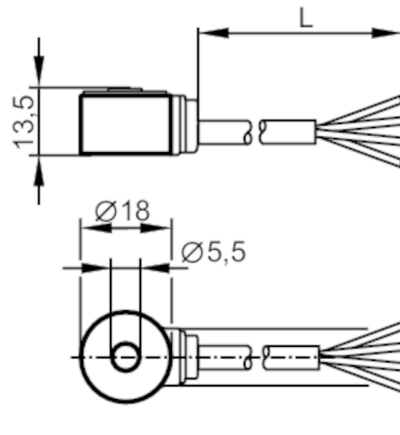


# VSA004



## Acceleration sensor

VIBRATION SENSOR



### Product characteristics

|                              |      |            |
|------------------------------|------|------------|
| Measuring range of vibration | [g]  | -25...25   |
| Frequency range              | [Hz] | 0...10000  |
| Measuring principle          |      | capacitive |

### Application

|                 |   |
|-----------------|---|
| Special feature | Screened cable; Drag chain suitability                |
| Design          | for connection to external diagnostic electronics VSE |
| Application     | vibration detection                                   |

### Electrical data

|                             |      |                                      |
|-----------------------------|------|--------------------------------------|
| Operating voltage           | [V]  | 7.2...10.8 DC; (cULus: 9 V DC)       |
| Current consumption         | [mA] | < 15                                 |
| Min. insulation resistance  | [MΩ] | 100; (500V DC)                       |
| Protection class            |      | III                                  |
| Reverse polarity protection |      | yes                                  |
| Sensor type                 |      | microelectromechanical system (MEMS) |

### Outputs

|                         |      |        |
|-------------------------|------|--------|
| Analogue current output | [mA] | 0...10 |
| Max. load               | [Ω]  | 300    |

### Measuring/setting range

|                              |        |            |
|------------------------------|--------|------------|
| Measuring range of vibration | [g]    | -25...25   |
| Frequency range              | [Hz]   | 0...10000  |
| Measuring principle          |        | capacitive |
| Sensitivity                  | [μA/g] | 142        |
| Number of measurement axes   |        | 1          |

### Accuracy / deviations

|                     |  |       |
|---------------------|--|-------|
| Linearity deviation |  | 0,2 % |
|---------------------|--|-------|

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VIBRATION SENSOR

| Operating conditions  |                                       |  |
|---|---------------------------------------|--|
| Ambient temperature   | [°C]                                  | -20...80                                 |
| Note on ambient temperature   |                                       | cULus: < 80 °C                           |
| Storage temperature   | [°C]                                  | -20...80                                 |
| Protection  |                                       | IP 67                                    |
| Tests / approvals   |                                       |  |
| EMC   |                                       | EN 61000-6-2                             |
|   |                                       | EN 61000-6-3                             |
|   |                                       | EN 50178                                 |
| Shock resistance  |                                       | DIN EN 60068-2-27                        |
| Vibration resistance  |                                       | DIN EN 60068-2-6                         |
| MTTF  | [years]                               | 2660                                     |
|   |                                       | 50 g 11 ms                               |
|   |                                       | 20 g / 10 ... 2000 Hz                    |
| Mechanical data   |                                       |  |
| Weight  | [g]                                   | 120.5                                    |
| Type of mounting  |                                       | mounting screw                           |
| Materials   |                                       | housing: stainless steel (1.4404 / 316L) |
| Tightening torque   | [Nm]                                  | 5  |
| Mechanische Überlastfestigkeit  | [g]                                   | 500                                      |
| Drag chain suitability  |                                       | yes                                      |
| Drag chain suitability  | bending radius for fixed installation | : min. 4 x cable diameter                |
|   | bending radius for flexible use       | : min. 15 x cable diameter               |
| Accessories   |                                       |  |
| Accessories (supplied)  |                                       | head cap screw: 1 x M5 x 20, Torx 15     |
| Remarks   |                                       |  |
| Pack quantity   |                                       | 1 pcs.                                   |
| Electrical connection   |                                       |  |
| Cable: 3 m, PUR, Ø 4 mm, shielded; Maximum cable length: 250 m; drain wire connected to the housing; 4 x 0.14 mm <sup>2</sup> |                                       |  |
| blue  | GND                                   |  |
| black   | test                                  |  |
| brown   | L+                                    |  |
| white   | Out                                   |  |
| Screen  | drain wire                            |  |