

# SV 100A

Whole-Body Vibration Dosimeter



**SVANTEK**  
health and safety

# SV 100A Whole-Body Vibration Dosimeter

The SV 100A measures the A(8) vibration exposure and the overall vibration total value (VECTOR) in accordance with **ISO 2631-1 and EU Vibration Directive**. The A(8) result is given in:  $m/s^2$  (RMS),  $m/s^{1.75}$  (VDV) and Points. The SV100A monitors the time left to limits and activates the alarm when the limits are reached.

The instrument is equipped with **4 PUSH BUTTONS** and a small **OLED** display that allows basic configuration in the field.

The **2.0 USB** interface provides fast data download and is used for battery charging.

The SV100A is **FULLY CONFIGURABLE** in Supervisor software. Settings such as measurement time, start, stop or pause can be adjusted and saved in the instruments' memory as setup files.

The **TIME HISTORY LOGGING** of results such as RMS, VECTOR, VDV, Max, Min and Peak with two simultaneous logging steps is saved in **8 GB** memory.

The **FORCE SENSORS** in the SV 100A automatically **DETECT** the presence of a user or **VEHICLE DRIVER** which enables real daily exposure calculations for the period of time when the user is in contact with the vibrating surface.

The SV 100A **wireless BT** interface enables current results to be previewed on a smart-phone or tablet using our Assistant application. The smart-phone application also signals an alarm when the set vibration limits are exceeded. The Assistant enables correlation of **GPS** data with the vibration data and plots them on a map. This solution gives a powerful tool for projecting the A(8) vibration exposure with respect to the vehicle speed and road conditions.



## About SV 100A

The SV 100A is a wireless whole-body vibration exposure meter suitable for whole-body measurements in accordance with ISO 2631-1. Suitable for taking measurements both on the seat and seat-back, the device uses the very latest technology and is ease of use. The instrument is equipped with 4 push buttons and a small OLED display that allows basic configuration in the field.

The wireless BT communication interface enables current results to be previewed on a smart-phone or tablet using our Assistant Android application.

The smart-phone app can also signal an alarm when set vibration limits are exceeded. Our advanced technology enables the automatic detection of an operator in the workplace. By default the instrument is configured for seat measurements (in a horizontal direction) but this setting can be easily changed.

When changing the orientation of the SV100A to the vertical, the directions of axes and weighting filters are automatically adjusted in accordance to ISO 2631-1.

The device is equipped with both RMS and RMQ detectors which allows the calculation of Daily Vibration Exposure A(8) based on RMS and VDV simultaneously. All measurement results are stored in a large 8GB internal memory which allows continuous recording over long periods. The standard 2.0 USB interface allows fast data download and is also used for battery recharging.

For advanced users, the SV 100A offers frequency analysis in 1/1 or 1/3 octaves and time domain signal recording to wave format in accordance to ISO 2631-5 that is compatible with popular recalculation software.

The SV 100A is fully configurable with our Supervisor software. It can quickly and easily be setup for all the weighting filters required by ISO standards.

## What's inside the SV 100A kit?



The standard SV 100A kit includes built-in 8 GB memory and USB cable for the communication with PC software (license for PC software is included). The license for Assistant application is also included. The SA 54 charger for recharging an inbuilt battery is provided. Each SV 100A has its factory calibration certificate and 36-months warranty card. The kit is delivered in the SA 145 carrying case.

## Supervisor Software



Supervisor software supports data download, instrument configuration and provides complete set of tools for determination of occupational vibration exposure from measurements in accordance to ISO 2631-1 standard. Measurement results are expressed in  $m/s^2$  and can be directly compared to limits given by the European Directive 2002/44/EC. It is also possible to convert units into Points widely used in health & safety sector. All information displayed within the panel window is directly printable to the report.

## Assistant Application



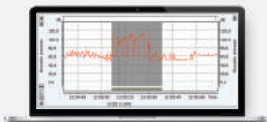
Assistant is an application for devices running on Android and iOS platforms extending functionalities of SV100A. The application uses the BT Wireless interface enabling current results to be previewed on a smartphone or tablet as well as controlling the measurement Start / Stop and Markers.

