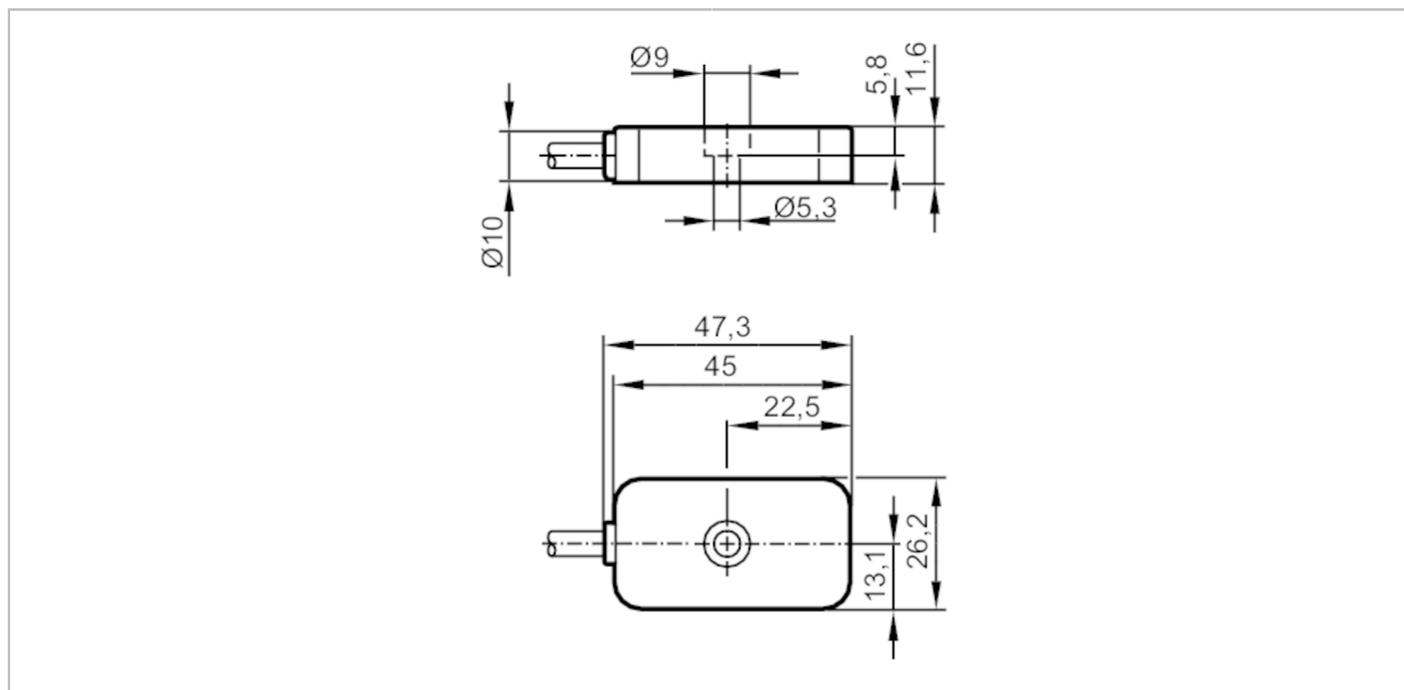


# VSM101



## Acceleration sensor

VIBRATION SENSOR



| Product characteristics      |      |  |
|------------------------------|------|--|
| Measuring range of vibration | [g]  | -40...40                                 |
| Frequency range              | [Hz] | 0...4500                                 |
| Measuring principle          |      | capacitive                               |
| Application                  |      |  |
| Special feature              |      | Screened cable; Drag chain suitability   |
| Electrical data              |      |  |
| Bias voltage DC              | [V]  | 11...16                                  |
| Operating current            | [mA] | 4...6                                    |
| Min. insulation resistance   | [MΩ] | 100; (500 V DC)                          |
| Protection class             |      | III                                      |
| Reverse polarity protection  |      | yes                                      |
| Sensor type                  |      | microelectromechanical system (MEMS)     |
| Measuring/setting range      |      |  |
| Measuring range of vibration | [g]  | -40...40                                 |
| Frequency range              | [Hz] | 0...4500                                 |
| Measuring principle          |      | capacitive                               |
| Max. transverse sensitivity  | [%]  | 5  |
| Number of measurement axes   |      | 3  |
| Accuracy / deviations        |      |  |
| Accuracy                     |      | 0...3 kHz: +/- 10 %<br>3...4.5 kHz: 3 dB |
| Measuring sensitivity        |      | 100 mV/g                                 |
| Linearity deviation          |      | 2  |

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## Acceleration sensor

VIBRATION SENSOR

[% of the span]

### Operating conditions

|                     |      |                      |
|---------------------|------|----------------------|
| Ambient temperature | [°C] | -30...85             |
| Storage temperature | [°C] | -30...100            |
| Protection          |      | IP 67; IP 68; IP 69K |

### Tests / approvals

|                      |                   |                         |
|----------------------|-------------------|-------------------------|
| EMC                  | DIN EN 61000-6-2  |                         |
|                      | DIN EN 61000-6-3  |                         |
| Shock resistance     | DIN EN 60068-2-27 | 50 g 11 ms              |
| Vibration resistance | DIN EN 60068-2-6  | 20 g / 10...3000 Hz     |
| MTTF                 | [years]           | 529                     |
| UL approval          | Ta                | < 70 °C                 |
|                      | Enclosure type    | Type 1                  |
|                      | power supply      | Limited Voltage/Current |
|                      | UL Approval no.   | L003                    |
|                      | File number UL    | E251902                 |

### Mechanical data

|                        |                                       |                                       |
|------------------------|---------------------------------------|---------------------------------------|
| Weight                 | [g]                                   | 187.2                                 |
| Type of mounting       |                                       | mounting screw                        |
| Dimensions             | [mm]                                  | 26.2 x 47.3 x 11.6                    |
| Materials              |                                       | housing: stainless steel (444/1.4404) |
| Tightening torque      | [Nm]                                  | 3.5                                   |
| Drag chain suitability |                                       | yes                                   |
| Drag chain suitability | bending radius for flexible use       | min. 10 x cable diameter              |
|                        | bending radius for fixed installation | min. 4 x cable diameter               |

### Accessories

|                |                                |
|----------------|--------------------------------|
| Items supplied | socket head screw: 1 x M5 x 12 |
|----------------|--------------------------------|

### Remarks

|               |        |
|---------------|--------|
| Pack quantity | 1 pcs. |
|---------------|--------|

### Electrical connection

Cable: 3 m, PUR, Ø 4.9 mm, shielded; Maximum cable length: 250 m; screen (connected to the housing); 5 x 0.14 mm<sup>2</sup>

brown IEPE X  
white IEPE Z  
blue GND  
black self-test  
grey IEPE Y  
yellow screen