

amc VIBRO



[modules]

AVS 1001HF

AVS 1003LF

- new generation of vibration monitoring systems

www.amcvibro.com

AVS are either **single (1001HF)**
or **triaxial (1003LF) miniature**
industrial systems for vibration
and temperature monitoring
with built-in signal processing, all
enclosed in a sensor-sized housing.



functions and applications

AVS modules allow for the reading of parameter values such as **Peak-to-Peak, RMS acceleration, RMS velocity**, as well as **temperature** directly from the module using any device that supports the **Modbus RS-485** communication protocol.

THE MODULES DETECT, AMONG OTHERS:

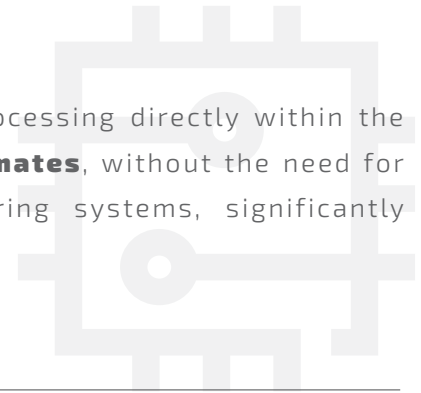
- **[Shafts]** unbalance, misalignment, looseness (loose connections), coupling damage.
- **[Drives]** rotor unbalance, mechanical looseness, mounting issues.
- **[Fans]** blade unbalance, uneven blade loading, shaft misalignment or looseness.
- **[Gearboxes]** tooth wear or damage, raceway wear, backlash.



AVS modules advantages

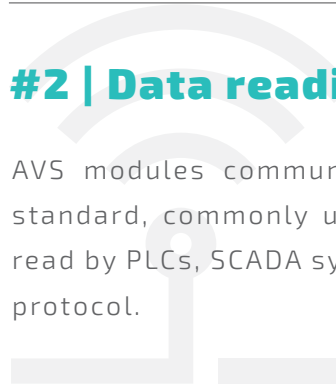
#1 | Signal processing directly in the module

Built-in electronics enable signal processing directly within the module and the **reading of key estimates**, without the need for complex machine condition monitoring systems, significantly reducing implementation costs.



#2 | Data reading via Modbus RS-485

AVS modules communicate directly using the **Modbus RS-485** standard, commonly used in automation. This allows data to be read by PLCs, SCADA systems, or any other devices supporting this protocol.

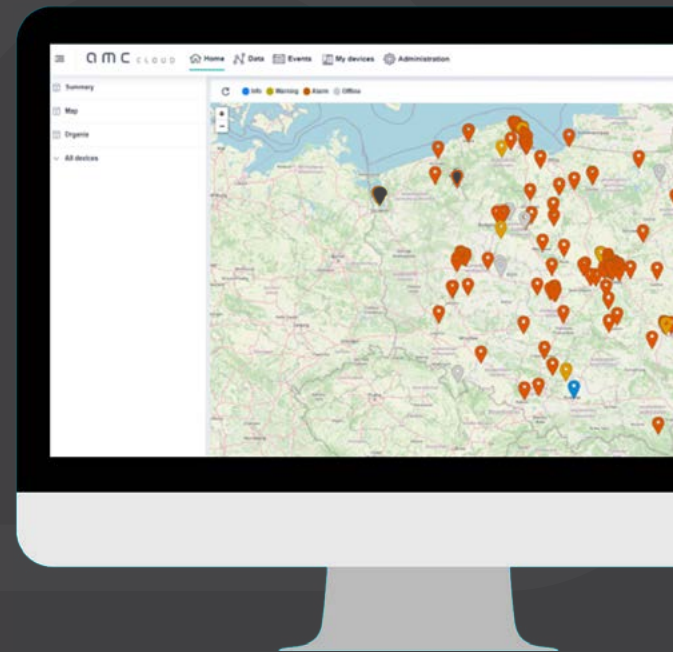


AVS modules advantages

#3 | AVS CLOUD service

AVS series modules enable the transmission of measurement data to the **AVS CLOUD system** – a cloud-based platform that provides access to information from anywhere in the world.

