

# SV 213 Sound & Vibration Monitoring Station

SV 213 is a unique system designed for simultaneous four-channel sound & vibration monitoring. System is intended for ground and building construction monitoring affected by vibration from heavy transportation or building construction site. SV 213 terminal can be used also for acoustic map making, verification of the noise barrier efficiency as well as general periodical on-line vibration & noise monitoring.

In typical application monitoring station includes SV 207 set for triaxial vibration measurements, SV 208 set for one-channel sound measurements and GPRS modem for remote communication. SV 213 exceptional feature are four independent channel inputs which in practice provide four-channel sound (four SA 208) or four-channel vibration measurements.

SVAN 958 portable sound & vibration analyser is the heart of this complete monitoring system. It is placed in a waterproof cabinet together with other system elements such as controller, high capacity rechargeable battery, advanced power supply unit and communication modules. SVAN 958 is equipped with wide spectrum of weighting filters including KB filter according to DIN 4150 standard. Using computational power of its digital signal processor system can perform advanced frequency analysis simultaneously to the meter mode:

- real-time four-channel 1/1 octave analysis including statistical calculations or

- real-time four-channel 1/3 octave analysis including statistical calculations or  
- real-time four-channel FFT analysis.

System provides very sophisticated alarm functionalities including e-mails and short text messages (SMS) reporting as well as extended logging capability including spectra with a wide range of trigger functions. SV 213 has also capability to record four-channel wav format files to USB disc (time-domain signal recording). Memory capability of the station is almost unlimited thanks to usage of USB flash disc (USB memory stick).

Whenever it is necessary SVAN 958 can be taken out of the cabinet and used as a hand-held instrument for sound and vibrations measurements as it has build-in the majority of required weighting filters.

The important feature of SV 213 monitoring system is its remote communication capability. Thanks to available communication modules, system can be controlled and measurement results can be viewed and downloaded via Internet or LAN. Remote communication requires GPRS modem or LAN & WLAN connection module on monitoring station side whereas on PC side local internet connection (LAN) with SvanPC+\_RC remote communication software. Whole system can be powered from mains power source, rechargeable internal battery, DC power supply (12 V ÷ 24 V) or solar panel (built-in power conditioner).

## FEATURES

- Environmental terminal with simultaneous vibration & noise monitoring
- Weather protected, designed for the outdoor use in all climatic environments
- Vibration measurements with KB filter, DIN 4150
- Airport and community noise monitoring Type 1, IEC 61672:2002
- Four-channel 1/1 or 1/3 octave real-time analysis
- Four-channel FFT real-time analysis
- Time-domain signal recording (wav files)
- SV 207 triaxial vibration measurements including accelerometer in robust hermetic metal box with special levelling system
- SV 208 sound measurements set including outdoor microphone protection kit
- Advanced data logger including spectra logging
- USB Memory Stick providing almost unlimited logging capability
- Sophisticated alarm functions including reporting via Text Messages and e-mails
- Remote communication via GPRS transmission, LAN & WLAN (over internet)
- SV 205 weather conditions monitoring module including both wind speed and direction data
- Powered from mains power source, rechargeable internal battery, DC power supply or solar panel
- Easy data download, visualization and transfer to spreadsheet with SvanPC+ software



