microsonic



extract from our online catalogue:

# *sks-15/CD*

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# sks

The smallest of its kind: The sks sensor in cubical housing.

## Highlights

- Very small housing dimensions with two M3 threaded sleeves
- Installation-compatible with many optical sensors › a true alternative for critical applications
- IO-Link interface › for support of the new industry standard
- Smart Sensor Profiles › more transparency between IO-Link Devices
- Optionally with SoundPipe sks1 waveguide attachment
- Improved temperature compensation › adjustment to working conditions within 45 seconds
- UL Listed to Canadian and US safety standards

## Basics

- 1 switching output in pnp or npn variant
- 1 Push-Pull switching output › pnp or npn basis
- Analogue output 4-20 mA or 0-10 V
- microsonic Teach-in using a button
- 0.1 mm resolution
- 20–30 V operating voltage

# The sks sensor

is the smallest cuboidal ultrasonic sensor from microsonic and features a housing design reduced by 33% compared to the zws sensors.




*The sks ultrasonic sensor*

The miniature housing of the sks ultrasonic sensor fits in constricted installation locations e.g. for sampling conductor boards and wafer in the electronics industry, for presence checks on conveyor bands or fill-level measurement in small containers. When capacitive or optical sensors come up against their physical limits, installation compatibility of ultrasonic sensors with many optical sensors enable their deployment: simply secured with two M3 screw sockets.

### *For the sks sensor family*

three output versions are available:



1 Push-Pull switching output with IO-Link interface



1 switching output, optionally in pnp- or npn-circuitry



1 analogue output 4–20 mA or 0–10 V

### *The temperature compensation*

of the analogue sensors profits from a significant improvement. The sensors reach their operating point only 45 seconds after activation of the operating voltage. We now compensate for the influence of self-heating and installation conditions. This brings improved precision shortly after activation of the supply voltage and in running operation.

### *The Teach-in button*

on the top of the sensor allows for the convenient configuration of the desired switching distance and operating mode.

### *Two LEDs*

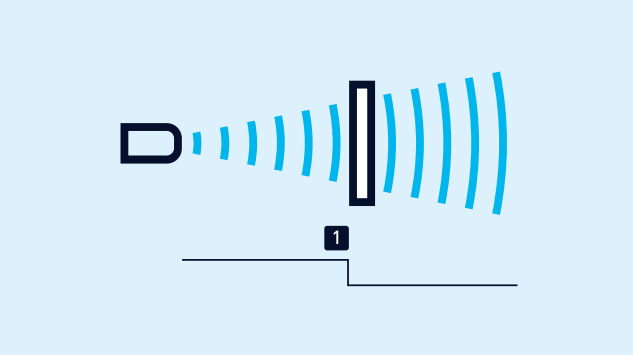
show the operating state of the sensor.

### *The sks sensor with switching output has three operating modes:*

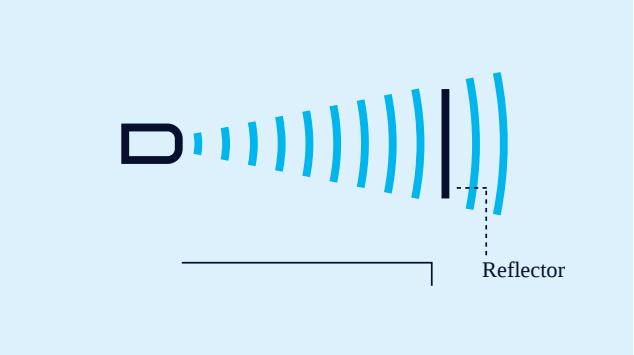
- Single switching point,
- Two-way reflective barrier and
- Window mode

### *The switching output is set by*

positioning the object to be detected within the desired distance (1) to the sensor, pressing the button for approx. 3 seconds and then pressing it once more for approx. 1 second. Ready.