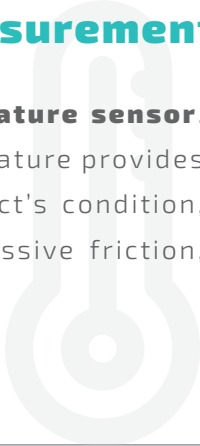
AVS CLOUD allows for the simultaneous connection of multiple measurement systems, offers data visualization on a customizable dashboard, generates measurement reports, and notifies users of warnings and alarms related to threshold exceedances.



AVS modules advantages

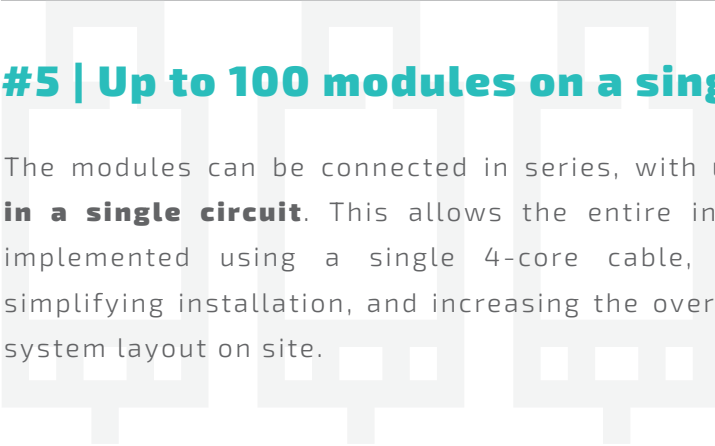
#4 | Integrated temperature measurement

The modules are equipped with a **built-in temperature sensor**. Simultaneous measurement of vibration and temperature provides a more comprehensive view of the monitored object's condition, allowing for the detection of issues such as excessive friction, drive overload, short circuits, or cooling problems.



#5 | Up to 100 modules on a single cable

The modules can be connected in series, with **up to 100 units in a single circuit**. This allows the entire installation to be implemented using a single 4-core cable, reducing costs, simplifying installation, and increasing the overall clarity of the system layout on site.



AVS modules advantages

#6 | Installation based on standard connectors and cables

AVS series modules are equipped with **5-pin M12 connectors**, a popular industrial standard, allowing for easy interconnection **using standard cables, T-connectors, and splitters.**

#7 | Thread, magnet or adhesive mounting

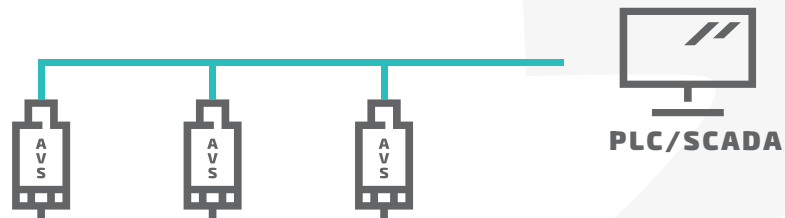
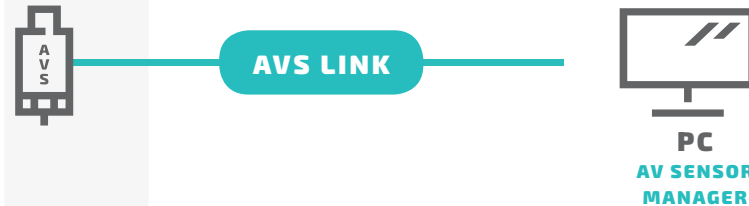
The modules can be mounted in **threaded mounting holes**, or, when non-invasive installation is required, they can be attached using **adhesive or a magnetic mount.**

[All mounting accessories are available in our offer]

AVS modules advantages

#8 | Multiple data analysis options

- **Directly on PC** - AVS LINK allows you to configure, update, read and export data (including raw signal) from your workstation.

