x, y and z axis: the sensor detects acceleration in three dimensions

Systems for vibration monitoring and diagnostics

- **Optimum condition analysis thanks to acceleration measurement in 3 axes**
- **For connection to VSE diagnostic electronics**
- **Universal use thanks to IEPE standard**
- **Wide measuring range for many different application scenarios**
- **Robust housings with IP 67, IP 68 and IP 69K**

For efficient vibration diagnostics

The VSM type acceleration sensors can detect changes in vibration on the x, y and z axis. This spatial perception simplifies machine condition monitoring where forces and unbalances not only affect just one axis of motion, as is the case with motors and moving parts of the installation.

Important indicator of condition monitoring

The acceleration signal plays an important role in machine and plant condition monitoring. It is an indicator of various symptoms, such as unbalance, damaged bearings or crashes that may lead to machine failure or even irreparable damage.
The detected raw data is transferred for further evaluation to an external device, such as the VSE diagnostic electronics from ifm.

Products

Type	Description	Order no.
	Connection cable 3 m	**VSM101**
	Connection cable 0,3 m, M12 connector	**VSM103**
	Connection cable 10 m	**VSM104**

Common technical data		
Operating voltage	[V DC]	13...15
Operating current	[mA]	4...6
Measurement axes		3
Measuring sensitivity	[mV/g]	100
Measuring range	[g]	± 40
Frequency range	[Hz]	0...4500
Ambient temperature	[°C]	-30...85
Protection rating		IP 67, IP 68, IP 69K
Housing material		stainless steel

Robust: MEMS measuring principle

The acceleration sensors are based on a MEMS chip (capacitive measuring principle) and designed for demanding industrial applications. Thanks to MEMS technology, the sensor's proper functioning can be checked actively via the diagnostic electronics (self-test).

Widely compatible: IEPE standard

The sensor transmits its data according to the IEPE signal, which is a standard on the market, e.g. for acceleration sensors. The advantage of IEPE devices is a constantly high sensitivity irrespective of the type of the connection cable or its length.

Accessories

Type	Description	Order no.
Diagnostic electronics for acceleration sensor type VSM		
	Communication interface: Ethernet, Protocol: TCP/IP, History memory with real-time clock, Counter function	**VSE003**
	Communication interface: Ethernet, Protocol: TCP/IP, History memory with real-time clock, Counter function	**VSE101**
	Communication interface: Ethernet, Protocol: PROFINET IO, Real-time clock	**VSE150**
	Communication interface: Ethernet, Protocol: EtherNet/IP, Real-time clock	**VSE151**
	Communication interface: Ethernet, Protocol: EtherCAT, Real-time clock	**VSE152**
	Communication interface: Ethernet, Protocol: Modbus TCP, Real-time clock	**VSE153**
Field-compatible diagnostic electronics for acceleration sensor type VSM		
	Communication interface: Ethernet, Protocol: TCP/IP, Real-time clock, Protection rating: IP 67	**VSE903**
	Communication interface: Ethernet, Protocol: Modbus TCP, Real-time clock, Protection rating: IP 67	**VSE953**
Installation		
	Fixing magnet for straight and curved surfaces, M5 internal thread	**E30491**
	Adhesive adapter for acceleration and vibration sensors, M5 internal thread, stainless steel (303 / 1.4305)	**E30475**