SV 307
Noise Monitoring Station

All in One

The SV 307 is a new Noise Monitoring Station dedicated for permanent noise monitoring.
The compact waterproof housing of the SV 307 integrates: a class 1 data logging sound level meter, patented acoustic system check, GPS module and a wireless 3G modem.
Wireless communication, external powering and control of the SV 307 is managed by the SvanNET cloud service. SvanNET is an on-line solution with a responsive design that is available on various devices such as smartphones, tablets and any standard PC using a web browser.

What's inside?

The SV 307 is an integrated Noise Monitoring Station which means that the sound level meter has been integrated with a 3G modem and outdoor enclosure. The waterproof power supply is also provided for continuous operation in the field. Each SV 307 has its factory calibration certificate and 36-months warranty card.
The key part of the class 1 kit is the new MEMS microphone with a lifetime warranty.

Key issues of noise monitoring

Fundamental issues of the environmental noise monitoring application are: **measured indicators, powering, remote system check, remote communication and alarms.**

What do we measure?

The SV 307 is capable of l**ogging summary results (SR)** and spectral data with interval steps down to 1 second. Also **time history results (TH)** down to 100 milliseconds.
Summary results (SR) include LEQ, PEAK, MAX, MIN with Slow, Fast, Impulse time constants simultaneously. Additionally SV 307 stores two rolling LEQ, ten LN statistics and GPS coordinates. If enabled, the summary results also contain **weather data** results such as wind speed and direction or rainfall.
TH results offer fast saving of PEAK, MAX, MIN, LEQ and 2 RUNNING LEQs. If used, the 1/1 or 1/3 octave spectral results are recorded in both SR and TH results simultaneously.

Use of 2 logging steps

Environmental noise measurements often use longer term ISO 1996-1 indicators such as Lday and Lnight for compliance reporting and short term LEQ for monitoring and alarm notification, e.g. based on 5 min results. With **two separate logging steps** the SV 307 is capable of providing the required results for both requirements simultaneously.

Getting started

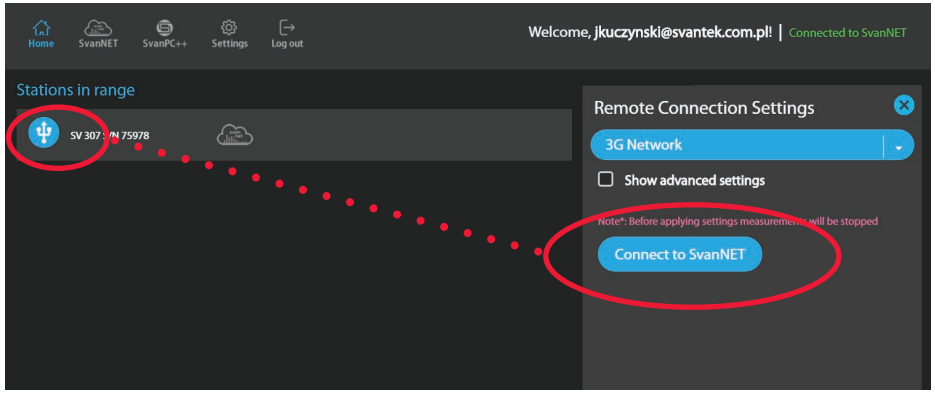
The SV 307 uses a **dual layer housing** that protects the instrument from harsh weather conditions. In order to remove the external housing unscrew the single protection screw and turn the housing gently counter clockwise until it releases then pull apart to separate:

SIM card

It is strongly recommended to configure the remote communication before going on site. Start by inserting the SIM card into the slot shown.
It is important to remove the PIN protection from the SIM card.
For protection against water ingress the SIM card slot is located under the bottom cover of the SV 307. The bottom cover operates as a gasket therefore it is necessary to carefully unscrew the 4 screws to remove it.

