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extract from our online catalogue:

bks-3/CDD

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microsonic GmbH / Phoenixseestraße 7 / 44263 Dortmund / Germany / **T** +49 231 975151-0 / **F** +49 231 975151-51 / **E** info@microsonic.de
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bks

The bks edge sensor facilitates the contact-free web edge scanning of foils, paper and other soundimpermeable materials.

Highlights

- Compact design with only 30 mm fork width
- 0.025 mm resolution
- 0.1 mm relative accuracy
- 4 ms response time
- 8 mm working range

Basics

- Contact-free detection of the path edge
- Analogue output 4–20 mA and 0–10 V
- 3 LEDs and 1 button on the top of the housing
- Parameterisable with LinkControl
- Robust metal housing › for harsh usage conditions

The bks ultrasonic edge sensor

is a fork sensor for scanning the edges of sound-impermeable materials such as foil or paper. This is why the bks is ideally suited for the web control of highly transparent foils, light-sensitive materials, materials with greatly varying transparency and paper subject to high paper dust loads.

The working range amounts to 8 mm (±4 mm).

The functional principle

The fork's lower leg is equipped with an ultrasonic transmitter which cyclically emits short sound impulses, which are detected by the ultrasonic receiver arranged in the upper fork leg. Material passing through the fork covers this sound path and thus attenuates the receiving signal depending on the coverage, which is evaluated by the internal electronics.

An analogue signal is output in dependence of the coverage degree.

One output stage is available:



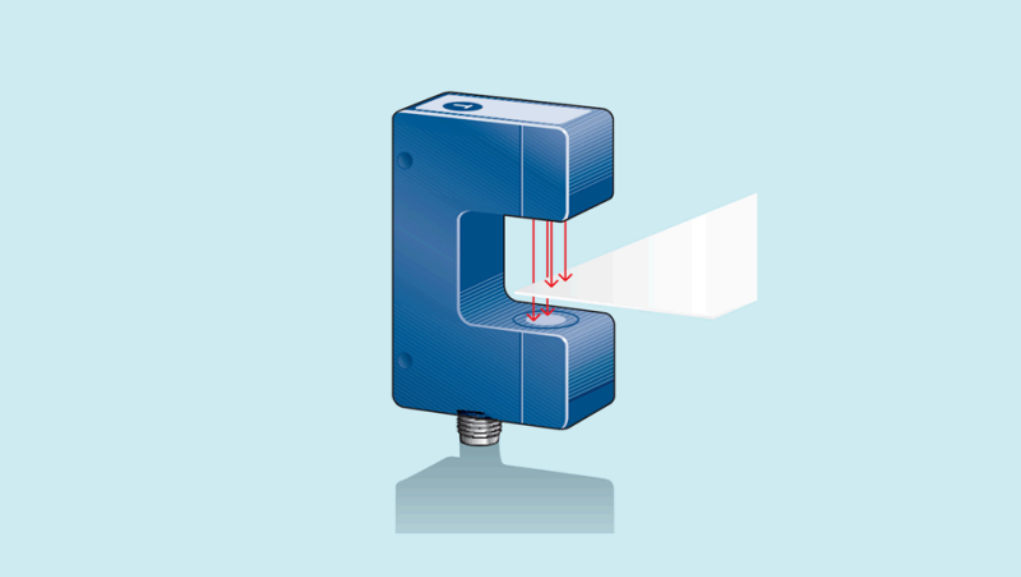
The analogue output can both deliver voltage 0–10 V as well as current 4–20 mA.

Via the Teach-in button

on the edge sensor's top, the zero position of the edge to be controlled is set. There are two options for calibration:

- completely freeing the fork from the web material,
- pressing the button for approx. 3 seconds until the two yellow LEDs flash alternately. Ready. Or
- aligning the web edge inside the fork with the two marks to ensure a 50% coverage of the sound path,
- then pressing the button for approx. 10 seconds until the two yellow LEDs remain lit. Ready.

The bks edge sensor has a fork width of 30 mm and a fork depth of 33 mm. Other fork widths and depths are available upon request. The housing side is equipped with two consistent bores for the edge sensor's mounting. The electrical connection is established via an M12 circular connector.



With a fork width of only 30 mm and a depth of 33 mm, it has a very compact design. Its working range of 8 mm and its high accuracy of 0.1 mm permit a wide variety of applications.

Three LEDs

indicate the position of the web material inside the fork. For the application of light-sensitive materials, the LEDs can also be switched off.

The bks is pre-set and immediately ready for operation. Optionally, it can also be comprehensively parameterised with the help of the LinkControl-adapter LCA-2 and LinkControl software .

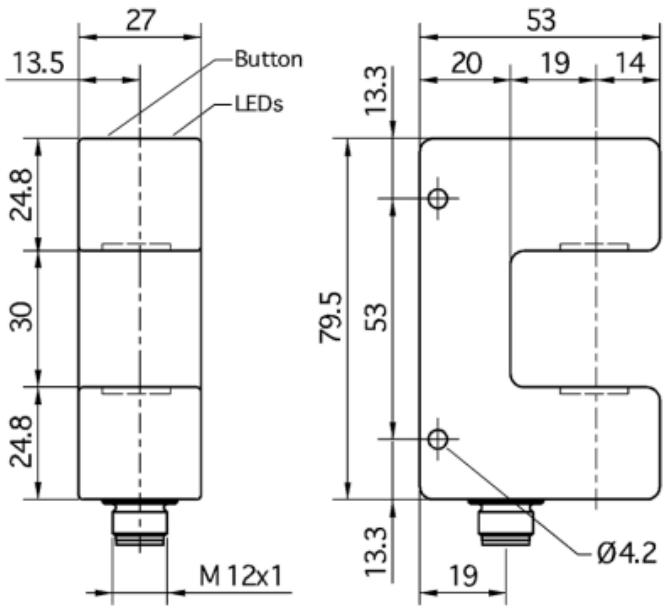
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bks-3/CDD

scale drawing



2 x pnp

design	fork-like
operating mode	path edge detection
working range	8 mm (±4 mm)

Ultrasonic-Specific

means of measurement	pulse operation with amplitude evaluation
transducer frequency	200 kHz
resolution	0.025 mm
reproducibility	± 0.1 mm at constant ambient conditions

Electrical Data

operating voltage U_B	20 - 30 V d.c., reverse polarity protection
voltage ripple	± 10 %
no-load current consumption	≤ 50 mA
type of connection	5-pin M12 initiator plug

Outputs

output 1	switching output pnp: I_{max} = 500 mA (U_B-2V) NOC/NCC adjustable, short-circuit-proof
Ausgang 2	switching output pnp: I_{max} = 500 mA (U_B-2V) NOC/NCC adjustable, short-circuit-proof
response delay	2 ms
delay prior to availability	< 300 ms

Inputs

input 1	com input enable input

Housing

material	aluminium anodized
ultrasonic transducer	polyurethane foam, epoxy resin with glass contents
class of protection to EN 60529	IP 65
operating temperature	+5°C to +60°C
storage temperature	-40°C to +85°C
weight	140 g

Technical Features/Characteristics

controls	1 push-button
scope for settings	Teach-in via push-button LCA-2 with LinkControl
synchronization	no
multiplex	no
indicators	1 x LED green: center position, 2 x LED yellow: deviation from center position

Accessories

deployable accessory	KST5A-2/M12 KST5A-5/M12 KST5G-2/M12 KST5G-5/M12

pin assignment

