

Vibration and Air-Overpressure Real-Time Monitoring System

Following industry standards:

- *International Society of Explosives Engineers (ISEE - 2022)*
- *Deutsches Institut für Normung (DIN 45669-1)*

The SVANTEK blasting monitoring system captures both regulated effects of a blast: ground vibration and air overpressure. A Class 1 wireless vibration monitor (SV 804 or SV 803) measures Peak Particle Velocity and Dominant Frequency to DIN 4150-3 and BS 7385-2. The SV 810 meter records impulsive blast noise from 2 Hz to 250 Hz, up to 168 dB Peak, in compliance with ISEE 2022. Each instrument runs on its own battery: the stations up to 60 or 180 days, the SV 810 up to 8 hours per charge.

Long-term projects connect to an external DC supply or a solar panel. Data reaches the SvanNET cloud over 4G, with automatic SMS/e-mail alerts after every event.





SV 810
Air-Overpressure Meter

SvanNET
Automatic Monitoring Services

SV 803
Vibration Monitoring Station

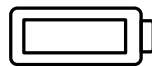
Vibration and Air-Overpressure Real-Time Monitoring System



Complete Blast Compliance

Vibration and Overpressure in One System

Blast compliance covers two effects: ground vibration and air overpressure. The stations deliver PPV and Dominant Frequency to DIN 4150-3 or BS 7385-2, with FFT and criterion curves. The SV 810 covers 105–168 dB Peak (3.6 Pa – 5 kPa) to ISEE 2022. Connected, they push synchronized data to SvanNET.



Power Autonomy for Any Timescale

Batteries for Weeks, Solar for Years

Short-term monitoring needs no external power. The SV 804 runs for up to 60 days on its battery pack. The SV 803 runs for up to 180 days. The SV 810 works up to 8 hours per charge. For permanent deployments, connect an external DC supply (waterproof charger) or a solar panel. With a solar panel in power-saving mode, operating time is unlimited.

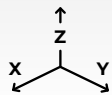


Connected Blast Monitoring

4G, SvanNET Cloud and Instant Alerts

A built-in 4G modem pushes results to SvanNET in real time. SMS and e-mail notifications fire automatically on threshold events. Bluetooth® with the Assistant PRO app gives on-site control from a phone. GPS reports station position. Wired LAN and PoE are available as options — useful in tunnels and no-signal locations.

Key Functions



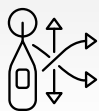
Triaxial PPV & Dominant Frequency

Peak Particle Velocity is measured simultaneously in three axes. FFT-based DF is compared on-device against DIN/BS criterion curves or user-defined FFT and 1/3-octave curves.



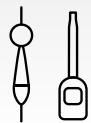
ISEE – 2022 Air Overpressure

The SV 810 directly measures L_{peak} , L_{max} , L_{min} and L_{eq} in pascals and decibels. Linear weighting covers 2–250 Hz. On-board FFT calculates the Dominant Frequency.



Standalone or Combined

Each instrument works independently (SV 810: OLED display, 4-button keyboard, 8 GB memory, 8 h battery). The optional SP 79 cable (Weipu–USB-C) connects the SV 810 to the SV 803 or SV 804. The station then includes it in its SvanNET telemetry.



One External Meter at a Time

The station's external channel accepts the SV 810 or the SV 303 noise terminal, not both. For vibration, overpressure and noise online at once: deploy two stations, or use the SD 311 router.



Events and Alarms

Alarms follow PPV, dominant frequency or custom curves. SvanNET sends automatic SMS and e-mail notifications.



Wave Recording for Diagnostics

Time histories and WAV recordings enable retrospective event validation (WAV on demand on the SV 810). They also support FFT and 1/3-octave post-analysis and defensible reporting.



Rugged for the Field

SV 804: IP67, 1.7 kg, single-screw direct mount.
SV 803: IP67 station housing.
SV 810: solid-state piezoresistive transducer, IP 65 (optional SA 810 for harsh conditions), –20 °C to +60 °C.

Software



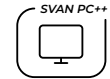
SvanNET

Remote access, visualization and alarm distribution from any web browser.



SvanNET Projects

Payable extension: multi-point project management, automatic data storage, advanced alarms, reporting.



SvanPC++

Post-processing with Building Vibration module (automated event finder, WAV analysis); included at no additional cost.



Assistant PRO

Free mobile app (Android and iOS): control, configuration, cloud connection, calibration.

