LABELING TECHNOLOGY

di-soric

WELCOME
TO DI-SORIC

Over 40 years of experience in the development and production of solutions for industrial automation

- **100% owner-managed**
- **Headquarters**
  Urbach, Germany
- **Technology and production center**
  Lüdenscheid, Germany
- **Representatives and branch offices**
  in more than 40 countries
- **Certifications**
  IQNet, ISO 9001:2015, ISO 14001:2015

For over 40 years, di-soric GmbH & Co. KG has been producing and selling sensors featuring a wide variety of technologies. These sensors are used in industrial automation – primarily in assembly and handling technology, in the automotive, electronics and pharmaceutical industries and in packaging technology. Other important cornerstones of our product range are innovative vision sensors and code readers, high-quality LED lighting for machines and image processing, and products from the segment of safety technology.

Our own ambition is to benefit you. When we develop products and solutions to handle your tasks, we alway strive to make them both as simple and as practical as possible.

We draw upon our high level of technical know-how and a clear view of the developments of tomorrow to support our customers – today and in the future – with precise, non-disruptive and efficient production processes.

OUR PROMISE TO YOU:

SOLUTIONS.

To us, finding solutions means:

- Targeted consultation and technical expertise for efficient product solutions
- A very broad, high-performance product range

CLEVER.

To us, being clever means:

- Developing products with clear benefits
- Products that are easy to use thanks to clever functions
- Joint dialog for the most efficient and most suitable solution

PRACTICAL.

To us, being practical means:

- Solution expertise with the best possible functionality at affordable prices
- Cooperative and straightforward working relationships for mutual success
- Focus on the key issues for greater efficiency

LABELING TECHNOLOGY
WITH DI-SORIC

For precision and maximum productivity

di-soric offers various solutions for manufacture, dispensed feed and label checking – each of them adequate for the individual requirements of the application.

Diverse materials, various sizes, and high speeds present special challenges to control and monitoring in labeling technology. Compact designs and a high availability of the general sensors and Vision sensors are required.

Our product portfolio includes measuring and Vision sensors, which are required for the process of manufacturing labels. Whether you want to measure diameters, sag and edge positions or identify labels and their positions—our company provides you with everything from a single source, from start to finish, regardless of what materials you are processing.

Application requirements for the selection of the optimal sensor

- Label/carrier material
- Size of labels
- Belt speed
- Working distance
- Installation space

Optimal solutions for labeling technology

Applications for labeling technology

OPTIMAL SOLUTIONS FOR LABELING TECHNOLOGY

General sensors, ID Reader, and Vision sensors from di-soric make a decisive contribution to efficiency in applications in labeling technology. Areas of use are the manufacturing and dispensing of labels as well as checking labels

Label sensors

UGUTI
ultrasonic label sensors

- Universal solution for nearly all materials

OGUTI
optical label sensors

- Ideal for paper labels

KGUTI
capacitive label sensors

- Ideal for transparent, thin labels

di-soric label sensors are equipped with auto-teach. A press of a button is enough to determine the ideal switching point. 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.

Optical sensors

Light barriers/buttons

- Suited for quick, secure object detection with the highest functional safety
- Available in various designs and functional principles, as buttons, reflective and through-beam sensors

Optical distance sensors (LAT-45) Long range

- Long range of up to 10 m
- Operation using a keypad or via IO-Link
- Measuring and switching applications
- Distance measurement on many surfaces

Plastic fiber-optic sensors

- For limited assembly space
- Modular fiber optic and accessory program for adaptation to the application case
- The fiber-optic amplifiers can be sequenced as desired for top rail assembly

Color sensor FS-10 Compact

- With fiber optic connection, optimal for narrow installation conditions
- Intuitive teach-in via button

di-soric has an extensive portfolio of optical sensors in various models, light sources and functional principles for process-reliable detection, measurement, and testing of quickly moving objects under challenging ambient conditions.

