



ULTRASONIC SENSORS US

SWITCHING AND / OR
MEASURING

 **di-soric**

ULTRASONIC – A SUCCESS PRINCIPLE WITH MANY BENEFITS.

ALL PRACTICAL BENEFITS – UNIFIED IN ONE SENSOR



IO-Link – for future-proof communication

- Constant monitoring of device functions and parameters
- Extended setting options



Reflective mode – the guarantee of success in the background

The sensor is taught in to the background, not to the objects to be detected, so it only has to detect a deviation from the background.

- Detection regardless of surface
- Much more stable, simpler processes



A clear switch point due to temperature compensation

Even when the temperature fluctuates, constant measurement accuracy thanks to integrated temperature compensation – which can be enabled and disabled.

- Always a clear switch point, even if temperatures change slowly
- Constantly high measurement accuracy for optimum process quality
- Shall be disabled if temperatures change rapidly
- Maximum system availability and reduction in machine downtimes



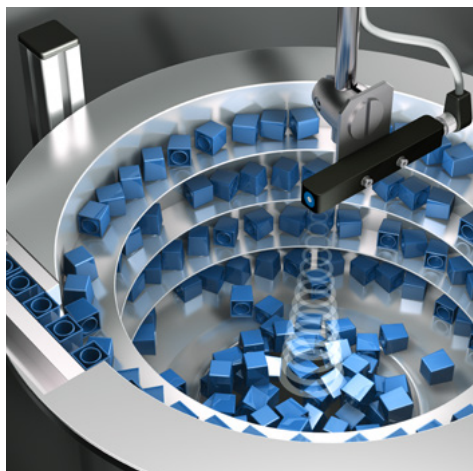
Ultra-simple teach-in: 3 teach modes and other settings

- Window mode
- 2-point mode
- Auto-teach mode
- The output can be switched



Compact and short from M8 to Q12 – threaded and cuboid designs

- Simple machine integration, thanks to extremely small and short housing dimensions
- Maximum flexibility even in tight installation spaces
- Retrofit – perfectly suited to retrofitting or replacement



Level control in the hopper US Q12

The ultrasonic sensor reliably monitors the fill level in the vibratory feeder. Thanks to its cuboid design, it can even be installed directly on the hopper wall of step feeders.



THE SWITCHING ULTRASONIC RANGE. ULTRA-SIMPLE – ULTRA-FLEXIBLE.

STABLE PROCESSES DUE TO DI-SORIC ULTRASONIC SENSORS.

Simple machine integration

thanks to extremely small and, in particular, short housing dimensions

Maximum flexibility

due to different designs and configurable operating ranges

Stable applications

due to resistance to dirt and insensitivity to noise, independent surface properties such as color

Stable processes

thanks to narrow sound beams and optional reflective mode



Durability and a long service life

due to metal housing, plugs and IP67

Quickly ready for operation

due to simple teach-in and IO-Link

Reliability

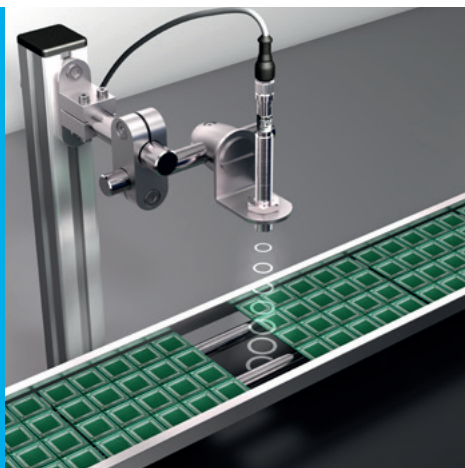
due to high tolerance of contamination and temperature compensation



Accumulation monitoring for boxes

US 12 / US 18

The long ranges achieved by the ultrasonic sensor, which works with IO-Link, enable it to reliably identify accumulations and gaps between boxes being transported, ensuring that packages are transported smoothly and without disruption.



Detecting the presence of PCBs

US 08

Its unique M8 design and extremely narrow sound beam make the US 08 the perfect problem-solver where classic proximity switches reach the limits of their scanning ranges. For example, it can be used to detect the presence of PCBs at a greater distance (up to 100 mm).

THE MEASURING ULTRASONIC RANGE. ANALOG OUTPUT AND MULTI-I/O.

JUST ONE SENSOR FOR BOTH MEASUREMENT TASKS AND OTHER TASKS FOR WHICH ANOTHER SENSOR WOULD BE REQUIRED.

