Acceleration sensors
in IEPE technology

VBS 50 AR
Measuring direction axial
and cable radial in aspect to the bolt

VBS 50 RR
Measuring direction radial
and cable radial in aspect to the bolt

Technical data

Performance

- Sensitivity (±20 %)*: 50 mV/g
- Measurement range: ±100 g
- Frequency range: 0.1 to 10,000 Hz
- Internal filter: Low pass 10 kHz, 2nd order
- Resonant frequency: > 20 kHz

Environmental conditions

- Overload limit (shock): 7.000 g Peak
- Enclosure rating: IP 67
- Temperature range: -50 °C to +70 °C (-60 to 160 °F)

Electrical characteristics

- Excitation voltage: 18 to 28 VDC
- Constant current excitation: 2 to 20 mA
- Output bias voltage: 8 to 12 VDC
- Case insulation: > 10^8 Ω

Physical connectors

- Cable: Triaxial, shielded cable
- Cable jacket: PUR, 4.5 mm
- Bending radius: 25 mm
- Screw: M8, Fastening torque 12 Nm

* The sensor is delivered with calibration data sheet.
Installation note

Important note for installation of sensors in machine tools upon usage of cooling lubricants:

Sensors and especially its cable must be installed in such a way, that cooling lubricant can drain of them. It is also important to fix the cable (especially in the area close to the sensor) with cable claps to the machine, in order to eliminate its vibration.

It must be absolutely avoided that the sensor or its cable is installed in a place from which the cooling lubricant cannot drain completely. Cooling lubricant in such places (grooves, seams, or mounting pockets) is unlikely to be replaced by fresh cooling lubricant; therefore it ages and develops aggressive bacteria which can even dissolve metals aggressively by acid burning. As protection, an appropriate cabling and fixing of the cable outside of such grooves can be used, as well as the insertion of a drainage bore hole into the sensor location.

Never use acetone-containing agents to clean the sensor, cable and protection hose, use alcohol-based cleaning fluids instead.

Connection example

VBS 50

Cable extension (up to 50 m) only with appropriate triaxial cable, see below

Optional connection system

1. 0.CL.CAC.RC4
   Assembly of a 4 pole round connector (m) M12 to the triaxial cable of a VBS sensor type

2. 0.CP.VB5.RP4-RC4-10
   Optional extension cord for VBS sensors, 4 pole round plug (f) M12, standard length 10 m (other cord length on request)

3. 0.CP.VB5.RP4-SB3-xx
   Connection cord, 4 pole round plug (f) M12 to 3 pole screw block, standard length 10 m (other cord length on request)

4. 0.CA.SPC.TRIAXPUR
   1 m triaxial cord (specify required cord length)

5. 0.CL.VB5.RP4
   4 pole round plug (f) M12

6. 0.CL.VBS.RC4
   4 pole round connector (m) M12

7. 0.CL.VBS.RC4RP4WFT
   Wall feed-through for 4 pole round connectors M12, male to female, shielded, 5-pos. (max. wall thickness 4.5 mm, mounting-∅ 16.1 mm)

Part numbers

VBS 50 AR (with XX m cable): Part-No: 0.SH.VBS.050ARXX
VBS 50 RR (with XX m cable): Part-No: 0.SH.VBS.050RRXX

Optional accessories:
Flexible Perbunan protection hose with metal braiding for the cable (in required length), diameter: 9 mm
Flexible spiral coiled metal protection hose for the cable (in required length), diameter: 8 mm
Metal protection hose section for the sensor cable, 1.3 m, for reinforcement mechanically stressed cable sections