# TECHNICAL SPECIFICATIONS

## VIBRATION MONITORING

Standards	DIN 4150
Meter Mode	RMS, VDV, MTVV or MAX, Peak, Peak-Peak
Analysers (option)	Simultaneous measurement in four-channels with independent set of filters and detector constants 1/1 octave <sup>1</sup> real-time analysis, 15 filters with centre frequencies from 1 Hz to 16 kHz (Type 1) 1/3 octave <sup>1</sup> real-time analysis, 45 filters with centre frequencies from 0.8 Hz to 20 kHz (Type 1) FFT <sup>1</sup> real-time analysis up to 1920 lines with Hanning, Kaiser-Bessel or Flat Top window
Filters	KB (DIN 4150), HP1, HP3, HP10, Vel1, Vel3, Vel10, VelMF, Dil1, Dil3, Dil10, W <sub>d</sub> , W <sub>k</sub> , W <sub>c</sub> , W <sub>i</sub> , W <sub>m</sub> , W <sub>b</sub> , W <sub>g</sub> (ISO 2631), Wh (ISO 5439)
RMS & RMQ Detectors	Digital True RMS & RMQ detectors with Peak detection, resolution 0.1 dB Time-constants: from 100 ms to 10 s
Accelerometer Set (option)	SV 207: Dytran 3233A accelerometer (triaxial, 1 V/g sensitivity) in robust metal hermetic box with levelling system
Measurement Range	1 mm/s <sup>2</sup> RMS ÷ 50 m/s <sup>2</sup> Peak with HP1 filter and accelerometer sensitivity equal to 1 V/g
Frequency Range	0.5 Hz ÷ 3000 Hz with SV 207 accelerometer

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

## SOUND MONITORING

Standards	Type 1: IEC 61672-1:2002
Meter mode	SPL, L <sub>eq</sub> , SEL, L <sub>den</sub> , L <sub>tm3</sub> , L <sub>tm5</sub> , Statistics - L <sub>n</sub> (L1-L99), L <sub>Max</sub> , L <sub>Min</sub> , L <sub>Peak</sub>
Analysers (option)	Simultaneous measurement in three profiles per channel with independent set of filters and detectors 1/1 octave <sup>1</sup> real-time analysis, 15 filters with centre frequencies from 1 Hz to 16 kHz (Type 1) 1/3 octave <sup>1</sup> real-time analysis, 45 filters with centre frequencies from 0.8 Hz to 20 kHz (Type 1) FFT <sup>1</sup> real-time analysis up to 1920 lines with Hanning, Kaiser-Bessel or Flat Top window
Weighting Filters	Standard: A, C, Z and special B and G
RMS Detector	Digital True RMS detector with Peak detection, resolution 0.1 dB Time-constants: Slow, Fast, Impulse
Microphone Set (option)	SV 208: SV 22 prepolarised 1/2" condenser microphone (sensitivity 50 mV/Pa), SV 12L preamplifier, SA 203 outdoor protection kit for airport and community noise monitoring
Measurement Range	22 dBA RMS ÷ 140 dBA Peak (with 5 dB margin from noise level and SV 22 microphone)
Internal Noise Level	Less than 17 dBA RMS
Frequency Range	10 Hz ÷ 20 kHz with SV 22 microphone

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

## METEO DATA SV 205 (option)

Temperature Range	-40 °C ÷ 124 °C (±0.3 °C)
Ambient Pressure Range	150 hPa ÷ 1150 hPa (±5 hPa)
Humidity	0 % ÷ 100 % (±2 %)
Wind Speed	0 m/s ÷ 60 m/s (±2 %)
Wind Directions	0° ÷ 359° (±3°)

## BASIC DATA SV 213

Input	IEPE type, channels 1, 2, 3, 4 (all waterproof connectors)	
Dynamic Range	100 dB, 4 x 20 bits A/D converters	
Frequency Range	0.5 Hz ÷ 20 kHz, sampling rate 48 kHz	
Data Logger	Time-history logging to internal memory or external USB Memory Stick Time-domain signal recording on USB Memory Stick (option)	
Memory	32 MB non-volatile flash type, external USB Memory Stick	
Interfaces	USB 1.1 Client, USB 1.1 Host, RS 232 (with SV 55 option)	
Remote Communication	GPRS modem (option) LAN & WLAN module (option)	
Power Supply	DC power supply	24 V (waterproof connector)
	Mains power supply	100 V ÷ 240 V (waterproof connector)
	Internal battery	33 Ah (12 V)
Environmental Conditions	Temperature	-10 °C do +50 °C
Dimensions	475 x 385 x 240 mm (without antenna)	
Weight	Approx. 22 kg including batteries	

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

DISTRIBUTOR: \_\_\_\_\_



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