Teach, switch and measure

using MI/O

6 seconds

is all you need to teach it in and configure it

Reliable detection

even of small parts, due to high resolution and narrow sound beam

Shortest designs

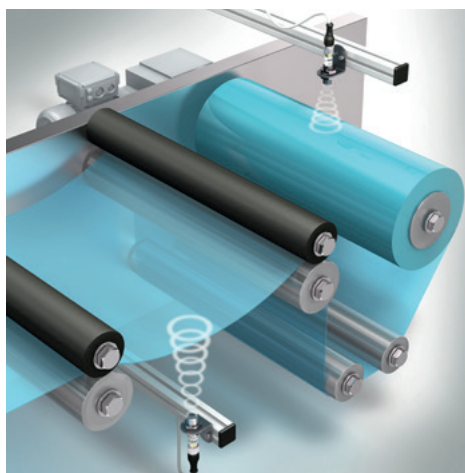
with lengths from 55.5 mm, M12, M18, M30 and Q12

Can be configured flexibly

as an ultrasonic sensor or a barrier

Cost saving

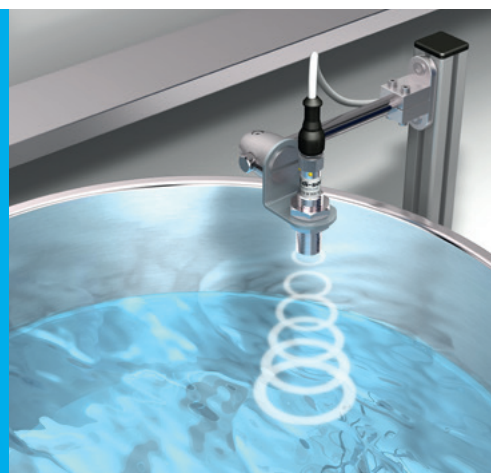
due to connection with 4-core standard sensor circuits instead of expensive 5-core circuits – yet with full functionality



Roller diameter check US 18 M 1500 IU-B4

Sag check (speed regulation) US 12 M 400 IU-B4

Using MI/O enables optimal planning of roller replacement through continual sag checks, monitoring and a signal over a configurable switching output if the roller thickness drops below the set minimum.

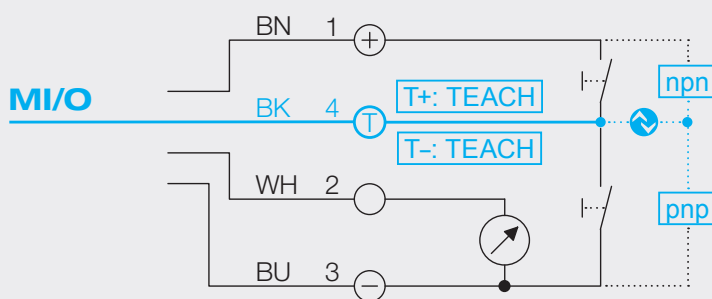


THE WORLD'S FIRST MULTI-I/O IN ONE SENSOR: MI/O.

TRUE MULTI FUNCTIONALITY AND A FULL RANGE OF FUNCTIONS,
WITH ONLY 4 PINS.

HOW MI/O WORKS

Using MI/O, a connected IO-Link Master is recognized automatically and the sensor changes to communication mode. Instead of the teach input, a switching output can then be configured.



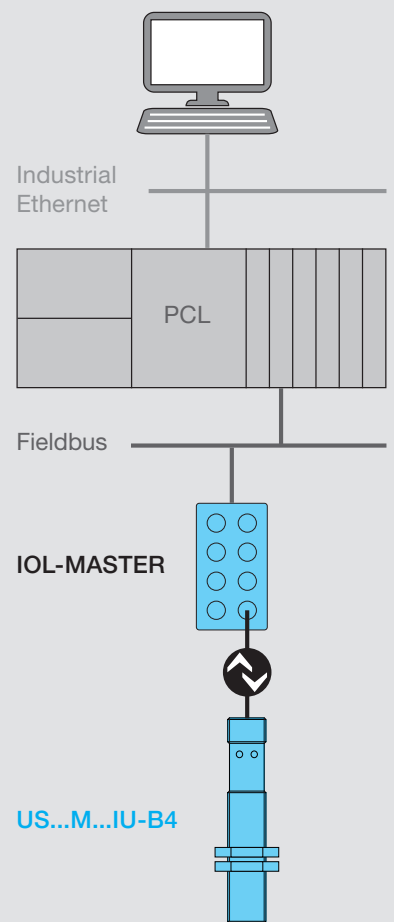
BN: brown | BK: black | WH: white | BU: blue

MI/O PIN 4

A connection PIN that performs multiple functions:

1. Teach-In
2. IO-Link communication
3. Switching output
4. Synchronization / Multiplex Mode

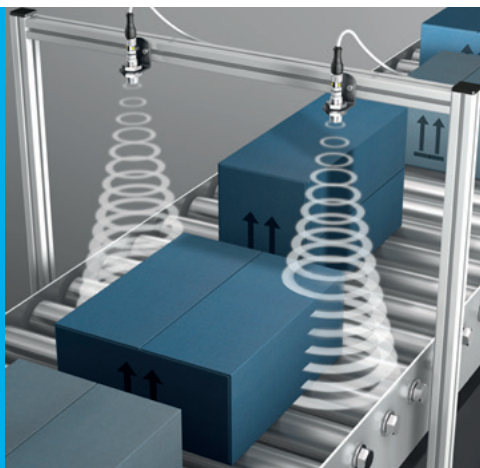
IO-LINK



Container monitoring

US 18 M 800 IU-B4

The container fill level can be monitored using an analog signal – the additional switching output can be used as a warning output if a critical level is exceeded, or no longer achieved, to control filling or perform an emergency stop, by starting a dry run, to protect the machine.



