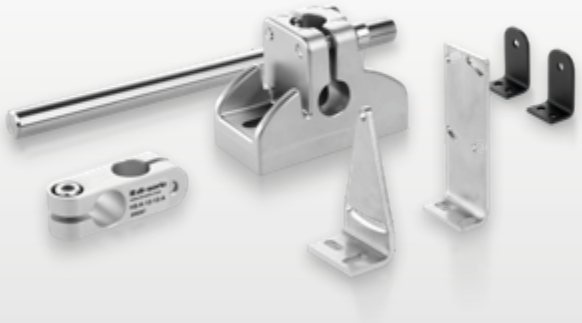
Signal preparation

Logic distributors can link two sensors with one another (e.g. AND/OR function). Function adapters change switching signals, e.g. npn, pnp, inversion, pulse stretching.



Universal mounting technology

di-soric offers tailored bracket and fastening systems for all of its sensors, image processing systems, identification systems and lighting.



Test & parameterization devices

Test & parameterization devices facilitate function tests of sensors. IOL Master and IOL Portable enable the display of measured values as well as the diagnoses and the configuration of IO-Link-capable sensors without additional control. The sensor tester is suited for pnp and npn sensors.

IOL MASTER
Operation on PC via USB

IOL PORTABLE
Handheld operation without PC

SENSOR TESTER
ST 7PNG

SOLUTIONS. CLEVER. PRACTICAL.

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