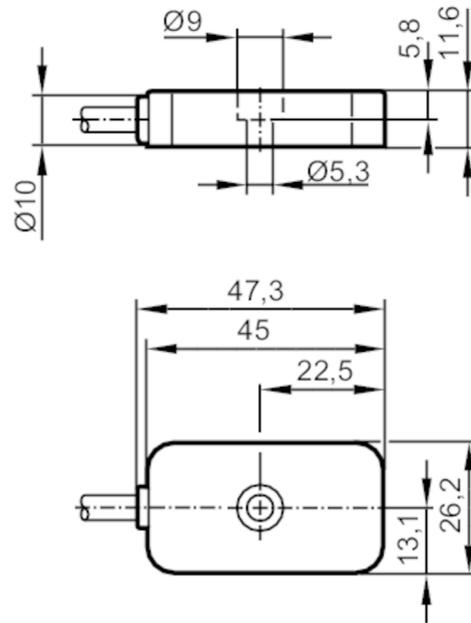


# VSM103



## Accelerometer

VIBRATION SENSOR



### Product characteristics

|                              |      |            |
|------------------------------|------|------------|
| Measuring range of vibration | [g]  | -40...40   |
| Frequency range              | [Hz] | 0...4500   |
| Measuring principle          |      | capacitive |

### Application

|        |                                        |
|--------|----------------------------------------|
| System | 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                                  |
| Type of sensor              |      | 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                                        |

# VSM103



## Accelerometer

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     | 1                       |
|                      | voltage supply     | Limited Voltage/Current |
|                      | UL approval number | L005                    |
|                      | File number UL     | E251902                 |

### Mechanical data

|                        |                                          |                                         |
|------------------------|------------------------------------------|-----------------------------------------|
| Weight                 | [g]                                      | 105.6                                   |
| Type of mounting       |                                          | mounting screw                          |
| Dimensions             | [mm]                                     | 26.2 x 47.3 x 11.6                      |
| Material               |                                          | housing: stainless steel (1.4404 / 444) |
| Tightening torque      | [Nm]                                     | 3.5                                     |
| Drag chain suitability |                                          | yes                                     |
| Drag chain suitability | Bending radius for flexible applications | 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 mm) |
|----------------|-------------------------------------|

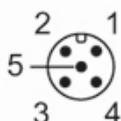
### Remarks

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

### Electrical connection

Cable: 0.3 m, PUR, Ø 4.9 mm, screened; Maximum cable length: 250 m; screen (connected to the housing); 5 x 0.14 mm<sup>2</sup>

### Electrical connection - M12 connector



- 1 brown = IEPE X
- 2 white = IEPE Z
- 3 blue = GND
- 4 black = self-test
- 5 grey = IEPE Y