Ultrasonic sensors

USGT ultrasonic fork sensors

- For determining position of edges
- Very high repeatability
- Dirt-resistant.

Ultrasonic barriers/sensors

- Reliably detect transparent, light and dark objects, as well as reflective objects
- Measuring and switching applications
- Operation with teaching line or via IO-Link
- Designs from M8 to M30

Inductive sensors

Inductive proximity sensors

- Impresses in many industrial standard applications
- With 1x, 2x, 3x or 4x switching distance
- Designs of Ø 3 mm to square up to 40 x 40 mm

di-soric has great products such as various and high-performance ultrasonic sensors and inductive proximity sensors. The portfolio includes an array of different designs and ranges – appropriate for the respective application case.

Vision sensors and ID Reader

CS-60
Vision Sensor

- High-quality, precise 2D image of the field of view
- Simple localization, detection, counting and measuring of structures in the image
- High-performance reading of ID codes (printed, directly marked (DPM))
- Transfer of results and images via various interfaces

ID-600
Fixed-mounted ID reader

- User-friendly, intuitive software
- High-performance ID code reader tools
- Integrated high power LED illumination in red and white
- Flexible focus by changing lenses

We offer a broad spectrum of image-based ID systems with extremely powerful decoding algorithms and image-processing solutions with intuitively operable Vision sensors for the highest productivity. The integrated software n-Vision-i may be expanded with further functions by way of a simple licensing model.

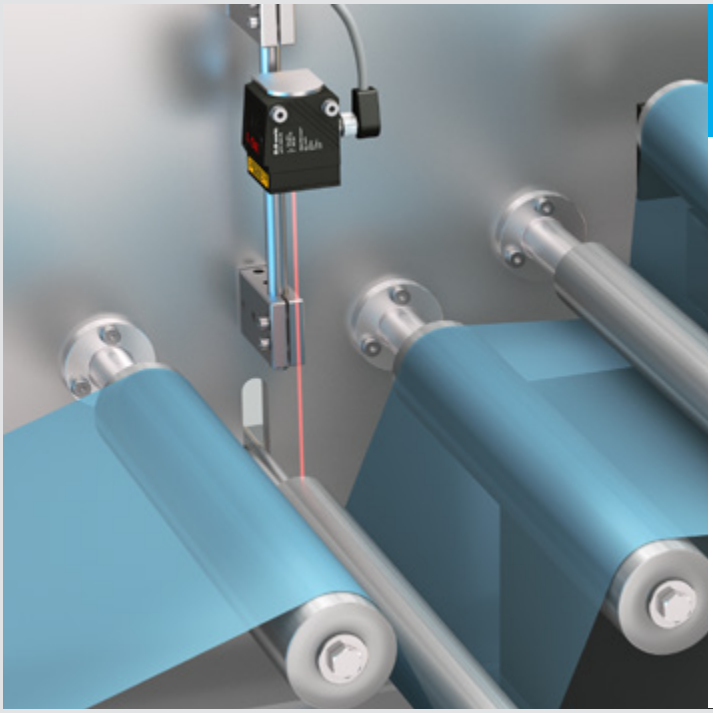
CREATING LABELS

The large number of applications and label types requires specific manufacturing methods. In order to optimally equip the various process steps and machine types, di-soric provides a range of sensors for printing, coating and laminating as well as for cutting and punching labels.

Roller diameter check

In the case of high-performance labelers with large a roll diameter, the rotational speed of the label roll is controlled. Sensors from the US-M18 series measure the outer diameter of the label material here. The speed of the roller can be continually adapted in the process with the determined measured value.

Ultrasonic sensor
US 18 M 800 IU-B4



Loop control system

In a label printing machine, the sag of a label tape must be measured. This measurement is done with the LAT-45 optical distance sensor on the dancer roll. With its easily aligned red light laser, the metal housing and the resistant glass front panel, this sensor is optimally suited for this application.