Box height measurement

US 18 M 1500 IU-B4

The classic analog application: use this ultrasonic sensor to measure different box heights reliably, using analog signals, no matter what their surface properties, such as color, at a working distance of 1.5 m.

ULTRASONIC SENSORS US

MEASURING / SWITCHING

Design	M8	M12			M18	
				 US-UW-12 ¹		 US-UW-18 ²
Switching	US 08 M 100 G3-T4	US 12 M 150 FB G3-B4	US 12 M 200 G3-B4	US 12 M 400 G3-B4	US 18 M 800 G3-B4	US 18 M 1500 G3-B4
Measuring	–	US 12 M 150 FB IU-B4	US 12 M 200 IU-B4	US 12 M 400 IU-B4	US 18 M 800 IU-B4	US 18 M 1500 IU-B4
Length	70 mm	84 mm	65 mm		55.5 mm	
Range	20 ... 100 mm	0 ... 150 mm	20 ... 200 mm	40 ... 400 mm	80 ... 800 mm	120 ... 1500 mm
Scanning						
Reflex						
Extra		Focusing nozzle	¹ Deflection mirror 90° (optional)		² Deflection mirror 90° (optional)	
Setting	 	 	 		 	

Design	M30	M30	Cuboid Q12			
						
Switching	US 30 M 3000 G3-B4	US 30 M 6000 G3-B4	US Q12 M 200 G3-T4	US Q12 M 400 G3-T4	US Q12 M 400 FP G3-T4	US Q12 M 400 HP G3-T4
Measuring	US 30 M 6000 IU-B4	US 30 M 6000 IU-B4	US Q12 M 200 IU-T4	US Q12 M 400 IU-T4	–	–
Length	60 mm	78 mm	83.5 mm		90.5 mm	
Range	300 ... 3000 mm	600 ... 6000 mm	20 ... 200 mm	40 ... 400 mm	40 ... 400 mm	40 ... 400 mm
Scanning						
Reflex						
Extra					Fill level monitoring of all media	Sensor with back-ground suppression
Setting	 	 	 		  	

Via:  Remote teach  IO-Link  Potentiometer

GENERAL INFORMATION

ACCESSORIES

CONNECTION TECHNOLOGY

In the area of connection technology, a wide variety of electrical contacts for custom industrial-suited assembly are available. This includes connection lines, adapter plugs, and attachable plug connectors.



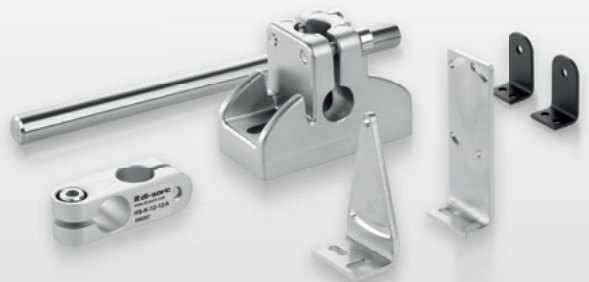
SIGNAL PREPARATION

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.



CONFIGURATION AND TESTING DEVICES

Configuration and testing devices facilitate function tests of lighting and sensors. IOL Master and IOL Portable enable the diagnosis and the configuration of IO-Link-capable lighting and 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.

di-soric Headquarters

Germany: di-soric GmbH & Co. KG | Steinbeisstrasse 6 | 73660 Urbach
Phone +49 71 81 98 79-0 | Fax +49 71 81 98 79-179 | info@di-soric.com

di-soric Subsidiaries

Austria: di-soric GmbH & Co. KG | Phone +43 7228 72 366 | info.at@di-soric.com

China: di-soric Industrial Automation (Suzhou) Co. Ltd. | Phone +86 512 6260 9518 | info@di-soric.cn

France: di-soric SAS | Phone +33 476 61 65 90 | info.fr@di-soric.com

Singapore: di-soric Pte. Ltd. | Phone +65 6694 7866 | info.sg@di-soric.com

The Netherlands: di-soric B.V. | Phone +31 413 33 13 91 | info.nl@di-soric.com

For further information visit www.di-soric.com/international

www.di-soric.com