SV 104A
Noise dosimeter

MICROPHONE LIFE-TIME WARRANTY

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SVANTEK

SV104A Noise Dosimeter

Features

The dosimeter has been designed to meet requirements of the **ANSI S1.25** and **IEC 61252** standards for noise dosimeters and the **IEC 61672** standard for class 2 sound level meters.

The dosimeter is suitable for noise exposure measurements in accordance with the following standards: **ISO 9612, OSHA, MSHA** and **ACGIH**.

The colour graphical display is an **OLED SCREEN** with a high contrast visibility even in full daylight or in low ambient light areas.

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

The SV104A is **FULLY CONFIGURABLE** in Supervisor software. Settings such as exchange rate, time constants, 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 Leq, Max, Min and Peak with two simultaneous logging steps is saved in **8 GB** memory. All dosimetry results such as DOSE, TWA, Lav are also included.

The **MEMS MICROPHONE** is resistant to mechanical shocks and accidental drop downs. The excellent stability of measurement parameters over the years of use is confirmed by its **LIFETIME WARRANTY**.

The **AUTO-CALIBRATION** facility detects a calibration signal and automatically starts the calibration process, saving the calibration data together with the measurement file, both before and after measurement.

The **VOICE ANNOTATIONS** before or after the measurements allow easy identification of data files.

The inbuilt tri-axial **VIBRATION SENSOR** detects mechanical shocks and vibrations that influence noise measurement results and provides the information on the time when dosimeter is not used by the worker.

The SV104A long-range **Bluetooth ®** interface enables current results to be previewed on a smart-phone or tablet using our Assistant application. The smart-phone app also signals an alarm when set noise limits are exceeded.

About

The SV104A is a new version of our revolutionary SV104 personal noise dosimeter, the first noise dosimeter on the market with a MEMS microphone resistant to accidental shocks, knocks or even fall-downs. All vibrations that affect noise measurement results are detected by an inbuilt tri-axial vibration accelerometer and are marked in the results time history, so they can be easily excluded from dose calculation. Additionally, the accelerometer detects if dosimeter is not used by the worker and marks this information in time history.

We have designed the SV104A to make noise dosimetry measurements easier. Firstly, the voice comment feature replaces necessity of identifying the dosimeter with a different type of stickers. Secondly, a single large measurement range of 53 dB to 140 dB enables measurement in all kinds of working environment.

But mostly, the auto-calibration is what makes the SV104A easy in use. Once the SV104A detects a calibration signal, it calibrates automatically saving the calibration data together with the measurement file, before and after measurement. The list of distinguishing features of SV104A includes a color OLED display that can be easily read even in a full daylight or in the dark.

The user interface is very friendly to use which makes setting up and using the instrument easier than ever. The user may choose from multiple setup files that can be configured through the included "Supervisor" software. All measurement data are stored in the integral 8 GB memory which provides a vast amount of storage.

What's inside?

The standard SV104A kit includes ST104A shock resistant MEMS microphone, windscreen with a steel mounting thread and a USB cable for communication with PC. The instrument has an inbuilt 8 GB memory and a long-range Bluetooth interface for communication with Assistant application. Each SV104A has its factory calibration certificate and a **36-MONTH WARRANTY CARD** that is also applicable to the microphone. The standard kit also includes license for PC software and Assistant application for smart-phones.

Software

The **SUPERVISOR SOFTWARE** is a complete tool which may be used to determine occupational noise exposure from noise level measurements in accordance with all the standards using TWA and DOSE, like **OSHA, ACGIH, MSHA, NHO-01** or **NR-15**. The data files from the SV104A can be used to calculate all the required measurement results and uncertainties, in accordance to the three measurement strategies described in **ISO 9612**, i.e. task-based, job-based and full-day.

The SV104A Bluetooth ® 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 noise limits are exceeded.