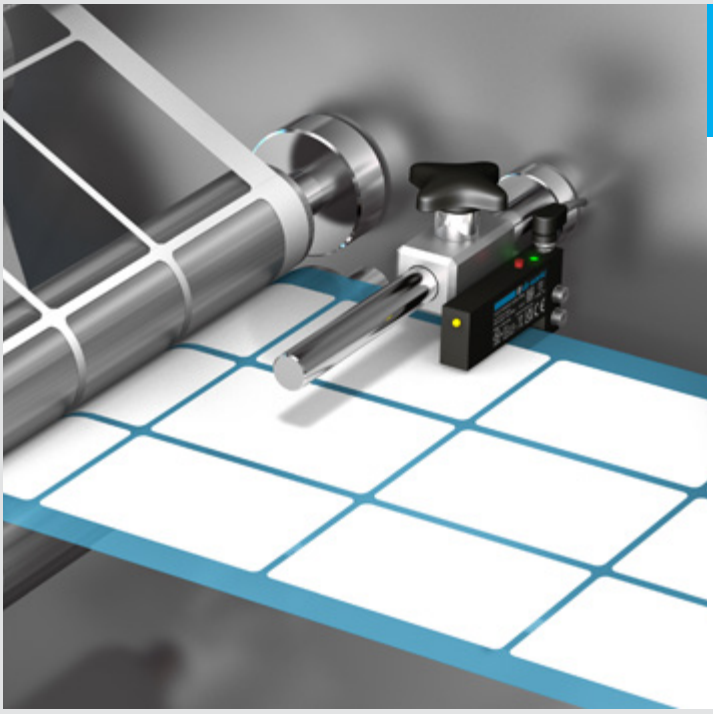
Optical distance sensor
LAT-45

Through simple adjustment, our sensors make it easy to achieve fast, process-reliable and flexible production of varying products and batch sizes.

Web edge control

A material web is unwound by a roller and must be guided precisely into the processing machine. With the USGT ultrasonic fork sensor, the location of the web edge can be determined precisely. The sensor has a large, linearized analog output by way of which the deviations of the web edge are transmitted to the control and a web edge correction can thereby be performed.

Ultrasonic fork sensor
USGT 30/8 IU-B4



Punching and detecting labels

Our OGUTI optical label sensor is suited particularly well for the detection of paper labels and optically non-transparent labels with translucent carrier material. In this way, reliably punched labels can be checked on very fast labeling machines with tape speeds up to 500 m/min.

Optical label sensor
OGUTI 005/50 FG3K-TSSL

DISPENSING LABELS

The number of labels processed on the market is steadily increasing. The spectrum ranges from transparent labels for the non-label look to printed and partially metallic labels and even thick booklets with integrated instruction leaflet.

Detecting and positioning labels

Optical label sensors detect both thin and thick paper labels with outstanding speed and precision thanks to their large fork openings. They boast extremely high dispensing precision and reproducibility, making maximum belt speeds possible. Using auto-teach, they can be taught in to new materials quickly and intuitively.

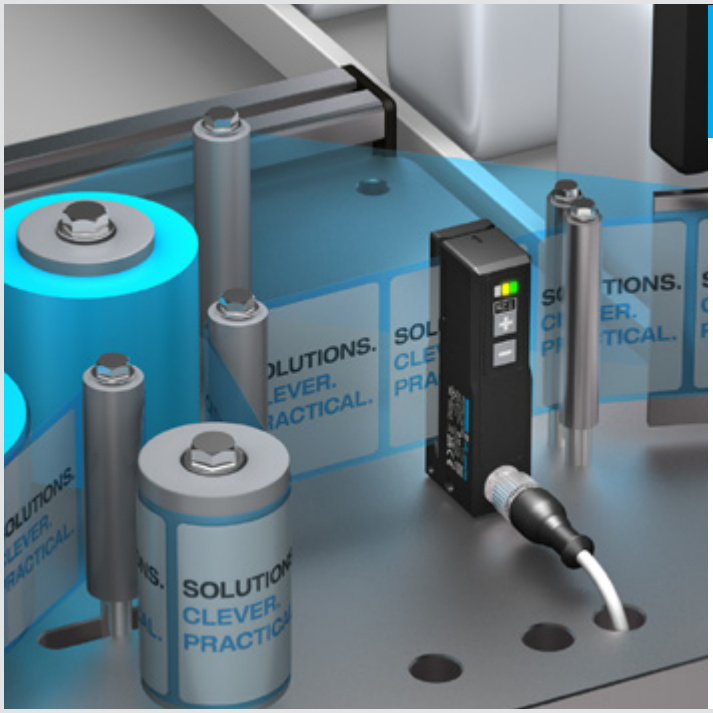
Optical label sensor
OGUTI 005/50 FG3K-TSSL

