Sensor of vibrations with converter ASV6

The ASV6 is a single-axis sensor of vibrations with a built-in converter for the current loop which enables

- **to measure** absolute vibrations in **standard industrial ranges**
- to evaluate the **effective or top value of the speed of vibrations** and to convert this value to the passive current loop signal of **4-20mA**
- to create the measuring point of vibrations in connection with a **standard device for evaluation of the current output**
- **to measure the vibrations of drives, engines, pumps, ventilators and other industrial equipment**

Description of the sensor

The ASV6 sensor of vibrations is a sensor containing built-in electronics which provides a standard industrial 4-20mA signal proportional to the measured value of vibrations effecting in the rotary axis of the sensor. It is used for the monitoring of vibrations of machines and industrial devices in industrial environments.

Measured value, various types

The ASV6 sensor measures the effective value of the speed of vibrations in the frequency range 5Hz to 1.5kHz. The measuring range is set during production, standard ranges are 0÷10 mm/s, 0÷20 mm/s, 0÷50 mm/s, 0÷100 mm/s.

Using the sensor

Sensor ASV6 is used for the measurement of vibrations of industrial devices, in particular rotary machines – engines, ventilators, pumps, compressors, generators, alternators, turbines, mills, as well as equipment with linear motion – generators of vibrations, vibration feeders, etc. It is connected to the measured object by screwing the sensor into a M8 hole with a depth of 10mm so that the exit of the sensor is identical with the direction required to measure vibrations. The point for the reading of vibrations should be selected in such a manner that the value of vibration corresponds to the vibration of machine and, at the same time, at this point is the possible minimum dynamic deformation of the measured surface and the point should be located away from the direct affects of fast of temperature changes. During operation it is necessary to comply with the working conditions of the sensor.

Processing of the signal from the sensor

The signal from the sensor is processed in the sensor and exits the sensor through the passive current 4-20mA loop.

By connecting the sensor to the supply source, the sensor will take from this source a current from 4mA to 20mA proportional to the measured value of the vibrations from 0 mm/s to the maximum value.

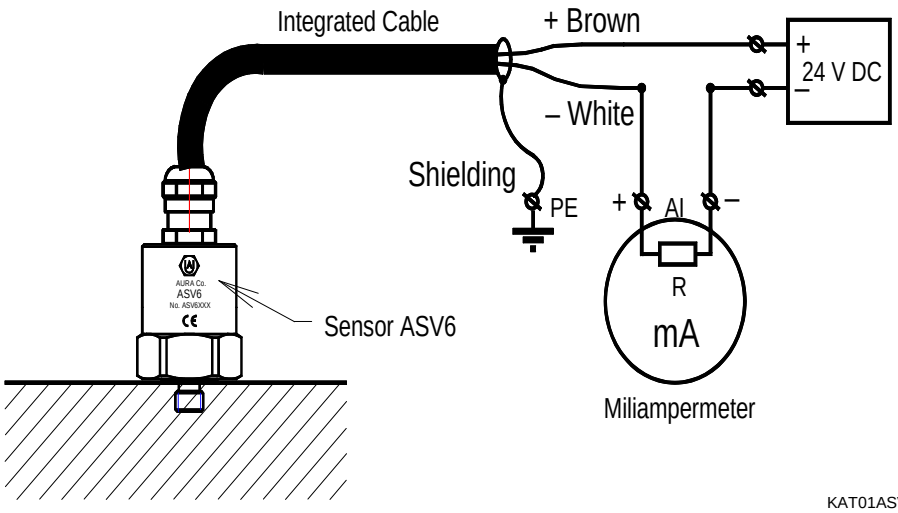
The measured value is an integral (slow) value and it is possible to measure it using a milliammeter or the standard current analogue input of the computer system although it does not make sense to evaluate if it is more frequent than 1 x per second.

The current loop does not provide the actual value of the vibrations and it is not possible to use it for subsequent fast processing (time sample, FFT analysis, etc.).

Application of the sensor

The ASV6 sensor can be used in such a manner that it is directly connected to the source of 24V voltage and to the input of an evaluation device (milliampermeter, including that of the control system) according to the following diagram.

Technical specification ASV6



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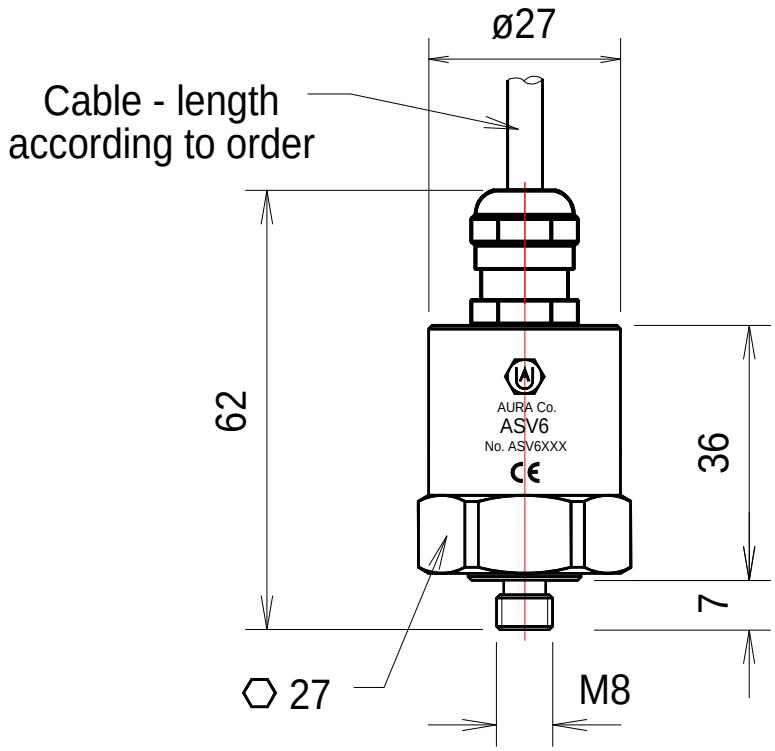
Measured value:	effective speed of vibrations (EFF)
Measuring range of vibrations:	set during production: 0÷10 mm/s, 0÷20 mm/s, 0÷50 mm/s, 0÷100 mm/s
Current output:	4 ÷ 20mA, passive, 2 wires
Frequency range	5 ÷ 1500 Hz
Supply voltage:	12 ÷ 34 V dc
Maximum impedance of loop:	50.(Vs – 12) Ω
Galvanic separation:	500 V measuring circuit against shell
Electrical connection:	shielded cable according to the order 1m to 50m, firm outlet without connector
Thermal range:	-40℃ ÷ +85℃
Coverage	IP65
Material for the case	ANSI 304 stainless steel
EMC compatibility	is declared within the CE mark

Mechanical construction



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