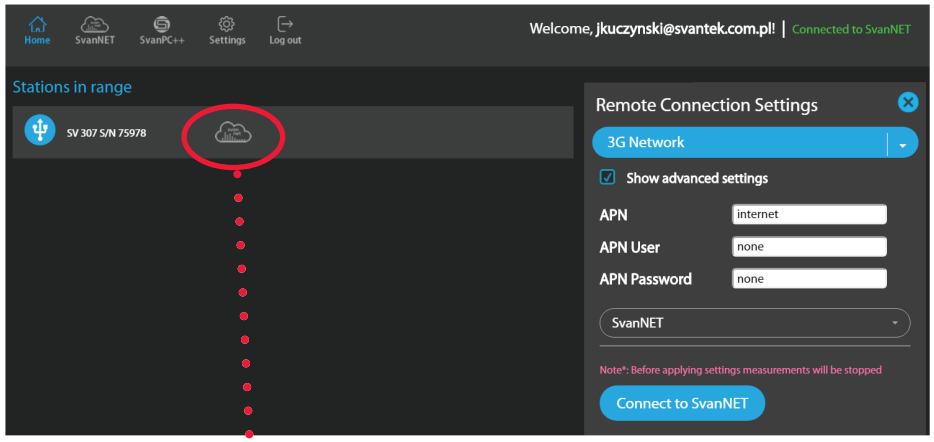
SvanNET Application

SvanNET Application is a **simple software** user interface used for the configuration of the SV 307 to connect with the SvanNET service. To obtain the application visit www.svantek.com support page. Simply install the application on your PC, connect the SV 307 by the SC 316 USB cable and click "Connect to SvanNET".



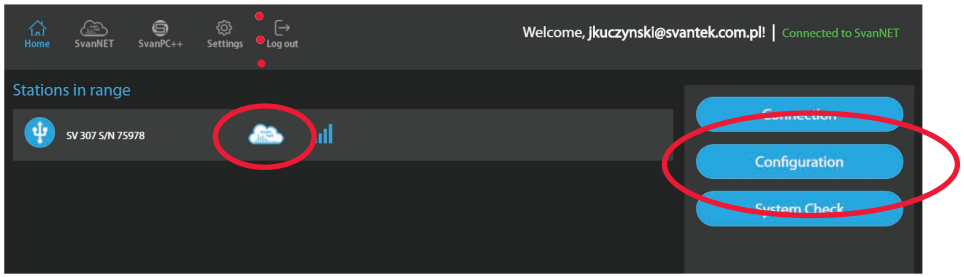
Access Point Name

The SV 307 is programmed to automatically establish a remote connection with the SvanNET server. It can take up to 5 minutes to connect. The most important parameter for the connection is the Access Point Name (APN). The default setting for the APN is "internet". It is possible that your specific local internet provider is using a different APN in which case the APN must be entered manually in the SvanNET application.



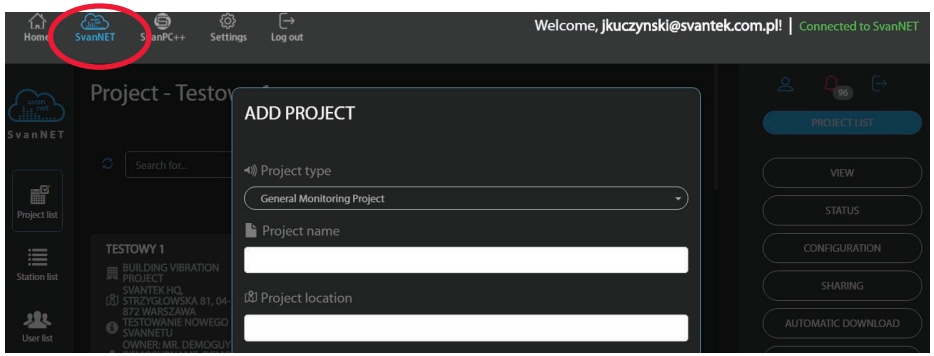
Station Configuration

Successful connection to the SvanNET server is indicated by the cloud icon. Once the SV 307 is connected to the basic SvanNET service it is possible to access and adjust its settings manually as required. Simply click the Configuration button in the SvanNET APP.



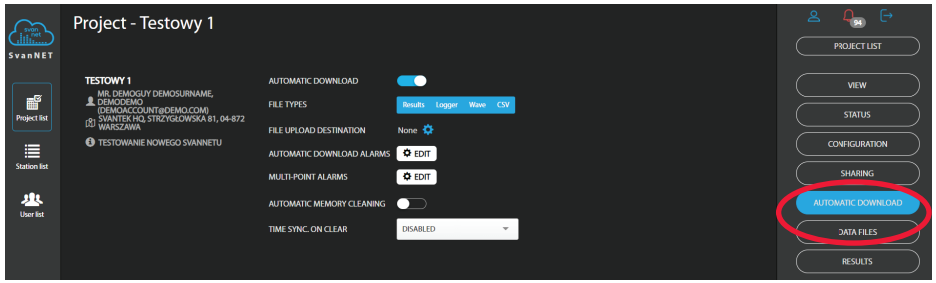
SvanNET Projects

SvanNET Projects is an optional payable extension to the basic service offering fully automated management of multi-point noise and vibration monitoring tasks. Tools such as Automatic File Download, Regular Data Storage, Advanced Alarms, Data Sharing and Reporting enable simple unattended monitoring. The functionality of SvanNET Projects allows grouping multiple monitoring stations so that alarms and reports are defined for each project separately. The data files are also grouped automatically in the cloud in accordance with their Project assignments.
To create a project go to SvanNET via SvanNET app, open Project List / New Project:



Automatic Download

Once a project is created then data from an SV 307 can be automatically downloaded to the SvanNET servers with the Automatic File Download (AFD) function. AFD ensures that data has been safely downloaded and shared before clearing the memory in the remote SV 307 on site to maintain maximum storage space.