Which label sensors are best suited for which label material?

Label material:	non-transparent	transparent	metallized	Thick labels > 0.9 mm
KGUTI capacitive	☑	☑	☑	☐
OGUTI optical	☑	☐	☑	☑
UGUTI ultrasonic	☑	☑	☑	☑

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

di-soric label sensors enable very fast change of labels in the ongoing process using their auto teach function. Additionally, we offer remote teaching versions and naturally supportive sensors, in order to dispense labels quickly and precisely.



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.

Capacitive label sensor
KGUTI80-1-G3-RB4

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 empty label coil

In the course of operation, the outer diameter of the label tape gets smaller. To detect the label tape running empty in a timely manner, a diffuse reflective sensor from the O-30 compact series is positioned under the panel. When it is nearly used up, the sensor detects the lack of label roll and the switching signal changes.

Energetic diffuse reflective sensor
OT 31 K 400 P3-3

Detecting end position at guide roller

Before dispensing, the label tape is fed via several deflection rollers A compact, inductive sensor in the M5 design with a switching distance of 2.5 mm monitors the end position of the dancer roll.

Inductive proximity sensor
DCC 05 V 2.5 PSLK

Triggering labeling

On a wide conveyor section, objects or containers being conveyed in sequence have to be detected with positional accuracy and a short response time to trigger their labeling. With the reflective light barriers from the OM-18 series, we offer an economical solution with simple assembly, long range, high degree of functional safety, and simple operation by way of potentiometer.

Retroreflective sensor
OR 18-1 FKR 3600 P3

Triggering labeling

To trigger the labeling of the containers, they must be detected with positional accuracy and with a short response time. Fiber-optic sensors from di-soric can be used here as a cost-effective solution. They feature the lowest space requirement in the conveyor area. They detect the front edge of the containers and control the labeling through their switching signal. The fiber-optic amplifier is assembled flexibly according to installation space.

Fiber-optic amplifier
OLK 71
Plastic fiber-optic cable
KLER-M4-T2-1

CHECKING LABELING

In order to ensure secure, complete backtracking, many products are labeled or marked with corresponding codes.
With our ID and Vision products, we ensure that labeling is always at the correct position and 1D and 2D codes can be reliably detected and evaluated.