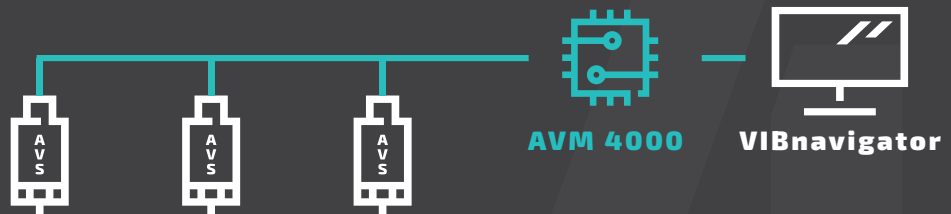
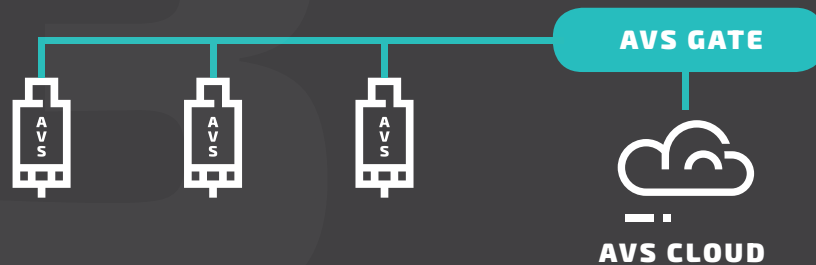


- **Locally with PLC/SCADA** - the module ensures integration with industrial automation systems via Modbus RS-485.

AVS modules advantages

#8 | Multiple data analysis options

- **Remotely in the cloud** - **AVS GATE** enables secure data transfer via the Internet to the **AVS CLOUD** system.



- **In diagnostic software** - **AVM 4000i** enables aggregation of data from any number of sensors and advanced analysis in the **VIBnavigator** program.

AVS modules advantages

#9 | Stainless steel housing

The modules meet the **IP67 standard** and their housing is made of stainless steel, which translates into high resistance to almost all unfavourable operating conditions.



#10 | Miniaturisation without losing measurement quality

Research conducted in collaboration with Analog Devices enabled the selection of **MEMS transducers** that allow the integration of the measurement and data processing system into a 50 × 22 mm housing, while maintaining signal quality comparable to piezoelectric sensors.

1-axis module - AVS 1001HF

The **AVS 1001HF** series modules enable **single-axis** vibration measurement.

They feature a wide measurement range from 1 Hz to 11 kHz and a high sampling rate of up to 32 kHz, enabling effective detection of even early and short-term machine malfunctions.

SYSTEM FEATURES

- **Z-axis measurements**
- Range: 1 Hz to 11 kHz
- Determined parameters:
 - acc Peak
 - acc RMS
 - vel RMS
 - env Peak
 - env RMS
 - Temp
- Sampling frequency: 32 kHz



3-axis module - AVS 1003LF

AVS 1003LF series modules enable simultaneous vibration measurement in **three axes: X, Y, and Z**. This allows for comprehensive dynamic diagnostics of a machine from a single location, without the need for multiple sensors.



SYSTEM FEATURES

- **X, Y, and Z axis measurements**
- Range from 1 Hz to 1 kHz
- Determined parameters:
 - Acc Peak
 - Acc RMS
 - vel RMS
 - Temp
- Sampling rate: 4 kHz

technical data

| | AVS 1001HF | AVS 1003LF |
|---|---|---|
| Number of measuring axes | 1: Z | 3: Z,Y,X |
| Measurement band | 1 Hz - 11 kHz | 1 Hz - 1 kHz |
| Sampling rate | 32 kHz | 4 kHz |
| Calculated parameters | acc Peak, acc RMS, vel RMS (ISO), env Peak, env RMS, Temp | X accPeak, Y accPeak, Z accPeak, X accRMS, Y accRMS, Z accRMS, X vel RMS (ISO), Y vel RMS (ISO), Z vel RMS (ISO), Temp |
| Protection class | IP67 | |
| Temperature range | -40 °C ... +85 °C | |
| Measuring range | ± 50 g, peak | ± 40 g |
| Operating voltage | 24 V DC | |
| Maximum number of modules in one circuit | 100 units | |
| Connector | M12 5PIN | |
| Mounting hole | M6 | |

available accessories

MOUNTING ACCESSORIES:



M6 studs



magnet



glue studs

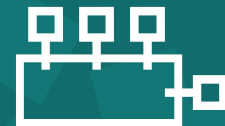
CONNECTION ACCESSORIES:



t-connectors



wires



multipliers

contact us

BOOK A **FREE DEMONSTRATION:**



ANY QUESTIONS?
CONTACT US!

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