The Assistant also signals an alarm when the vibration limits are exceeded. The unique feature of Assistant is functionality of sending the GPS position and vehicle speed to the SV 100A to create image of vibration on a map providing very powerful tools for identification of vibration sources.

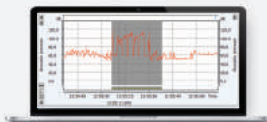
## Optional functions



ISO standards imply to be desirable to report (unweighted) **ONE-THIRD-OCTAVE BAND** root-mean-square acceleration magnitudes over the frequency range of the measurement system. Frequency analysis such as **1/3 octave** provides information on dominant frequencies and harmonics, which may help engineers to control vibrations and detect artifacts. It can be activated at any time, by ordering an activation code.



To meet the requirements of ISO 2631-5 the SV 100A offers an option of recording the raw **TIME DOMAIN SIGNAL** to the WAV format. The mentioned standard describes the dose calculation from the time domain signal in case of multiple shocks. It can be activated at any time, by ordering an activation code.



Vibrations with frequencies below 0.5 Hz cause so called **MOTION SICKNESS**, primarily in the standing and sitting postures. This type of vibrations are typical for ships and other sea vessels. The most recognized symptoms of motion sickness are dizziness and vomiting. The SV 100A is capable to measure vibration frequencies from 0.1 Hz which makes it suitable for motion sickness measurements in accordance to ISO 2631-1. The low frequency vibrations are measured in vertical axis with Wf weighting filter. It can be activated at any time, by ordering an activation code.

## Optional accessories to SV 100A



SA 38  
Calibration  
Adapter



SV 111  
Vibration  
Calibrator



## SV 100A Technical Specifications

Standards	ISO 8041:2005; ISO 2631-1:1997; ISO 2631-2:2003; ISO 2631-5:2004;	
Meter Mode	aw (RMS WHOLE-BODY), awmax (RMS MAX WHOLE-BODY), VDV, MaxVDV, awv (VECTOR WHOLE-BODY), A(8) Daily Exposure, ELV Time (TIME LEFT TO LIMIT), EAV Time (TIME LEFT TO ACTION) MTVV, Max, Peak, Peak-Peak	
Filters	Wd, Wk, Wm, Wb (ISO 2631) and corresponding Band Limiting Filters according to ISO 8041:2005 Wf for motion sickness filter for measurements according to ISO 2631-1 (optional)	
RMS & RMQ Detectors	Digital true RMS & RMQ detectors with Peak detection, resolution 0.1 dB	
Measurement Range	0.01 m/s <sup>2</sup> RMS ÷ 157 m/s <sup>2</sup> PEAK	
Frequency Range	0.1 Hz ÷ 180 Hz	
Data Logger <sup>1</sup>	Time-history data including meter mode results and spectra	
Time-Domain Recording <sup>1</sup>	Simultaneous x, y, z time-domain signal recording (optional)	
Analyser <sup>1</sup>	1/1 octave real-time analysis (optional) with center frequencies from 0.12 Hz to 128 Hz 1/3 octave real-time analysis (optional) with center frequencies from 0.1 Hz to 128 Hz	
Accelerometer	Built-in tri-axial MEMS based	
Memory	8 GB	
Display	OLED 128 x 32 pixels	
Interfaces	USB 2.0 client, BT Wireless interface, detector of operator	
Power Supply	Ni-MH rechargeable cells	operation time > 24 hours <sup>2</sup>
	USB interface	500 mA HUB
Environmental Conditions	Temperature	from -10 °C to 50 °C
	Humidity	up to 90 % RH, non-condensed
Dimensions	Ø 235mm x 12 mm	
Weight	Approx. 500 grams	

<sup>1</sup>function parallel to the meter mode

<sup>2</sup>depending on configuration and environmental conditions

The policy of our company is to continually innovate and develop our products. Therefore, we reserve the right to change the specifications without prior notice.

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