Position check for label fit

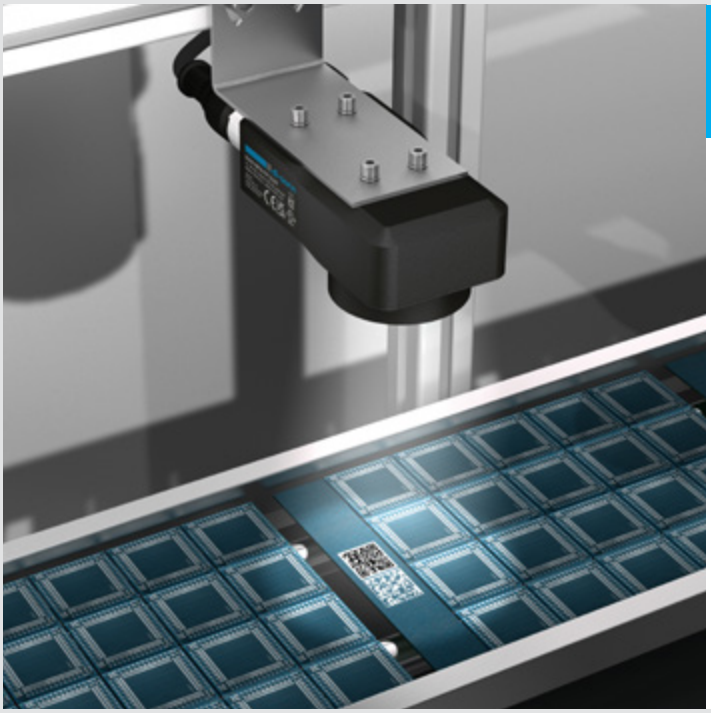
The CS-60 checks the position of the text markers in the surrounding packaging. Simultaneously, a presence check and position check of the label occur. In this way, defective objects can be reliably separated out.

Vision Sensor
CS-60

Traceability of products

Products with perfectly legible bar codes should continue to be packaged together. For this purpose, the ID-600 checks the label for presence and position, by detecting the bar code and performing a position check in the integrated nVision-i software.

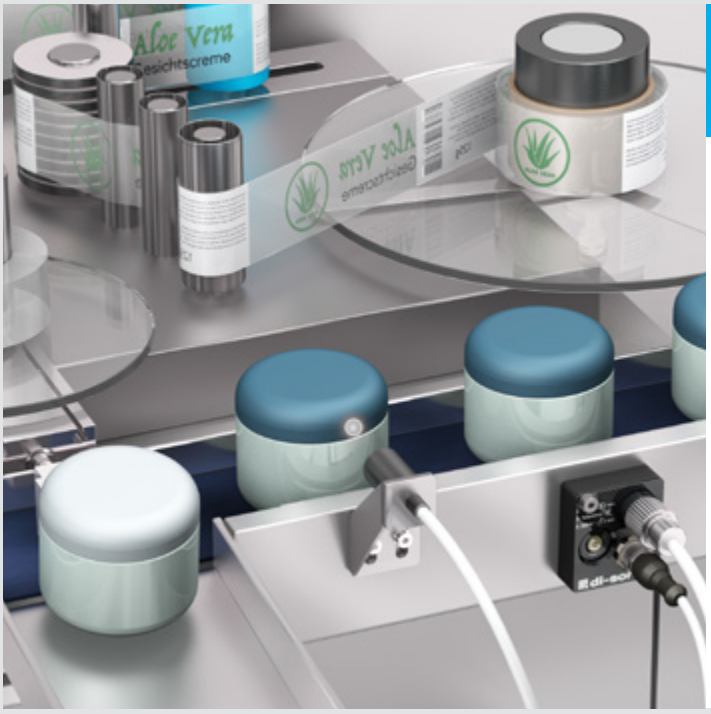
Fixed-mounted ID reader
ID-600



Track and trace through 1D code capture

For precise backtracking in the part feed, the ID-600 simultaneously captures DPM or QR codes. The linking of the codes is done directly in the code reader via the logic tool. Defective batches with bad components can be quickly identified in this manner. For quality assurance, the images are also transferred via an FTP server.

Fixed-mounted ID reader
ID-600



Checking cover color

The color of a screw cap must be checked before labeling. The FSB 10 color sensor with a fiber optic connection is used to check the cover color. It is very easy to teach the FSB 10 the target color by simply pressing the Teach button on the color sensor. The optional focus optics enables color detection at large working distances.

Color sensor
FSB 10 M G1-B8
Fiber-optic cable
WRB 120 P-SG M6x30-2.5
Attachment optics
VO-M6/35-M6x30-2.5

SOLUTIONS. CLEVER. PRACTICAL.

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