

Hybrid Triaxial Accelerometer for mobile applications

VIB 6.221

Installation and Operation



Sensors of series VIB 6.221 are used in the industrial sector to measure the **vibration acceleration** on rotating machines.

The sensor records accelerations in three spatial directions simultaneously. A magnetic holder (2) is firmly installed on the sensor (1) for magnetic coupling to the measurement location. Movable support feet (3) ensure stable assembly on both flat and curved surfaces.

The sensor is solely intended for operation with the VIBSCANNER 2 data collector.

Safety instructions

- Read the operating instructions for the sensor and the data collector connected carefully. Keep hold of the operating instructions.
- Only use the sensor as intended and only for the intended purpose of application.
- Only use original accessories.
- Do not continue to operate a defective sensor.
- Do not dismantle the magnetic holder from the sensor.
- Have operation carried out by qualified personnel exclusively.
- Observe the applicable safety regulations if measurements are carried out on a running machine.
- Observe the technical specifications and permissible operating conditions. If in doubt, contact PRUFTECHNIK.
- The sensor complies with the relevant European directives. The declaration of conformity is available on the PRUFTECHNIK website.



<https://pruftechnik.com/About-us/Company/Certificates-and-Material-Safety/>

Maintenance and repair work

Operation of the sensor does not require any maintenance. It is not possible to repair the sensor.

Spare parts

– Short-circuit disk, item no. 0 0567 1432.

Operation

Requirements of the measurement location

- Magnetic
- Flat or curved ($d > 180$ mm)
- Contact area ($\varnothing > 35$ mm) is clean; any paint layers present have been sanded.

Installing the sensor

- Remove the short-circuit disk (4) from the support feet.
- Position the sensor on a support foot and place it on the measurement location in a controlled manner (6).
- Check the sensor for tight mechanical fit. The arrangement must not "wobble".

Notes

At close range, the magnetic attraction can be unexpectedly strong. An uncontrolled, violent placement (7) can exert high shock loads on the sensor and impair its function.

Hold on to the sensor when decoupling it from the measurement location. Do not pull on the sensor cable!

Aligning the sensor

- Align the sensor in the desired position on the measurement location. In this regard, observe the axis label on the sensor head (5). Z-axis corresponds to the sensor axis.

The measurement direction is assigned to the sensor axis in the OMNITREND Center PC software.

Cleaning

- Use a brush or a suitable tool to remove contamination that impairs the mobility of the support feet.

Storage

- Attach the short-circuit disk to the magnetic holder to reduce the magnetic field.
- Slide the short-circuit disk on laterally; do not let it snap on frontally! The labeled side faces upward.
- Store the sensor in the VIBSCANNER 2 case.

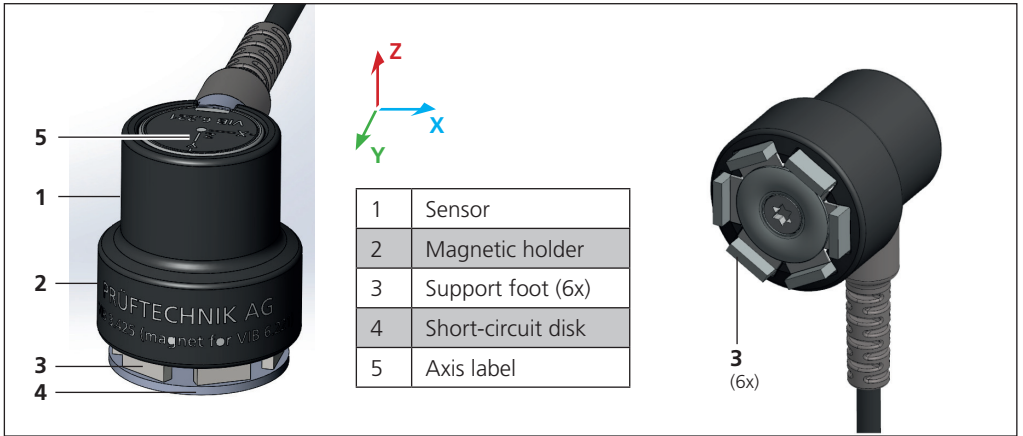
Disposal

- After use, dispose of the sensor in accordance with the applicable national provisions.

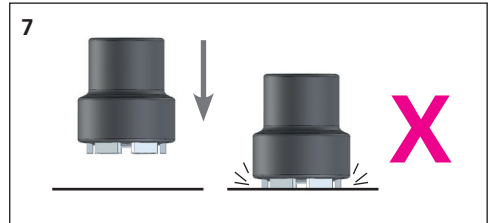
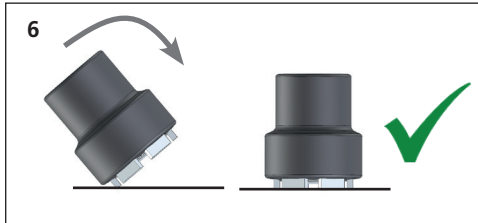
Technical data

PARAMETER			Sensor + magnetic holder
Measurement	Signaling system	X/Y Z	Voltage, only together with Z Current Line Drive (CLD)
	Measuring range	X/Y Z	$\pm 196.2 \text{ m/s}^2$ (20g) peak $\pm 961 \text{ m/s}^2$ peak
	Sensitivity, @159 Hz	X/Y Z	$4.1 \text{ mV/ms}^2 \pm 0.3 \text{ mV}$ (40 mV/g $\pm 3.2 \text{ mV}$) $1.0 \mu\text{A/ms}^2 \pm 5\%$
	Frequency range* $\pm 3\text{dB}$	X/Y Z	0 Hz ... 0.9 kHz 0.3 Hz ... 10 kHz
	Resonance frequency *	X/Y Z	approx. 1.8 kHz approx. 25 kHz
	Gravitational acceleration voltage	X/Y	$932 \text{ mV} \pm 23.2 \text{ mV}$
	Axis marking, inaccuracy		$< \pm 5\%$
	Temperature sensitivity	X/Y Z	$\pm 0.01\%/K$ AC: $\pm 0.12\%/K$; DC: $\pm 0,16\%/K$
	Temperature leap sensitivity	X/Y Z	No effect $\pm 1.96 \text{ ms}^2/K$
	Transverse sensitivity		$< 5\%$
	Sound sensitivity		$< 0.1 \text{ ms}^2/\text{Pa}$
	Noise	X/Y Z	$0.0005 \text{ ms}^2 / (\text{Hz})^{1/2}$; 0 Hz ... 0.9 kHz $0.0005 \text{ ms}^2 / (\text{Hz})^{1/2}$; 10 Hz ... 10 kHz
Environment	Temperature range, operation -, Measured object -, Storage		-25°C ... +70 °C (-4°F ... +158 °F) -25°C ... +95 °C (-4°F ... +203 °F) -40°C ... +70 °C (-40°F ... +158 °F)
	Chemical resistance		Mineral oils, alcohol
	Protection class		IP 67
	Shock limit		$< 50 \text{ kms}^2$
Mechanical system	Material		Sensor housing: Stainless steel VA 1.4305 Magnets: NeoDeltaMagnet (NdFeB) Magnet housing, outer pole: Steel 1.0037 (S235JR) Guide housing: NBR, black, 95 Shore
	Coupling to the meas. location		Magnetic
	Cable connection		Spiral cable, firmly connected, 8p-plug, 2 m
	Dimensions		$\varnothing 34 \text{ mm} \times 39 \text{ mm}$
	Weight		103 g
* Sensor without magnetic holder (rigidly coupled)			

Description



Installation



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