

# SV 258 PRO

Building Vibration and  
Noise Monitoring Station

Application Note



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# SV 258 PRO & SVAN 958AG

## Key Features

- Tri-axial vibration & noise measurement
- Root Mean Square (RMS) acceleration time history logger
- Peak Particle Velocity (PPV) assessment
- Vibration Dose Value (VDV) time history logger
- Two profiles per channel for simultaneous acceleration and velocity assessment
- Weighting filters comply with ISO 2631, BS 6472 and BS 7385
- KB filter according to DIN 4150 and DIN 45669
- Simultaneous FFT analysis and WAV recording according to DIN 4150 -3 standard
- 3G remote wireless communication
- Advanced alarm triggers combined with SMS and e-mail alarms

## Noise & Vibration Monitoring Kit

The SV 258 PRO is an easy to install and cost effective system for noise and vibration monitoring. The portable and battery powered system can be used for a variety of monitoring applications including construction site monitoring, tunneling and blasting. This portable system works great in noise & vibration monitoring applications related to construction sites and road traffic.

The SV 258 PRO is protected from weather conditions by a waterproof case with locking capabilities. This solution makes the system portable allowing it to be moved from one place to another easily. An internal battery is able to power the system for up to three days, alternatively the SV 258 PRO can be powered from an external DC power source or solar panels.





# SV 258 PRO & SVAN 958AG

## Building Vibration Mode in SVAN 958AG

The dedicated ground and building vibration firmware in the SVAN 958A has been developed for both short- and long-term monitoring applications. It measures triaxial velocity and acceleration in parallel and calculates Peak Particle Velocity and Vibration Dose value simultaneously. In addition to logging overall values and frequency spectra, the time domain signal is stored for post processing purposes. An additional measurement channel is available for Class 1 noise measurements in parallel to triaxial vibration measurements. Measurements are performed according to BS and DIN standards. FFT is used for dominant frequency determination where the RMS velocity spectrum is recorded or 1/3 octave bands is used for comparison with the BS and DIN norm curves and the Peak Velocity spectrum is recorded.

## Applications

- Risk of structural damage
- Risk of vibration nuisance
- Simultaneous noise & vibration monitoring
- Continuous monitoring
- Simultaneous VDV and PPV measurements
- Blasting monitoring
- and more...





# SV 258 PRO & SVAN 958AG

## Remote Communication

Remote control of the SV 258 Pro is available over a 3G network. Data transmission is fully supported by the Svantek web platform called SvanNET. Remote communication allows the user to set up the instrument and download data from monitoring systems placed in the field. Remote alarms that send messages via e-mails and text messages (SMS) are also implemented.

## Alarms and Events

The system generates SMS and E-mail notifications as well as visual and audio alarms. In addition to simple triggers from PPV or LEQ values, you can configure alarms from standard curves (e.g. DIN 4150-3) or custom curves based on FFT or 1/3 octaves. The triggering of an alarm starts the Event, whose length is configurable. After the Event time has elapsed, the instrument starts analysing the data and indicates the highest PPV value and its dominant frequency. The time and value of the Event is saved in the meter's memory.

## On-line data access with SvanNET

The built-in GSM modem transmits measurement data to the SvanNET server where the user has access to current data, historical data, and can also generate a measurement report.

## Wave Recording

With WAV analysis software you can search for peaks and calculate FFT or 1/3 octave spectrum on selected time periods. The post-processing software comes with the system at no additional cost.







## System Configuration

The SV 258 Pro has an inbuilt choice of Building Vibration Standard and the type of building (curves) according to commonly used standards such as DIN 4150-3 or BS 7385-2 that use the Peak Particle Velocity and Dominant Frequency method. Simply select the standard and the station is ready to measure.



## Sensor Mounting

Depending on the application the triaxial SV 84 vibration sensor can be mounted on a dedicated metal plate or attached to the wall of the building. For ground vibration assessment it can be mounted on a dedicated spike.



## System Powering

The internal battery of the SV 258 PRO will power the system for 3 to 7 days depending on the use of remote communication. The SV 258 Pro kit includes the waterproof power supply and battery charger. If AC mains is not available, optional accessories such as the SB 272 external battery or SB 271 solar panel can be used to extend the internal battery life.



## Manual or Remote Control

The inbuilt interface menu screens enable the user to browse results and edit station settings on site. When Internet connection is available all control operations including data download are available on-line.