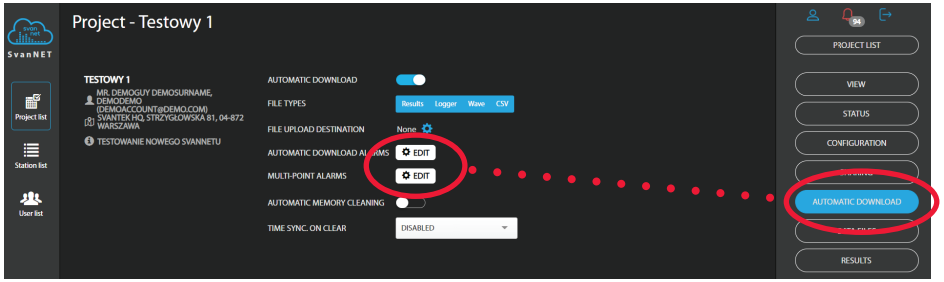


Alarms

Noise limits are typically expressed in number of decibels per hour, day-time or per night-time. In practise this means that different alarms and notifications to different recipients are needed in the day-time or night-time or within a selected time range.

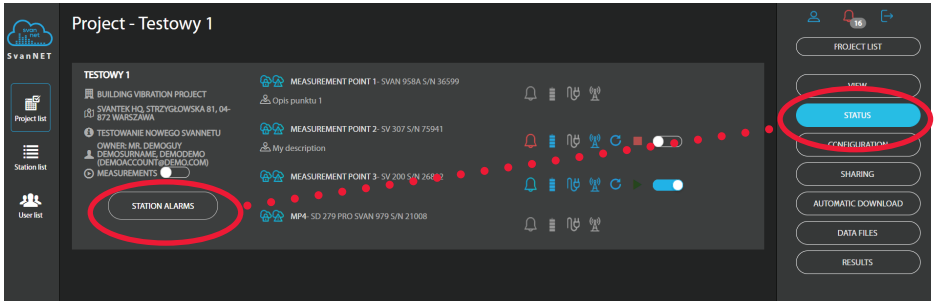
Threshold Alarms

As part of the Automatic File Download function SvanNET can analyse the downloaded data to send SMS or email alarms based on different time periods and noise levels. If needed, **more advanced alarm triggers**, such as 1/3 octave spectrum or predicted LEQ can be also used. The configuration of threshold alarms is accessible from Automatic Download Alarms:



Status Alarms

One of the most important functions of SvanNET is to monitor the status of connected monitoring stations. In the case of any error in powering, data storage, system check or clock offset SvanNET can trigger an alarm email. The configuration of Status alarms ins available in the Status tab in SvanNET Projects.



System Check

In accordance with best measurement practices and ISO 1996-2 if measurements take place over longer periods of time, e.g. over a day or more then the measurement system should be checked either acoustically or electrically at regular intervals, e.g. once or twice a day.
Following the ISO 1996-2 recommendations the SV 307 has been equipped with an **Acoustic System Check (ASC)** that can be activated remotely; either automatically or upon manual request. The ASC is located in the top of the tube directly above the microphone of the SV 307.