*Teach-in of a switching point*



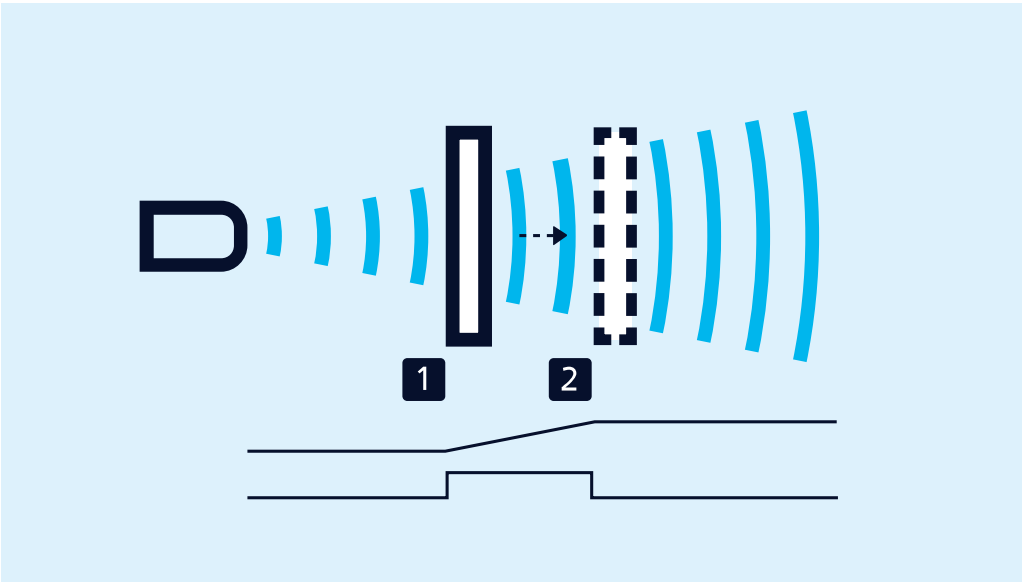

*Teach-in of a two-way reflective barrier*

### *A two-way reflective barrier*

can be set up with the help of a permanently mounted reflector by mounting the sks sensor and the reflector. Then press the button for approx. 3 seconds and then pressing it once more for approx. 10 seconds. Now, the two-way reflective barrier has been set.

### *Set the analogue output*

by initally positioning the object to the detected on the sensor-close window limit (1), pressing the button for approx. 3 seconds, shifting the object to the sensor-distant window limit and pressing the button once more for approx. 1 second. Ready.




*Teach-in of a window with two switching points or of an analogue characteristic*

### *To set a window*

with 2 switching points, proceed in the same way as for an analogue output.

### NCC/NOC

and rising/ falling analogue characteristic curve can also be set using the button.

### SoundPipe sks1

intensively bundles the sound field and allows measurements in openings with small diameters. The SoundPipe sks1 (accessory) is pushed on the transducer of the sks.

### IO-Link integrated

in version 1.1 for sensors with Push-Pull output. The sks-15/CF/A supports the Smart Sensor Profile.

## You have special requirements?

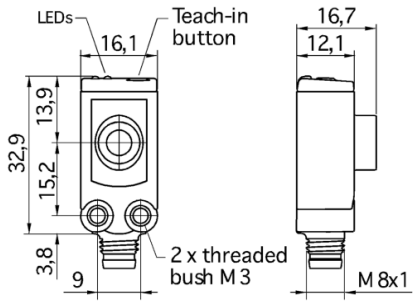
Nothing as simple as that.

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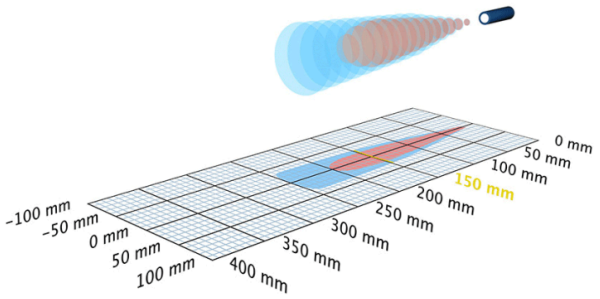
**Archivsensor**

# sks-15/CD

## scale drawing




## detection zone




| Successor model available | sks-15/CF/A |
|---|---|
| 1 x pnp | 250 mm |
| design | cuboidal |
| operating mode | proximity switch/reflective mode<br>reflective barrier<br>window mode |
| particularities | kleinste quaderförmige Bauform<br>schlankes Schallfeld<br>UL Listed |

## Ultrasonic-Specific

| | |
|---|---|
| means of measurement | echo propagation time measurement |
| transducer frequency | 380 kHz |
| blind zone | 20 mm |
| operating range | 150 mm |
| max. range | 250 mm |
| resolution | 0.10 mm |
| reproducibility | ± 0.15 % |
| accuracy | ± 1 % (temperature drift internally compensated) |

## Electrical Data

| | |
|---|---|
| operating voltage $U_B$ | 20 - 30 V d.c., reverse polarity protection |
| voltage ripple | ± 10 % |
| no-load current consumption | ≤ 25 mA |
| type of connection | 4-pin M8 initiator plug |

## Outputs

| | |
|---|---|
| output 1 | switching output<br>pnp: $I_{max}$ = 200 mA ($U_B$-2V)<br>NOC/NCC adjustable, short-circuit-proof |
| switching hysteresis | 2.0 mm |
| switching frequency | 25 Hz |
| response delay | 32 ms |
| delay prior to availability | < 300 ms |

## Inputs

| | |
|---|---|
| input 1 | com input |

## Housing

| | |
|---|---|
| material | ABS |
| ultrasonic transducer | polyurethane foam, epoxy resin with glass contents |
| class of protection to EN 60529 | IP 67 |
| operating temperature | -25°C to +70°C |
| storage temperature | -40°C to +85°C |
| weight | 8 g |

## Technical Features/Characteristics

| | |
|---|---|
| temperature compensation | yes |
| controls | 1 push-button |
| scope for settings | Teach-in via push-button |
| synchronization | no |
| multiplex | no |
| indicators | 1 x LED green: working, 1 x LED yellow: switch status |

## Accessories

| | |
|---|---|
| deployable accessory | KST4A-2/M8<br>KST4A-5/M8<br>KST4G-2/M8<br>KST4G-5/M8<br>SoundPipe sks1 |

## pin assignment