## Vibration Alarms

The system generates SMS and E-mail notifications as well as visual and audio alarms with the optional lamp SP 272. The alarm lamp with the buzzer function can be attached to the building wall or simply to the tripod and is powered by the SV 258 PRO.



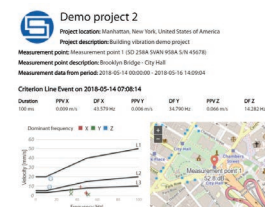
## Class 1 Noise

The fourth channel in the station can be used to measure sound in accordance with the requirements of IEC 61672 Class 1. To measure noise the optional SV 208A microphone kit is needed.



## Unattended Monitoring

The SV 258 PRO is ready for unattended vibration and noise monitoring. The station status, data download and reporting is managed by the Svanetek cloud solution - SvanNET.



## Reporting

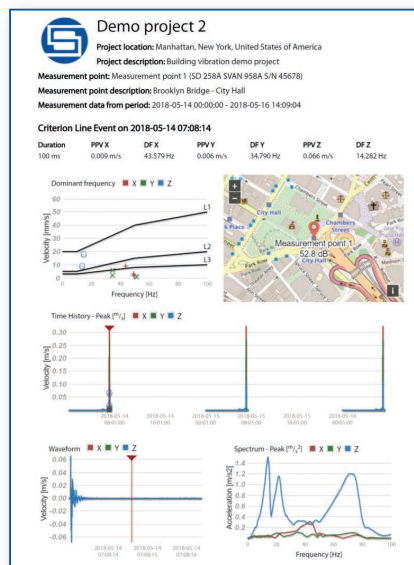
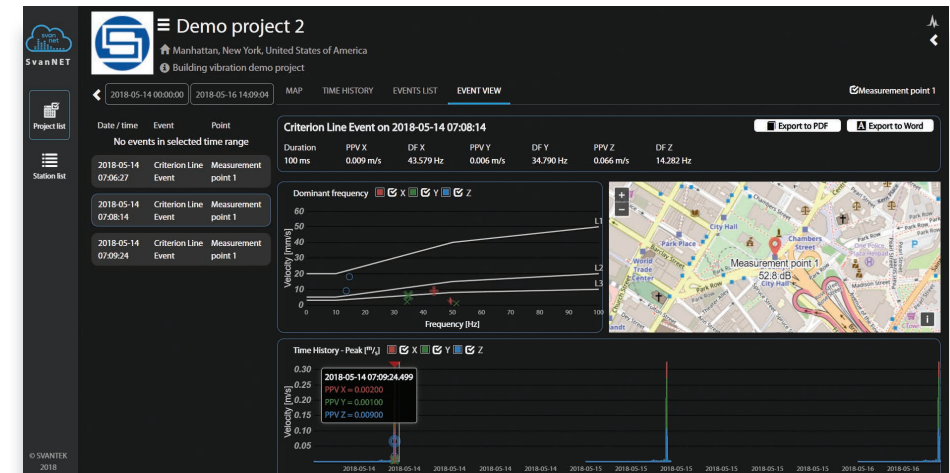
The reporting with SV 258 PRO and SvanNET is fast and easy. Simple selection of the required time range allows the user to generate both PDF and MS Word reports with a single click.

## SvanNET Projects – Building Vibration

SvanNET Projects provide a dedicated user interface that supports measurement methods based on Peak Particle Velocity and Dominant Frequency. Results are presented in the form of PPV time history (background data) and Event List. Each vibration event containing PPV value and its dominant frequency, the wave form and FFT spectrum can be easily printed in the form of a report.

### PPV Time History

SvanNET Data Storage provides a quick access to the Building Vibration measurement data and can be conveniently browsed by the time range. The Peak Particle Velocity time history from number of points can be displayed together with position of measurement points on a map.



## Events List and Building Vibration Reports

SvanNET Projects provide tools for a displaying and comparison of vibration velocity measurements with reference curves in accordance to commonly used standards such as DIN 4150-3 or BS 7385-2 that use Peak Particle Velocity and Dominant Frequency method.

### Building Vibration Reports

SvanNET creates reports in a very fast and easy way. The user selects an event and the measurements data are automatically grouped into form of the report. The PDF or MS Word™ report is generated with a single click on the export button.

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

Service Office: +48 (22) 51-88-320 or +48 (22) 51-88-322.

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