

# SV 102 Dual-Channel Acoustic Dosimeter

SV 102 dual-channel instrument presents completely new approach to occupational health and safety acoustic monitoring task. The binaural dose measurement and 1/1 octave analysis are simultaneously performed. Octave analysis providing direct data for ear-protectors designing together with Audio Events Recording function show new reference standard available in compact size instrument.

Dosimeter is offered with one or two dedicated SV 25D ceramic microphones assembled in 1/2" very robust housing enabling an easy calibration by direct usage of common acoustic calibrators. Microphone can be attached in extremely short distance to the human ear using special mounting clip and dedicated headband. Moreover, SV 25D offers function of automatic calibration thanks to build-in TEDS (Transducer Electronic Data Sheet).

SV 25S, the smart sensor with TEDS, has been developed for measurements under headphones or earmuffs (Hearing Protection Device - HPD) using the MIRE technique (Microphone In Real Ear). With special adapter this microphone can be also calibrated with available acoustic calibrators.

SV 102, together with SV 25S, are designed for individual real-world test of the earmuffs noise reduction ratio.

SV 102 can be also used as a dual-channel type 2 sound level meter and real-time 1/1 or 1/3 octave analyser. Three acoustic profiles per channel allow parallel measurements with independently defined filters and RMS detector time-constants. Advanced time-history logging for each profile, together with spectra saving and Audio Events Recording provide complete information about measured signal, which is saved in non-volatile internal memory up to 64 MB. Data files are easily downloaded to any PC using USB interface and SvanPC+ software.

Instrument is powered from two AA standard or rechargeable batteries (separate charger is required) as well as the USB interface.

## FEATURES

- Dual-channel Acoustic Dosimeter conforming to IEC 61252 and ANSI S1.25-1991
- Dual-channel Sound Level Meter conforming to Type 2: IEC 61672
- Dual-channel 1/1 or 1/3 octave real-time analyser
- Single measurement range
- Measurement range 45 dBA RMS ÷ 141 dBA Peak
- MIRE measurement technique with SV 25S
- Individual evaluation of the HPDs attenuation in real-world
- Three parallel independent profiles
- Advanced data logger, up to 12 results per channel logged simultaneously including spectral analysis
- Audio Events Recording
- Automatic calibration thanks to the TEDS technology
- Built-in non-volatile memory up to 64 MB
- USB 1.1 interface
- Large LCD with backlight
- Integration time programmable up to 24 h
- Power supply by two AA rechargeable or standard batteries (operational time > 24 h)
- Easy operation
- Extremely compact, light weight (260 grams with batteries) and robust case (volume comparable to PDA devices)



# TECHNICAL SPECIFICATIONS

## DOSIMETER / SLM / ANALYSER

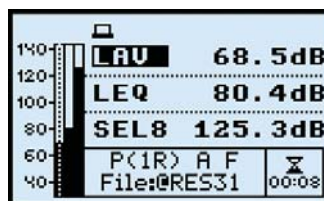
Standards	IEC 61252; ANSI S1.25-1991; Type 2: IEC 61672:2002
Acoustic Dosimeter Mode	$L_{eq}$ , Spl, Peak, SEL, DOSE, D_8h, LAV, SEL8, PSEL, E, E_8h, "Peaks Counter" and more Measurement simultaneous to the 1/1 octave analysis
SLM Mode	$L_{eq}$ , Spl, SEL, $L_{EP,d}$ , $L_{den}$ , $L_{tm3}$ , $L_{tm5}$ , statistics - $L_n$ ( $L_1$ - $L_{99}$ ), $L_{Max}$ , $L_{Min}$ , $L_{Peak}$ 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, Type 2, ceramic microphone, 1/2" housing with built-in preamplifier & integrated cable SV 25S, Type 2, ceramic microphone, special version of the SV 25D for measurements based on 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
Frequency Range	20 Hz ÷ 8 kHz, sampling rate 24 kHz
Dynamic Range	100 dB
Data Logger*	Time-history logging of RMS/Max/Min/Peak results to internal memory with time step down to 1 second, up to 24 measurement results logged simultaneously
Audio Recorder*	Time-domain signal events recorder (option)
Dual-channel Mode	Dual-channel measurement mode with second microphone SV 25D or SV 25S (option)
1/1 Octave*	Dual-channel 1/1 octave real-time analysis and spectra logging, 9 filters with centre frequencies from 31.5 Hz to 8 kHz, Type 1: IEC 61260 (option)
1/3 Octave*	Dual-channel 1/3 octave real-time analysis and spectra logging, 27 filters with centre frequencies from 25 Hz to 10 kHz, Type 1, IEC 61260 (option)

## BASIC DATA

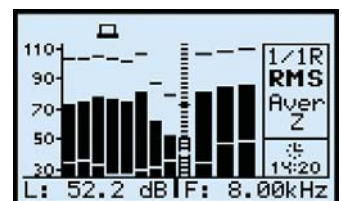
Input	2 x LEMO 2-pin	
Display	LCD 128 x 64 pixels plus icons with backlighting	
Memory	Up to 64 MB non-volatile flash type	
Interfaces	USB 1.1 Client, Extended I/O - AC output (1 V Peak) / Digital Output (Alarm trigger) / Digital Input (Input trigger)	
Power Supply	Two AA batteries (alkaline)	operation time > 20 h (3.0 V / 1.6 Ah) **
	Two rechargeable batteries (not included)	operation time > 24 h (2.4 V / 2.6 Ah) **
	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)	
	* function parallel to the acoustic dosimeter mode or meter mode	
	** in single-channel dosimeter mode and backlighting off	

DOSE METER			
	LEFT	RIGHT	UNIT
LAV	94.1	91.4	dB A
LEQ	94.1	91.4	dB A
PEAK	113.9	137.1	dB C
MAX	109.0	108.6	dB A
E	0.01	0.00	Pa <sup>2</sup> h

Acoustic dose measurements



SLM results in 3-profiles view



1/1 octave analysis

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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