

C

## Dual sensor for vibration and temperature measurement, intrinsically safe

1

VIB 6.162 VD : Dual sensor for vibration and temperature measurement with VIBSCANNER EX / VIBXPERT EX

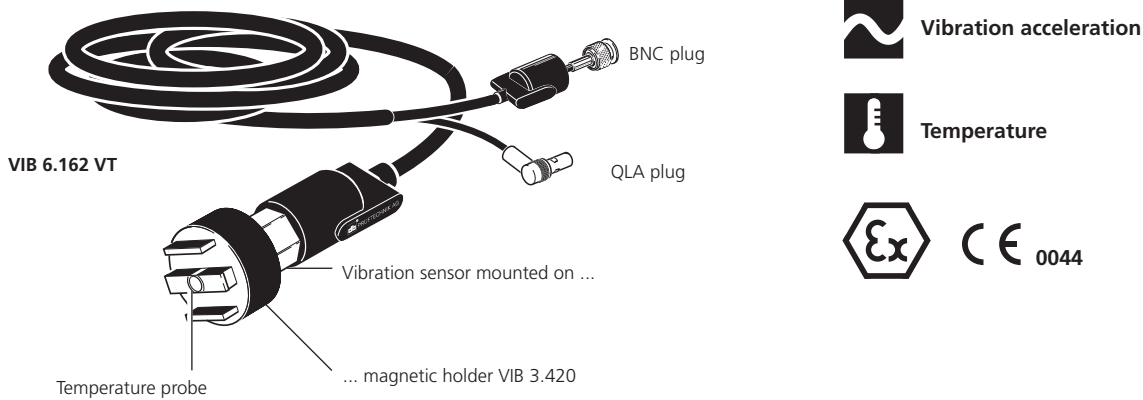
VIB 6.162 VT : Dual sensor for vibration and temperature measurement with VIBTOOL

2

3

4

5



6

### Application

The dual sensor is suitable for vibration measurements up to 2 kHz and temperature measurements in the specified range. High frequency shock pulse measurements for bearing condition evaluation and pump cavitation are not possible with this sensor.

The dual sensor is mainly used for data collection in a hazardous industrial environment. The signal acquisition and processing is carried out with an intrinsically safe PRÜFTECHNIK data collector (e.g. VIBSCANNER EX, VIBXPERT EX, VIBROTIP EX, VIBTOOL). For measurements outside a hazardous area the dual sensor can also be used with data collectors without EX protection.

### Installation

The dual sensor has a magnetic holder to affix it securely to ferromagnetic measurement locations - including on curved surfaces.

### Notes

During transport / storage a steel washer as a short-circuit rail is mounted on the pole pieces.

The safety data sheet is available upon request (info@pruftechnik.com) or in the Internet (www.pruftechnik.com).

### Notes on intrinsic safety

The dual sensor VIB 6.162.. consists of:  
 Mobile industrial accelerometer (intrinsically safe) VIB 6.142 DEX incl. coaxial cable and connector,  
 NiCrNi thermo couple incl. cable, connector and magnetic holder in which the thermal element is embedded.  
 The cables are bundled and the accelerometer is equipped with a protective cap. The assembled measuring device does not require a separate type examination certificate as the parts mounted on the vibration sensor are simple electrical devices in compliance with EN60079-11:2007: 5.7

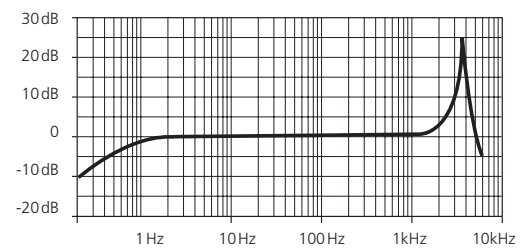
### Spare part

VIB 3.420 Magnetic holder for curved surfaces

## Technical data

| PARAMETER              |                                    | VIB 6.162 VD  | VIB 6.162 VT  |
|------------------------|------------------------------------|---|---|
| Measurement, vibration | Signaling system                   | Current Line Drive; 3.5 mA closed current with superposed AC signal |   |
|                        | Transmission factor                | ± 5%  | 1.0 $\mu\text{A}/\text{ms}^2$ (Ref.: 159 Hz; 25 °C) |
|                        | Frequency range                    | ± 10%   | 2 Hz ... 2 kHz                                      |
|                        | Resonance frequency                |   | 3.7 kHz   |
|                        | Linearity range                    | ± 10%   | ± 961 $\text{ms}^2$ (± 98 g)                        |
|                        | Temperature range, in hazard. area |   | -30 °C ... +80 °C                                   |
|                        | -, outside hazardous area          |   | -30 °C ... +100 °C                                  |
| Electrical, vibration  | Power requirement                  | > 3.5 mA / 7-18 VDC   |   |
|                        | Temperature sensitivity            | < 0.05 $\text{ms}^2/\text{K}$                                       |   |
|                        | Magnetic sensitivity               | < 5 $\text{ms}^2/\text{T}$ (at 50 Hz)                               |   |
|                        | Electrical noise, rms              | < 0.01 $\text{ms}^2$ from 2 Hz                                      |   |
|                        | Output impedance                   | > 300 kOhm  |   |
|                        | Insulation                         | > 10 <sup>9</sup> MOhm  |   |
| Temp. sensor           | Measuring system                   | NiCrNi  |   |
|                        | Transmission factor                | 41 $\mu\text{V}/\text{K}$   |   |
|                        | Accuracy                           | ± 6% from meas. value   |   |
|                        | Measurement range                  | -30°C ... +100°C  |   |
| Mechanical             | Case material                      | Accelerometer   | Stainless steel VA 1.4305                           |
|                        |                                    | Magnetic holder   | PA6   |
|                        | Environmental protection           | IP 65 (w/ cable)  |   |
|                        | Connection                         | 1x QLA,<br>1x MiniSnap  | 1x QLA<br>1x BNC                                    |
|                        | Shock limit                        | < 250 $\text{kms}^2$  |   |
|                        | Weight                             | 155 g   |   |
|                        | Mounting                           | Magnetic holder   |   |
| EX                     | Marking, gas explosion protection  | ⊕ II 2 G Ex ib IIC T <sub>4</sub> , T <sub>s</sub> 80°C             |   |
|                        | Marking, dust explosion protection | ⊕ II 2 D Ex ib IIIB T <sub>5</sub> 187°C, T <sub>s</sub> 80°C       |   |

### Frequency response magnetic coupling



### Dimensions

in mm