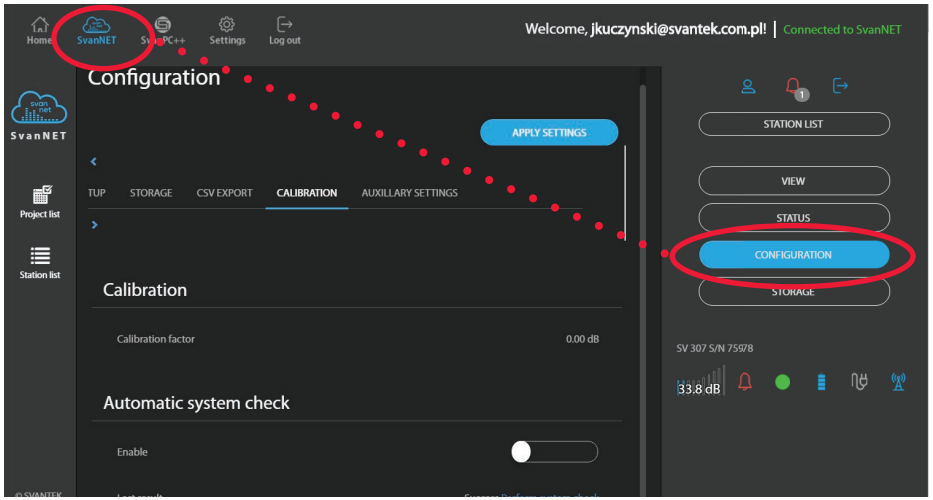
The ASC is based on a small speaker and the three MEMS microphones in the SV 307. Activation of the ASC enables the speaker and triggers an alarm if any of the three MEMS microphones reports a different noise level than the others.

System Check in SvanNET APP

To perform a manual system check simply open SvanNET application, select your SV 307 station and click the System Check button.

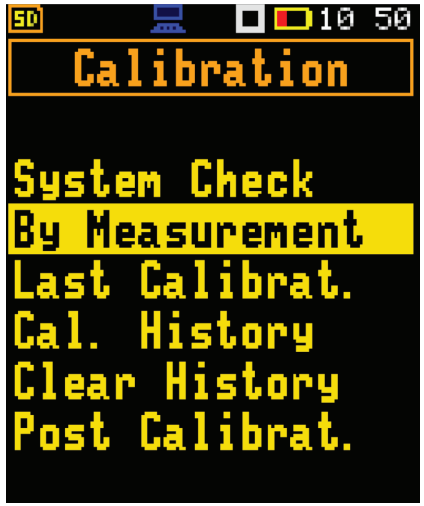
Remote System Check

System check configuration is available in SvanNET Configuration tab. Simply go to SvanNET / Configuration / Calibration - Automatic System Check to schedule the system check time.



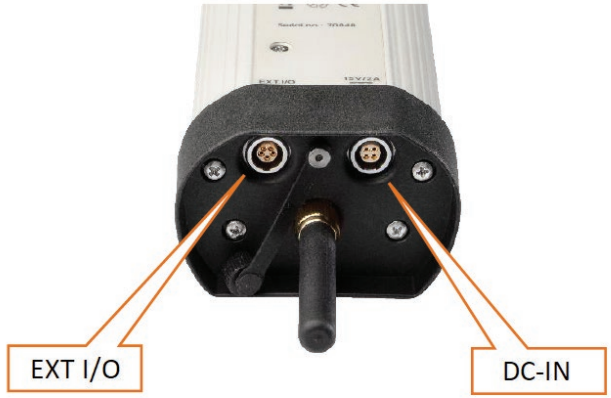
Calibration

In accordance with ISO 1996-2, immediately before and after each series of measurements, a class 1 sound calibrator in accordance with IEC 60942:2003 shall be applied to the microphone to check the calibration of the entire measuring system at one or more frequencies.
To properly calibrate the SV 307 with a separate acoustic calibrator go to the main menu then Calibrate by Measurement.
It is necessary to carefully remove the upper straight tube with the anti-bird spikes to apply the calibrator cavity directly over the microphone of the SV 307.
Be careful not to remove the locking sleeve for the microphone itself when calibrating.



Powering

The SV 307 is delivered with a **waterproof power supply**. If it happens that AC mains powering is not available, the **internal battery** can power the SV 307 for up to 6 days. The battery life can be extended with a simple cable connection of a **solar panel or external battery** to DC-IN socket in SV 307.



Use of Solar Panel

Optionally the SB 371 solar panel (40 W) can be used to extend the autonomy of SV 307. The SB 371 is simply connected to DC-IN socket in SV 307 with a SC 333 cable. The efficiency of charging the internal battery from solar panel depends on the amount of sunlight available locally. In cloudy conditions (e.g. in Poland) a minimum of 130 W solar panel is needed to supply enough power to ensure continuous operation of SV 307.

Use of External Battery

Optionally the SB 275 external battery (33 Ah) can be used to extend the autonomy of SV 307. The SB 275 is simply connected to DC-IN socket in SV 307.
The SB 272 should be recharged with its included dedicated charger unit

Should your SVANTEK professional measurement equipment need to be returned for repair or for calibration, please contact the service office at the following number or contact via the SVANTEK's website.

Service Office: +48 (22) 51-88-320 or +48 (22) 51-88-322.
Office hours are 9:00 a.m. to 5:00 p.m. Central European Time.
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