

## Sound sensors of the dsound<sup>®</sup> series

### Why acoustic sensors?

Certainly, not everyone needs an acoustic sensor.

**For everyone else: The sensors of the dsound<sup>®</sup> series**

Equipment for industrial quality testing is often expensive and difficult to install. It requires frequent and often difficult maintenance and is not applicable in many areas. The **dsound<sup>®</sup> USS4** „hears“ small changes of sound emitted by small parts or glass containers.



Even the tiniest faults like cracks, inclusions or geometry deviations are reliably detected despite intense ambient noise. Using the means of sound detection, high enclosure class and the compact housing of the sensor, quality testing is now possible in areas where other methods like cameras, etc. fail. You will be amazed by the intelligent **dsound<sup>®</sup> USS4**.

#### Whistling, grinding, buzzing, pounding

A deviation from the usual sounds of a production process is often the first sign of an operational fault such as ripping material, breaking tools or bursting pressure hoses. With the help of the **dsound<sup>®</sup> USS5**, machines and processes can reliably be monitored acoustically. Additionally assessments of valve or relay states or snapped-in parts in assembly are viable. Even with unwanted ignitions or occurring leaks the **dsound<sup>®</sup> USS5** can engage via the direct PLC connection if necessary.

### The dsound<sup>®</sup> sensor principle

1

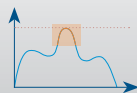


#### Definition of the sound source

The source may be a single noise (airborne or body-borne sound) or a frequency band of different noises.

2

sound recognition & sound evaluation



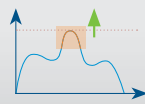
#### Train the sensor

Depending on the sensor, a frequency pattern or a threshold is determined for the sound test.

3



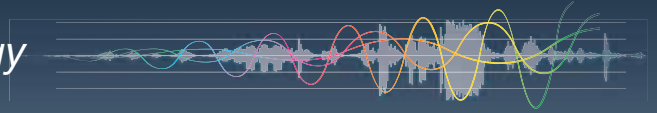
identical sound = good  
not identical sound = bad



measuring range exceeded threshold = signal

#### Real time signal analysis - integration in the process

The sensor directly detects the predetermined parameters and returns a result.



## Acoustic Sensor dsound<sup>®</sup> USS4



### Description

- Integral, high quality electret microphone respectively deposited borne noise transducer
- Powerful real-time signal processing directly on the sensor in the integrated Digital Signal Processor
- USB 2.0 Interface
- Training, parameterization, visualization and storage of sensor data via PC Software
- Two switching outputs, one synchronization input and an analog input (configurable functionality via PC Software) for direct PLC connection
- Robust, compact housing (M18x1) x 130mm (Protection degree IP67)

### Application areas

- Quality inspection of glass containers
- Quality and part inspection
- Automatic recording of acoustic signals
- Differentiated gear and machine monitoring



## Acoustic Sensor dsound<sup>®</sup> USS5

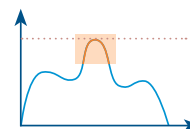


### Description

- Integral, high quality electret microphone
- Powerful real-time signal processing directly on the sensor in the integrated Digital Signal Processor
- Adjustment of gain, frequency band, smoothing time and desired switching function via simple menu navigation directly on the sensor
- Analog output for direct connection to a monitor or headphones or output of the measured rms value / peak
- Potential free output and synchronization input for direct PLC connection
- Robust, compact housing (M18x1) x 130mm (Protection degree IP67)

### Application areas

- Machine, plant and tool monitoring
- Process monitoring
- Material fracture detection
- Equipment testing



Please send your questions and orders to:

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