



Be sure. Be safe

## HAVPro

### Personal Human Vibration Monitor

#### Description

The *HAVPro* 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. *HAVPro* 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. *HAVPro* 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 *HAVPro* 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 *HAVPro* will provide you with the same Red, Rugged and Reliable performance you have come to expect from Quest Technologies instruments for over 30 years.



- 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

## 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/s<sup>2</sup> to 5,000 m/s<sup>2</sup>, dependent upon gain setting  
 Peak Range: 0.2 m/s<sup>2</sup> to 7000 m/s<sup>2</sup>, dependent upon gain setting  
 Whole-Body: Voltage mode, 3-axis seat pad accelerometer, 100mv/g sensitivity  
 RMS Range: 0.001 m/s<sup>2</sup> to 500 m/s<sup>2</sup>, dependent upon gain setting  
 Peak Range: 0.0<sup>2</sup> m/s<sup>2</sup> to 700 m/s<sup>2</sup>, dependent upon gain setting

### Measurements

Units: m/s<sup>2</sup>, cm/s<sup>2</sup>, ft/s<sup>2</sup>, in/s<sup>2</sup>, 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/m<sup>2</sup> to 5,000 mv/m<sup>2</sup> dependent upon gain setting  
 Peak Range: 0.2 mv/m<sup>2</sup> to 7,000 mv/m<sup>2</sup> 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)

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