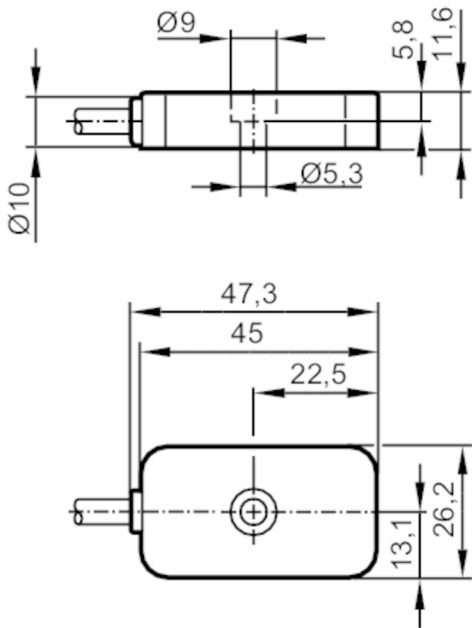


VSM101

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 % 3...4.5 kHz: 3 dB |
| Measuring sensitivity | | 100 mV/g |
| Linearity deviation | | 2 |

VSM101



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 | 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 |
| 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

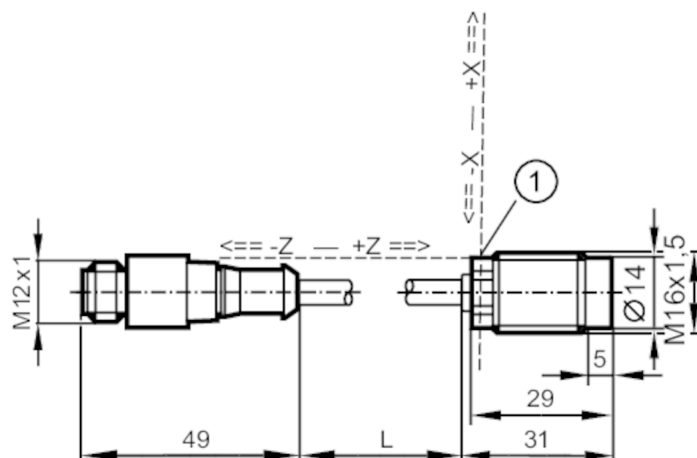
Cable: 3 m, PUR, Ø 4.9 mm, screened; Maximum cable length: 250 m; screen (connected to the housing); 5 x 0.14 mm²

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



Accelerometer

VIBRATION SENSOR



1 marking for X axis



Product characteristics

| | | |
|------------------------------|------|------------|
| Measuring range of vibration | [g] | -40...40 |
| Frequency range | [Hz] | 1...4500 |
| Measuring principle | | capacitive |

Application

| | |
|--------|------------------------|
| System | Drag chain suitability |
|--------|------------------------|

Electrical data

| | | |
|-----------------------------|------|--------------------------------------|
| Bias voltage DC | [V] | 13...16 |
| Operating current | [mA] | 4...10 |
| 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] | 1...4500 |
| Measuring principle | | capacitive |
| Max. transverse sensitivity | [%] | 5 |
| Number of measurement axes | | 2 |

Accuracy / deviations

| | | |
|-----------------------|-----------------|----------|
| Measuring sensitivity | | 100 mV/g |
| Linearity deviation | [% of the span] | 2 |

Operating conditions

| | | |
|---------------------|------|----------|
| Ambient temperature | [°C] | -30...85 |
| Storage temperature | [°C] | -30...85 |

VSM102



Accelerometer

VIBRATION SENSOR

| | |
|------------|-------|
| Protection | IP 67 |
|------------|-------|

Tests / approvals

| | | |
|----------------------|-------------------|-------------------------|
| EMC | EN IEC 61000-6-2 | |
| | EN IEC 61000-6-3 | |
| Shock resistance | DIN EN 60068-2-27 | 50 g 11 ms |
| | | 500 g 1 ms |
| Vibration resistance | DIN EN 60068-2-6 | 20 g / 10...2000 Hz |
| MTTF [years] | | 1233 |
| UL approval | Ta | ≤ 75 °C |
| | Enclosure type | Type 1 |
| | voltage supply | Limited Voltage/Current |
| | File number UL | E251902 |

Mechanical data

| | | | |
|------------------------|------|--|--------------------------|
| Weight | [g] | 79.7 | |
| Type of mounting | | M16 x 1,5 | |
| Material | | housing: stainless steel (1.4404 / 316L) | |
| Tightening torque | [Nm] | 8 | |
| 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 |

Remarks

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

Electrical connection

Cable: 0.6 m, PUR, Ø 4.9 mm; 4 x 0.14 mm²

Connector: 1 x M12; coding: A

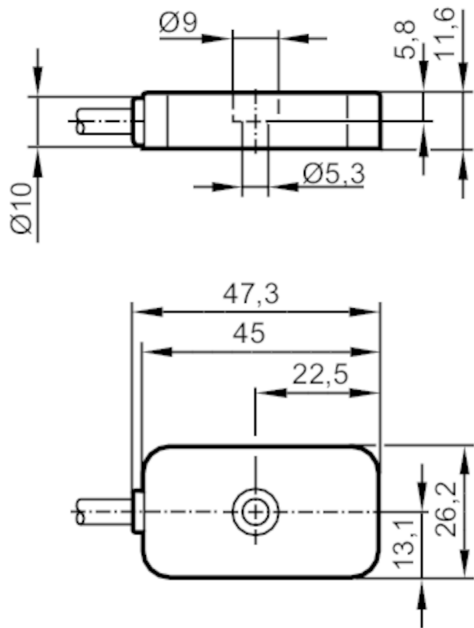


- 1 IEPE X
- 2 IEPE Z
- 3 GND
- 4 Test

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 % 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) |
|----------------|-------------------------------------|

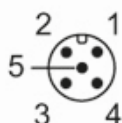
Remarks

| | |
|---------------|--------|
| 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 mm²

Electrical connection - M12 connector

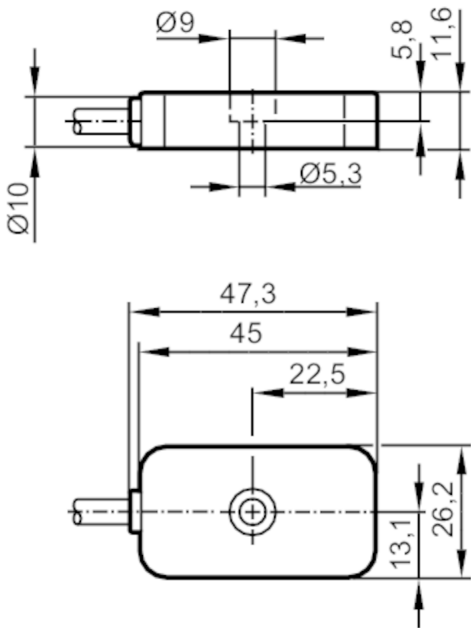


- | | |
|---|-------------------|
| 1 | brown = IEPE X |
| 2 | white = IEPE Z |
| 3 | blue = GND |
| 4 | black = self-test |
| 5 | grey = IEPE Y |

VSM104



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 % 3...4.5 kHz: 3 dB |
| Measuring sensitivity | | 100 mV/g |
| Linearity deviation | | 2 |

VSM104



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 | L003 |
| | File number UL | E251902 |

Mechanical data

| | | |
|------------------------|--|---|
| Weight | [g] | 427.6 |
| 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: 10 m, PUR, Ø 4.9 mm, screened; Maximum cable length: 250 m; screen (connected to the housing); 5 x 0.14 mm²

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