Optional functions

*The option for **1/1 AND 1/3 OCTAVE REAL-TIME ANALYSIS** allows accurate and correct selection of hearing protectors. When presented as a spectrogram, the octave analysis can be used for quick verification of noise sources in the time history. It can be activated at any time, by entering an activation code.*

*The **AUDIO EVENTS RECORDING** option works during measurement and is logged in parallel to time history so it can be played back in the PC software. The settings, like triggers or recording time, are adjustable. It can be activated at any time, by entering an activation code.*

Optional accessories

| SA147 Waterproof Carrying Case | SA54 USB Charger | SA122A Spare Windscreen | SV34A Class 2 Acoustic Calibrator | SA156 USB Hub for 5 Noise Dosimeters |

Technical Specifications

SV 104A Noise Dosimeter

Standards	IEC 61252 ed1.1 (2002); ANSI S1.25-1991 (R2007); Class 2 IEC 61672-1 ed2.0 (2013);
Weighting Filters	A, C and Z
Time Constants	Slow, Fast, Impulse
Exchange Rates	2, 3, 4, 5, 6
Measurement Results	Lxy (SPL), Lxeq (LEQ), Lxpeak (PEAK), Lxymax (MAX), Lxymin (MIN), where x - weighting filter A/ C/ Z; y - time constant Fast/ Slow/ Impulse Lc-a, DOSE, DOSE_8h, PrDOSE, LAV, LAE (SEL), LAE8 (SEL8), PLAE, (PSEL), E, E_8h, LEPd, PTC (PEAK COUNTER), PTP (PEAK THRESHOLD %), ULT (UPPER LIMIT TIME), TWA, PrTWA, LN (LEQ STATISTICS), Measurement time, OVL (OVERLOAD TIME %), No Motion Time
Measurement Profiles	3 with independent settings of filters (x) and time constants (y)
Microphone	ST 104A MEMS microphone, 1/2 " housing
Linear Operating Range	53 dBA RMS ÷ 141 dBA Peak (in accordance to IEC 61672)
Total Dynamic Range	43 dBA RMS ÷ 141 dBA Peak (typical from noise floor to the maximum level)
Dynamic Range	98 dB
Frequency Range	20 Hz ÷ 10 kHz
Data Logging[1]	Summary results for measurement time Time-history logging of Leq/Max/Min/Peak and octave spectrum with 1s logger step
Voice Comments	Audio records on demand, created before or after measurement, added to a measurement file
Audio Recording[1] (optional)	Audio events recording, trigger and continuous mode, 12 or 24 kHz sampling rate, WAV format
1/1 Octave[1] (optional)	Real-time analysis in octave band filters, Class 1 IEC 61260; 9 filters with center frequencies from 31.5 Hz to 8 kHz
1/3 Octave[1] (optional)	Real-time analysis in 1/3 octave band filters, Class 1 IEC 61260; 28 filters with center frequencies from 20 Hz to 10 kHz

General Information

Display	colour OLED 128 x 64 pixels
Ingress Protection	IP 65
Memory	8 GB
Interfaces	USB 2.0 client, electrical contacts (new-type docking station compatible) Long-range Bluetooth ®, 4.0 Smart
Keyboard	3 push buttons
Power Supply	Li-Ion rechargeable cell operation time > 48 hours[2] USB interface 500 mA HUB
Environmental Conditions	Temperature from -10 °C to 50 °C Humidity up to 90 % RH, non-condensed
Dimensions	88 x 49.5 x 19.2 mm
Weight	121 grams

ISO 9612 task-based job-based full-day strategies

TWA and DOSE in accordance to OSHA, ACGIH,MSHA

Hearing Protectors Evaluation in accordance to ISO 4869-2

[1] function parallel to the acoustic dosimeter mode

[2] depending on configuration and environmental conditions

Our Company's policy is based upon continuous product development and innovation. Therefore, we reserve the right to change the specifications without any prior notice whatsoever.

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