

# SV 102+

## Dual-Channel Acoustic Dosimeter

The SV 102+ is our latest dual-channel noise dosimeter and replaces our ground breaking SV 102. It has been designed for the accurate measurement of noise exposure to ISO 9612 and MIRE (microphone in real ear) measurements to ISO 11904-1.

This new instrument uses a class beating high resolution, full color OLED screen making it even easier to read; even in full daylight. The small memory capability of its predecessor; the SV 102, has been upgraded by adding a microSD card for an incredible amount of storage capability. The sampling rate has been increased from 24 kHz to 48 kHz which enables the measurement of sound in the full frequency band. Also new is an LED that indicates the status of the measurement and changes color when the noise dose exceeds the limit set.

A unique feature of all SVANTEK dosimeters, including the SV 102+, is their ability to simultaneously analyze 1/1 octave and record audio events. The use of 1/1 octave analysis is the most accurate method for the correct selection of hearing protection to ISO 4869-2 while simultaneous audio recording allows the user to capture and eliminate false sounds affecting the result of exposure to noise.

Unlike classic single channel noise dosimeters, the two channel SV 102+ gives the unique opportunity to assess the exposure on both sides of the head simultaneously. This is particularly important where a worker is exposed to noise coming from a dominant directional source where placing the microphone on only one side could understate the true level of noise exposure. Another use of dual channel technology is the simultaneous measurement of noise both outside and inside any hearing protection being used with the use of a SV 255 MIRE microphone.

MIRE methodology requires 1/3 octave analysis, another feature uniquely available in the SV 102+. MIRE measurement involves measuring the sound in the ear and performing a one-third octave band analysis on it. Using the SV 102+ in conjunction with a special microphone probe like the SV 255, placed at the entrance of the ear canal, makes this all possible. A typical application of MIRE measurement is noise exposure monitoring in telephone call centres where the sound comes from the headphones; an application not suited to classical dosimetry methods.

### Features

- Dual-channel acoustic dosimeter conforming to IEC 61252 and ANSI S1.25-1991
- Dual-channel measurement in accordance to ISO 9612
- Dual-channel MIRE measurement to ISO 11904-1
- Dual-channel 1/1 or 1/3 octave real-time analyser (option)
- Single measurement range 45 dBA RMS ÷ 141 dBA Peak
- MIRE measurement technique with SV 255
- Three parallel independent profiles per channel
- Audio Events Recording to microSD card (option)
- Automatic calibration thanks to the TEDS technology
- USB interface
- OLED color display with super brightness and contrast
- Extremely compact, light weight (260 grams with batteries) and robust case (volume comparable to PDA devices)



