

HAV_{pro} **Personal Human Vibration Monitor**



Description

The **HAV_{pro}** is an advanced 3-channel instrument for obtaining tri-axial vibration measurements from power tools, machinery, transportation equipment and many other workplace sources. The instrument is user configurable for occupational hand-arm and whole-body vibration exposure assessments. **HAV_{pro}** provides the capabilities for the Industrial Hygiene and Safety community to monitor worker exposures associated with these hazards and manage the data needed to develop solutions to protect them from injury. **HAV_{pro}** conforms to the requirements of the latest human vibration measurement standards including: the new European Vibration Directive 2002/44/EC dated June 2002; ISO 5349-2001; ISO 2631; ISO 8041 Type 1; ANSI S3.34; ANSI S3.18; and ACGIH 2004 WBV & HAV TLV's. The instrument contains many user-configurable settings to address a multitude of applications. Users can configure the **HAV_{pro}** to their application quickly and easily using predefined templates contained in QuestSuite® Professional, our "Systems Solution" software application. User-defined setups may also be defined in QuestSuite Professional and deployed in the instrument. Up to 100 time history data files can be stored and recalled at the instrument or quickly and easily uploaded to QuestSuite Professional. QuestSuite Professional is a simple, affordable and powerful software solution that makes it simple to chart, report, annotate, archive and electronically distribute exposure data. Post-processing of data in QuestSuite Professional includes the ability to combine multiple data files to obtain total exposure values for multiple tasks. QuestSuite Professional also supports numerous other Quest instruments for applications such as noise dosimetry, industrial and community sound surveys, octave band analysis, area & personal heat stress monitoring, thermal comfort monitoring, confined space entry testing, toxic & combustible gas monitoring, indoor air quality assessment, instrument inventory and calibration management.

You can be assured the **HAV_{pro}** will provide you with the same Red, Rugged and Reliable performance you have come to expect from Quest Technologies instruments for over 30 years.



Features

- **Compact, Lightweight, Fully Integrated Design**
 - Can be worn by mobile workers
 - No separate signal conditioners or multiplexers required
- **3-Channel Input For Simultaneous X, Y & Z axes**
 - Less Testing Time Required
 - Better Representative Data
- **Predefined Setups for Hand-Arm and Whole-Body measurements**
 - Fast, Simple Operation
- **Standard Tri-axial Accelerometers**
 - Only one wire from sensor to monitor
- **Meets Requirements of ISO 8041**
 - Better data integrity
- **Multilingual Instrument & Software**
 - Reduced training time
 - Fewer user errors
- **Large Memory Capacity**
 - More efficient field use
- **Supported by QuestSuite Professional, the System Solution™ software**
- **Exceptional Customer Service and Technical Support Team**



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to ISO/IEC 17025

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Specifications

Input

Types: Voltage mode, charge mode, direct

Standard Sensor

Hand-Arm: Voltage mode, 3-axis accelerometer, 10mV/g sensitivity

RMS Range: 0.01 m/s² to 5,000 m/s², dependent upon gain setting

Peak Range: 0.2 m/s² to 7000 m/s², dependent upon gain setting

Whole-Body: Voltage mode, 3-axis seat pad accelerometer, 100mv/g sensitivity

RMS Range: 0.001 m/s² to 500 m/s², dependent upon gain setting

Peak Range: 0.0² m/s² to 700 m/s², dependent upon gain setting

Measurements

Units: m/s², cm/s², ft/s², in/s², g, dB

Vibration: Arms, Amin, Amax, Aeq, Amp, PEAK

Hand-Arm: Arms, Amin, Amax, Aeq, Amp, PEAK, Aeq1, Aeq2, Aeq4, Aeq8

Whole-Body: Arms, Amin, Amax, Aeq, Amp, PEAK, CFmp, CF, VDV

RMS Range: 0.01mv/m² to 5,000 mv/m² dependent upon gain setting

Peak Range: 0.2 mv/m² to 7,000 mv/m² dependent upon gain setting

Frequency Weightings

Vibration: Ws (Severity), Fa (0.4 – 100 Hz), Fb (0.4 – 1250 Hz), Fc (6.3 – 1250 Hz)

Hand-Arm: Wh

Whole-Body: Wc, Wd, We, Wg, Wj, Wk, WB

Memory Storage

Setups: Up to 10 User-defined setup files

Data Files: Up to 100 data files

Time History: Interval lengths of 1, 2, 5, 10, 20, 30 or 60 seconds

Up to 120 intervals per data file with Arms and PEAK/interval

Up to 240 intervals per data file with Arms or PEAK/interval

Communications

Interface: RS-232 Serial Interface on 8-pin DIN, up to 115 kbps

Direct Printout: Custom 3-line header, data & time history

Channel Outputs: AC – Weighted or Band-Limited, DC – rms, min, max, peak, sum rms, sum max, sum min, sum peak

Standards

EMI/RFI: CE Compliant

Performance: ISO 8041 Type 1

Mechanical & Power

Battery: (2) x "AA" (IEC Type LR6), 12 hours with Charge/Direct modes, 4 hours with voltage mode

Size: 1.1" x 3.3" x 6.0" (27.9mm x 83.8mm x 152.4mm)

Weight: 10 ozs. (279 g)

Specifications subject to change without notice

For the most current specifications and additional information about Quest Technologies and the **HAV_{pro}** Series visit our web site at www.Quest-Technologies.com