



Automatic vibration measurement

With the AVA Monitoring System for vibration measurement, important infrastructure, people, buildings and sensitive habitats can easily be protected from negative impact. The system has unparalleled operating time and is ideal for situations that call for remote-controlled field monitoring of vibrations with high availability over time.

Measurement and uploading of measurement data are fully automated, and you always have direct access to up-to-date information from your PC, tablet or smartphone.

The AvaTrace M80 vibration measurement field instrument with sensors records, processes and temporarily stores measurement data from vibrations and air shock overpressure locally in the instrument. Measurement data is automatically transmitted over the mobile phone network to the cloud based measurement system AvaNet, according to an individual and adjustable timetable.

Simple field handling and superior project economy

The system is designed to work unattended around the clock, without external power sources, for an extended period of time in demanding outdoor environments. In the field, measurements are started and stopped with one push of a button. Close the lid and leave the battery-operated instrument out in the snow, cold, rain and bad weather for the long term. A very energy-efficient design provides up to eight months of battery operation, which together with the simple handling provides for superior project economy.

OPEN WEB-BASED SYSTEM

The web-based measurement system AvaNet is the hub of our product package and takes care of all data collection, communication, processing, monitoring and storage of measurement data. Here you can also set alerts that automatically send an e-mail or SMS to those responsible if a measurement exceeds permitted limits or if a failure occurs. With AvaNet Vibration you can operate the vibration instrument remotely and keep an eye on your measurement data in real time, wherever you are.

Field Instrument

AvaTrace M80



Data Acquisition

Channels

- Four independent user defined channels with individual filter and sensor configuration

Triggered Recording

- Synchronized waveform recording on all active channels
- Periodic Recording
- Continuous recording of peak values with configurable time interval

Environment Recording

- Periodic recording of temperature and battery voltage

Waveform Length

- Max waveform length configurable up to 5 minutes. Automatically adjusted based on signal behavior.

Trigger Level

- Configurable within entire measurement range

Pretrigger

- Configurable up to 10 seconds

Local Storage

Waveforms

- Up to 240 minutes of filtered data or 120 minutes of raw data.

Periodic Measurements

- 4000 periodic measurement records (all active channels)

Triggered Measurements

- 1000 triggered measurement records (all active channels)

Signal Processing

Sample Rate

- 6 kHz (down-sampled to 3 kHz in collected waveforms)

Frequency Range

- 1 Hz to 500 Hz (filter profile dependent)

Filter Profiles

- Blasting (SS 460 48 66)
- Blasting (NS 8141-1)

- Blasting (DGMS 1997-7)
- Blasting (AS 2187.2)
- Blasting (BS 7385-1)
- Blasting (ISO 4866)
- Piling (SS 02 52 11)
- Piling (BS 7385-1)
- Piling (NS8141-2:2013)
- Piling (ISO 4866)
- Comfort (SS 460 48 61, ISO 8041)
- Airblast (SS 02 52 10, NS 8141-1)

- Structural Damage, 1-80 Hz (DIN 4150-3, DIN 45669-1)
- Structural Damage, 1-315 Hz (DIN 4150-3, DIN 45669-1)
- Structural Damage, 4-80 Hz (DIN 4150-3, DIN 45669-1)
- Structural Damage, 4-315 Hz (DIN 4150-3, DIN 45669-1)
- Structural Damage (SN 640 312)

Sensors

Sensor Interface

- Analog sensor interface, 4 TNC ports

Selftest

- Automatic selftest for geophone sensors

Supported Sensors

- Geophone (horizontal, vertical and triaxial), 0 – 250 mm/s (0 – 10 mm/s RMS for comfort measurements)
- Accelerometer, 0 – 40 m/s²
- Airblast Microphone, 10 – 1000 Pa

Physical Specifications

Dimensions

- 302 x 247 x 125 mm

Weight

- 3.6 kg including batteries

Power Supply

Batteries

- 6 x LR20 (D cells)

Battery Runtime

- Up to 240 days depending on configuration, temperature and communication patterns

External Power

- AC/DC adapter

Communication

Ethernet

- 10/100 Mbit, RJ45 port

Mobile Networks

- GPRS 2.5G, EDGE 2.75G, UMTS 3G, HSPA 3.75G
- 2 internal antennas
- RX Diversing
- 900 MHz, 1800MHz, 2100MHz
- ESIM

External HW alarm

- 2 signal pairs can be used to connect external alarm equipment

User Interface

- Remote configuration and data analysis using AvaNet. Simple MMI with push buttons and LED indicators

Operating Environment

Temperature

- -20 °C to +50 °C

Air Pressure

- 86 kPa to 108 kPa

Relative Humidity

- 10% to 90%

IP Code

- IP65