# SV 102+

## Technical Specification

### Dosimeter/SLM/Analyser

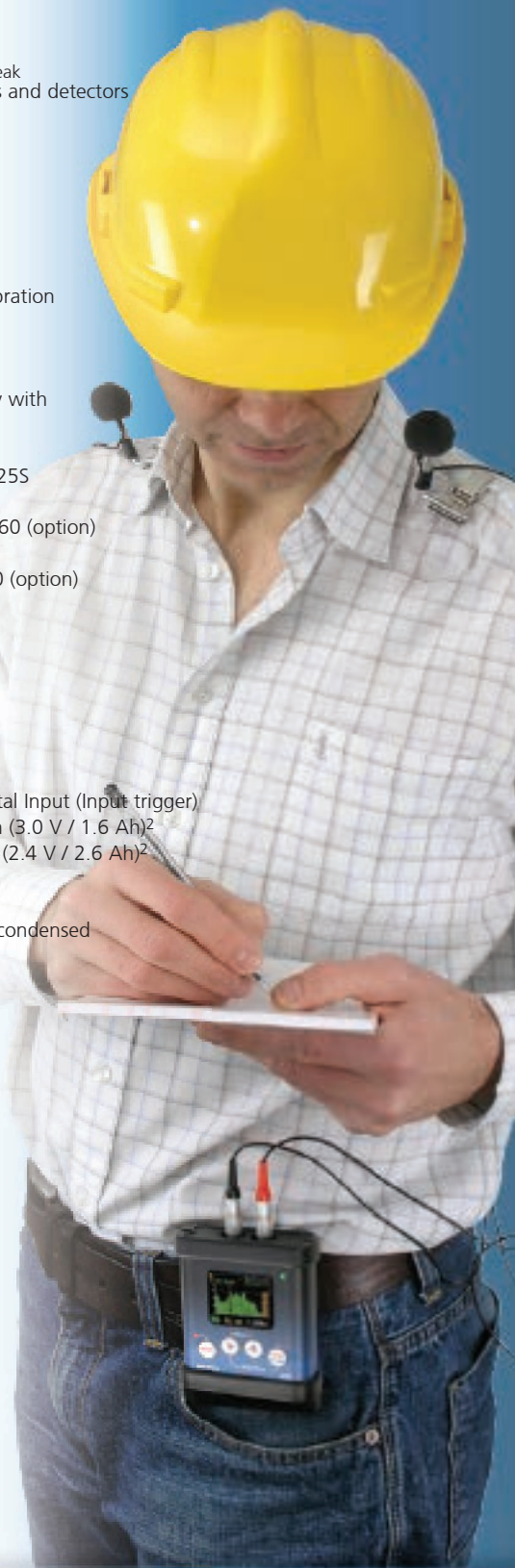
Standards	IEC 61252; ANSI S1.25-1991; Class 2: IEC 61672:2002, ISO 11904-1
Acoustic Dosimeter Mode	Lav/Leq, SPL, Lmax, Lmin, SEL, SEL8, PSEL, LEPd, Dose (%), TWA, E, E_8h, Peak, Run Time, Upper Limit Time (ULT), L(C-A), Projected Dose (D_8h)
SLM Mode	L <sub>eq</sub> , Spl, SEL, L <sub>EPd</sub> , L <sub>den</sub> , L <sub>tm3</sub> , L <sub>tm5</sub> , statistics - L <sub>n</sub> (L <sub>1</sub> - L <sub>99</sub> ), L <sub>Max</sub> , L <sub>Min</sub> , L <sub>Peak</sub> Simultaneous measurement in three profiles with independent set of filters and detectors
Weighting Filters	A, C and Z
RMS Detector	Digital true RMS detector with Peak detection, resolution 0.1 dB Time constants: Slow, Fast, Impulse
Microphone	SV 25D, Class 2, ceramic microphone, 1/2" housing with built-in preamplifier & integrated cable SV 25S, special microphone with dedicated probe for Microphone-In-Real-Ear technique (option) SV 25D and SV 25S have built-in TEDS functionality for the automatic calibration
Measurement Range	45 dBA RMS ÷ 141 dBA Peak (with SV 25D microphone)
Frequency Range	20 Hz ÷ 20 kHz, sampling rate 48 kHz
Dynamic Range	100 dB
Data Logger <sup>1</sup>	Time-history logging of Leq/Lmax/Lmin/Peak/Lav results to internal memory with time step down to 100 millisecond to microSD card
Audio Recorder <sup>1</sup>	Time-domain signal events recorder (option)
Dual-channel Mode	Dual-channel measurement mode with second microphone SV 25D or SV 25S
1/1 Octave <sup>1</sup>	Dual-channel 1/1 octave real-time analysis and spectra logging, 10 filters with centre frequencies from 31.5 Hz to 16 kHz, Type 1: IEC 61260 (option)
1/3 Octave <sup>1</sup>	Dual-channel 1/3 octave real-time analysis and spectra logging, 31 filters with centre frequencies from 20 Hz to 20 kHz, Type 1, IEC 61260 (option)

### Basic Data

Input	2 x LEMO 2-pin, Direct
Display	Colour 160 x 128 pixels OLED type
Memory	MicroSD card 4 GB (removable & upgradeable)
Interfaces	USB 1.1 Client, Extended I/O - AC output (1 V Peak) / Digital Output (Alarm trigger) / Digital Input (Input trigger)
Power Supply	Two AA batteries (alkaline) operation time > 16 h (3.0 V / 1.6 Ah) <sup>2</sup> Two rechargeable batteries (not included) operation time > 20h (2.4 V / 2.6 Ah) <sup>2</sup> USB interface 150 mA HUB
Environmental Conditions	Temperature from -10 °C to 50 °C Humidity up to 90 % RH, non-condensed
Dimensions	95 x 83 x 33 mm (without microphones)
Weight	260 grams with batteries (without microphones)

<sup>1</sup>function parallel to the acoustic dosimeter mode or meter mode

<sup>2</sup>depends on instrument operation mode



Continuous product development and innovation are the policy of our company. Therefore, we reserve the right to change the specifications without prior notice.

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