



PRELIMINARY



VIBO[®]

Industrial IoT Edge vibration sensor



VIBO[®] directly delivers key machine health indicators

VIBO[®] is a digital MEMS accelerometer that enables a continuous monitoring of machine vibrations. Embedded in spindle, motor, pump, fan, gearbox, compressor or generator, VIBO[®] detects early signs of failure such as unbalance, misalignment, bearing or gearing issue. Besides delivering raw data, its embedded edge processing capability enables VIBO[®] to directly send key machine health indicators set to the use case. Connectivity, identification, auto-diagnosis and configurability ease VIBO direct integration into any digital IoT field bus, point to point or in a daisy chain.

Key performances

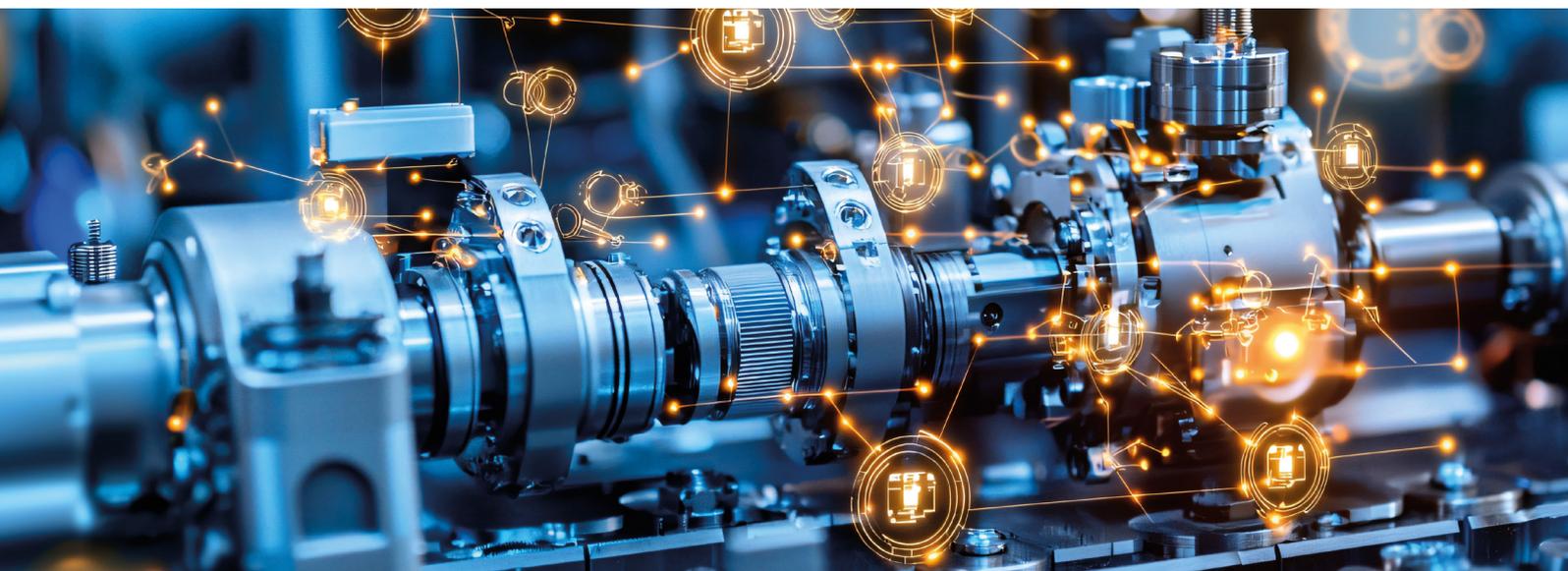
- Sensitivity: 1.4 mg/LSB @ ±8 g (eq. 100 mV/g)
- Noise: 30 µg/√Hz
- Operating temperature : -40 to +125°C

Applications

- Vibration monitoring
- Critical machinery health monitoring
- Predictive maintenance
- Condition based monitoring
- Process quality monitoring

Key features

- Single-axis acceleration and velocity sensor
- Selectable range: ±8 g, ±16 g, ±32 g, ±64 g
- 0.5 - 20000 Hz bandwidth @ ±3 dB
- Programmable digital filters
- Configurable embedded indicators: peak, peak-peak, RMS, crest factor
- CAN or RS485/MODBUS RTU
- 8 cm³, 20 grams
- REACH / RoHS compliant
- Computation: envelope, velocity



Parameter	Typ. value	Unit	Note
Technical performance			
Input range	±8 ±16 ±32 ±64	g	User selectable
Sensitivity	1.4 2.8 5.6 11.2	mg/LSB	Eq. to 100 mV/g @ 8 g, 10 mV/g @ 64 g
Sensitivity error	± 10%		Over operational temperature range
Frequency response	0.5 - 20000 @ ±3dB	Hz	1 - 10000 @ ±10%
Resonant frequency	25000	Hz	
Noise density @ 16g	30	µg/√Hz	4 mg rms from 0.5 to 20000 Hz
Digital output			
Output data rate	50000	Hz	Configurable on demand
Protocol	CAN RS485/MODBUS RTU		
Edge processing			
Programmable digital filter	Low pass, high pass, band pass		
Indicators	Peak, peak-peak, RMS, crest		Configurable on demand
Computation	Velocity, envelope		
Electrical			
Power supply voltage	12 to 30	V	Nominal 24 V
Current	7.5	mA	@ 24 V
Physical			
Case material	Aluminum		Alu 5083
Sensing element	MEMS		
Mounting interface	M6 x6 tap hole		Compliant with numerous adaptors
Connector	M5-4 pins		Amphenol M5_04BMMM_SL7F02_B
Environmental			
Protection	68	IP	
Operating temperature	-40 to +125	°C	Storage : -55 to +150

Engineering sample. Preliminary specification subject to change without notice. 2026 © Tronic's Microsystems SA. All rights reserved. MC052-C

