SV 200
All in One
Noise Monitoring
Station

SVANTEK
INSTRUMENTATION FOR SOUND & VIBRATION MEASUREMENTS

SV 200 Noise Monitoring Station

Hardware design

The weatherproof housing protects SV 200 noise monitoring station against extreme weather conditions while fulfilling Class 1 accuracy. Internal heating and a dual layer rugged housing with natural airflow cooling enables the SV 200 to operate from -30°C up to +50°C and humidity up to 99 % RH.

The SV 200 has an internal Li-Ion battery and interface for connecting solar panels. A waterproof mains adapter for charging the battery and powering the station is included. Operating time when running on the internal Li-Ion batteries is more than 24 hours.

Special attention was given to the highly efficient windscreen which reduces wind noise effects even at high wind speeds. To protect the microphone a special rain protection has been designed.

SV 200 can be used for 0° reference direction used for aircraft noise measurements and 90° typically used for environmental noise monitoring.

Automatic system check

The SV 200 is using the electrostatic actuator to perform the periodic system check. The advantage of using electrostatic actuator method is check of the complete measurement chain including the microphone's membrane. The system check is performed during the measurements and detected errors are signalized to the user by SMS text message and e-mails.

Auto-calibration*

The auto-calibration means performing the acoustic calibration automatically once the microphone is inserted into the calibrator. In practise it means that SV 200 calibrates itself when the calibration signal from the acoustic calibrator is detected.

Meteorological Data*

Weather conditions have a significant influence on noise measurements. The SV 200 is equipped with an interface for meteo sensors. With the optional SV 205B weather station, the noise monitoring station can measure wind speed, wind direction, temperature, humidity, atmospheric pressure and rain. Weather data is stored in parallel to the noise measurements.

*Function requires optional software or hardware accessories.
For more information contact Svantek distributor or check
ordering information on svantek.com website.

Measurement capabilities

Measurement capabilities of SV 200 include multi-profile data logging, real time 1/1 and 1/3 octave logging, audio event recording and statistical analysis. All measurement results are securely stored with adjustable double (long and short) logging steps on the built-in 16 GB memory.

Basic instrument's mode allows to measure and store all necessary acoustic results including SPL, Leq, Max, Min, Peak. All these results are measured in three profiles with selectable frequency weightings (x) and detectors (y).

Remote communication

Communication is one of the most important features of unattended monitoring systems. The SV 200 is equipped with an integrated low-power 3G or Wi-Fi modem. The implementation of advanced and highly reliable data communication protocol gives the user full control of the station, easy to use data transmission and real time data publication.

SvanNET connection

SvanNET is a relay server supporting connection between PC and SV 200 in case of 3G communication. The SvanNET allows usage of all type of SIM cards with the SV 200 modem regardless if they have public or private IP. The connection over the SvanNET allows users to:

- use a mobile phone or tablet to watch real time measurement results, manually download files and reconfigure the station,

- manually download files and reconfigure the station using SvanPC++_RC module,

- use the SvanPC++_RC application based on MS Windows® for automatic control of the noise monitoring stations, data archiving, automatic web publication, etc.

Advanced alarms

The SV 200 with 3G modem can send an alarm via sms text message or e-mail whenever user-defined threshold levels are exceeded. The advanced alarms function allows to combine triggers based on time, noise threshold, meteo conditions or spectrum. The system is flexible enough to alert different people depending on the day of the week or the time of day.

Web server

Web based station management uses the SV 200 internal web server and is typically used for a single measurement point in short or medium term measurement duration. Web based server management gives full control of the monitoring station using any web browsing device like a mobile phone, tablet or PC. It's easy to use and no additional software is needed.

FTP push

In this mode the SV 200 modem is put into standby (sleep) and wakes up at a user-defined time schedule to send measurement files to data server (data push). During this process the SV 200 also checks if the user has changed the measurement settings (configuration pull).

Data push / configuration pull process can be initiated at any time by sending SMS to the station.

SV 200 Technical Specifications

Sound Level Meter & Analyser

Standards	Class 1: IEC 61672-1:2002, Class 1: IEC 61260:2002
Weighting Filters	A, C, Z
RMS Detector	Digital True RMS detector with Peak detection, resolution 0.1 dB
	Time constants: Slow, Fast, Impulse
Microphone	Microtech Gefell MK 255, 50 mV/Pa, prepolarised 1/2″ condenser microphone
Preamplifier	Integrated
Linear Operating Range	25 dBA RMS ÷ 133 dBA Peak (in accordance to IEC 61672)
Dynamic measurement range	15 dBA RMS ÷ 133 dBA Peak (typical from noise floor to the maximum level)
Internal Noise Level	less than 15 dBA RMS
Dynamic Range	115 dB
Frequency Range	3.5 Hz ÷ 20 kHz
Meter Mode Results	Elapsed time, Lxy (SPL), Lxeq (LEQ), Lxpeak (PEAK), Lxymax (MAX), Lxymin (MIN), Lxye (SEL), LN (LEQ STATISTICS), Lden, LEPd, Ltm3, Ltm5
	Simultaneous measurement in three profiles with independent set of filters (x) and detectors (y)
Statistics	L_n (L_1-L_{99}), complete histogram in meter mode and 1/1 & 1/3 octave analysis
	Simultaneous measurement in three profiles with independent set of filters and detectors
1/1 Octave Analysis[3]	Real-time analysis meeting class 1 requirements of IEC 61260 (31,5 Hz ÷ 16 kHz)
1/3 Octave Analysis[3]	Real-time analysis meeting class 1 requirements of IEC 61260 (20 Hz ÷ 20 kHz)
Data Logger	Logging of summary results, spectra and weather data with logging step down to 1 second and time history of selected parameters with short logging step down to 2 millisecond
Audio Events Recording[3]	Time domain records to wav file format on demand with selectable bandwidth and recording period

General Information

Ingress Protection Rating	IP 65	
Inputs	Power supply LEMO 3-pin, extended I/O port LEMO 9-pin	
Remote system check	Built-in electrostatic actuator, triggered manually or in automated mode	
Memory	Micro SD card 16 GB (non-removable)	
Display & Keyboard	External controller with 2.4″ OLED colour display and keyboard (option)	
Communication interfaces	USB	
	3G modem (included in SV 200_3G)	
	Wi-Fi / LAN module (included in SV 200_WiFi)	
Power Supply	Li-Ion rechargeable battery (non-removable)	
	Operation time on battery (14.4 V / 3.1 Ah)	
	SV 200 (modem off)	45 hours
	SV 200_3G	29 hours[1]
	SV 200_WiFi (LAN mode)	20 hours
	SV 200_(WiFi mode)	17 hours
	Solar Panel (not included)	MPPT voltage 17.0 V ÷ 20.0 V
	AC power supply (included)	Input 100 ÷ 240 VAC, output +24 VDC 2.5 A, IP 66 housing
	External DC source (not included)	voltage range 10.5 V – 24 V, e.g. 12 V or 24 V accumulator[4]
Environmental Conditions	Temperature	from -30 °C[2] to 50 °C
	Humidity	up to 99 % RH
Physical Characteristics	Dimensions	700 mm length; 70 mm diameter excluding windscreen (windscreen diameter 130 mm)
	Weight	Approx. 2.8 kg

[1] meter mode, time history logging step 1 second, 3G modem transmission 10 % of the measurement time
[2] only with external powering
[3] function operates together with sound level meter mode
[4] 15 V required for internal battery recharging

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