

Intelligent Vibration Analysis Sensor | IVAS (Prototype)

Sensor Solution for Predictive Maintenance and Process Monitoring



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PART NO 0273 600 075-001

The Intelligent Vibration Analysis Sensor (IVAS) is a compact and robust sensor device equipped with two MEMS acceleration sensors – for high bandwidth and high-resolution vibration measurements. Furthermore, it integrates seamlessly into existing communication infrastructure and offers the possibility to implement use case specific algorithms on the sensor device.

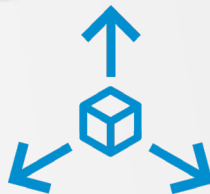
IVAS enables predictive maintenance through vibration-based condition monitoring. By analyzing the frequency spectrum created by machines and other moving parts e.g. in pumps, motors, linear drives or ventilation systems, it is possible to assess the wear of bearings and other components. This effectively allows the prevention of unplanned downtimes.

For process monitoring, this technique enables an integrated continuous quality control and gives the information to set the optimal process parameters. Thus, IVAS allows to increase efficiency, machine usage and quality – a true foundation stone for connected industry machines.

BUILT-IN SENSORS



20kHz Accelerometer



3kHz Accelerometer



SCOPE OF DELIVERY

- ▶ IVAS Sensor Device
- ▶ Quick Start Guide

OPERATING CONDITIONS

- ▶ Operating temperature range -40°C - +85°C
- ▶ Humidity range not evaluated
- ▶ Recommended storage temperature max. +30°C

MEASUREMENT RANGES & ACCURACIES

Sensor	Frequency bandwidth	Measurement range	Sensitivity
1-axis Accelerometer	20kHz	±96g	< 1mg
3-axis Accelerometer	3kHz	±16	< 1mg



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SAMPLING RATES

- ▶ 1-axis Accelerometer 62.5kHz
- ▶ 3-axis Accelerometer 6.4kHz

MAIN COMPONENTS

- ▶ Cortex-M7 microcontroller
- ▶ 32MB flash memory
- ▶ M12, 8 pole x-coded connector (acc. IEC 61076-2-109) IEE802.3 pin assignment
- ▶ Power-over-Ethernet (acc.IEEE802.3at)

DEVICE SPECIFICATION

- ▶ Dimensions 36 x 36 x 34,1 mm³
- ▶ Weight 190 g
- ▶ Housing Stainless steel 1.4301
- ▶ IP rating IP67 (with cable connected)

- ▶ Certification Europe*

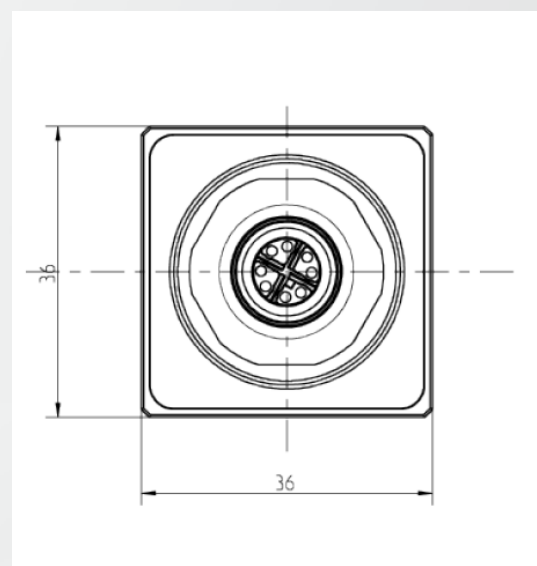
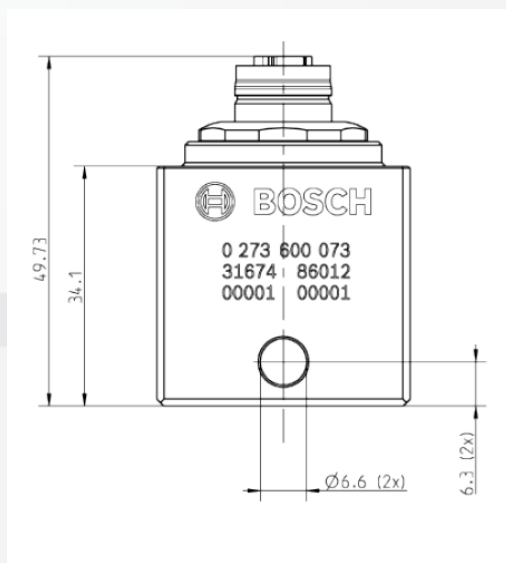
*For other certifications, please contact us: support@bosch-connectivity.com

COMMUNICATION INTERFACE

- ▶ Ethernet
- ▶ Data streaming via UDP/IP

AVAILABILITY

- ▶ As of July 2019, the IVAS project is a feasibility study performed with certified prototypes of the IVAS module.
- ▶ Mass production parts will be available tentatively in Q2/2020.



GET IN CONTACT WITH US!

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