Optional Accessories



SP 79 – Weipu–USB-C connection cable. Links the SV 810 or the SV 303 to the SV 803 and SV 804 stations.



SA 810 – weather-resistant enclosure for SV 810 for harsh operating conditions.



SB 274L – waterproof charger for DC powering of SV 803 and SV 804.



Solar panel – unlimited operation in power-saving mode (SB 871 for SV 803 and SV 804).



SV 303

– class 1 noise monitoring terminal (IEC 61672-1, 20 Hz – 20 kHz): audible-noise channel for the station (alternative to SV 810 on the external channel).



External Li-Ion battery pack (SB 803, SB 804)

– extended autonomy for the SV 803 and SV 804 stations.



SD 311 controller

SP 276 weather station

SP 280 dust monitor – extends the noise and vibration monitoring system with meteo and dust data in SvanNET Projects



Technical Specification

SV 803 - Vibration Monitoring Station

Standards	DIN 45669-1:2020-06; DIN 4150-3:2017-12; BS 7385-2:1993; ISO 4866:2010, Class 1; IEC 61260:2014, Class 1
Meter Mode	PPV (Vmax), DF, RMS, RRMS, KBf, KBfmax, VDV, MAX, Peak, Peak-Peak, PPV Vector, aw, awv, OVL
Analyser	1/3 octave real-time or FFT analysis; WAV recording
Measurement Range	3 µm/s ÷ 100 mm/s RMS (141 mm/s Peak)
Frequency Range	0.8 Hz ÷ 500 Hz (-3 dB)
Remote Communication	Cellular modem, Bluetooth®, GPS; LAN and PoE (optional)
Memory	32 GB
Power Supply	SB 803 Li-Ion pack 217 Wh (removable); DC / SB 274L charger (optional); solar panel (optional)
Operating Time on Battery	up to 30 days (continuous transmission); up to 180 days (power-saving); unlimited with solar panel
Ingress Protection	IP67
Environmental Conditions	-20 °C ÷ +50 °C (-4 °F ÷ +122 °F); 0–100 % RH
Dimensions / Weight	163 × 128 × 115 mm (6.42 × 5.04 × 4.53 in); 3.0 kg (106 oz / 6.61 lbs)



SV 804 - Wireless Tri-Axial Vibration Monitor



Standards	DIN 45669-1:2020-06; DIN 4150-3:2017-12; BS 7385-2:1993; ISO 4866:2010, Class 1; IEC 61260:2014, Class 1
Meter Mode	PPV (Vmax), DF, RMS, RRMS, KBf, KBfmax, VDV, MAX, Peak, Peak-Peak, PPV Vector, aw, awv, OVL
Analyser	1/3 octave real-time or FFT analysis; WAV recording
Measurement Range	3 µm/s ÷ 100 mm/s RMS (141 mm/s Peak); 12 µm/s ÷ 400 mm/s RMS (565 mm/s Peak)
Frequency Range	0.8 Hz ÷ 500 Hz (-3 dB)
Remote Communication	Cellular modem, Bluetooth®, GPS; LAN and PoE (optional)
Memory	32 GB
Power Supply	SB 804 Li-Ion pack 73.4 Wh (easy-removable); DC / SB 274L charger (optional); solar panel (optional)
Operating Time on Battery	up to 10 days (continuous transmission); up to 60 days (power-saving); unlimited with solar panel
Ingress Protection	IP67
Environmental Conditions	-20 °C ÷ +50 °C (-4 °F ÷ +122 °F); 0–100 % RH
Dimensions / Weight	171 × 85 × 83 mm (6.73 × 3.35 × 3.27 in); 1.7 kg (60 oz / 3.75 lbs)

SV 810 - Air-Overpressure Meter

Standards	ISEE – 2022
Dynamic Measurement Range	105 dB Peak ÷ 168 dB Peak (3.6 Pa ÷ 5 kPa)
Frequency Weighting / Range	Linear; 2 Hz ÷ 250 Hz
Meter Mode Results	Lpeak, Lmax, Lmin, Leq, DF, Overload Time
RMS Detector	Digital true RMS with Peak detection, resolution 0.1 dB
Data Logger / Audio	Summary results and spectra (step down to 1 s); WAV on demand
FFT	Real-time analysis, 1600 lines
Memory	8 GB (integrated)
Display / Keyboard	OLED colour 96 × 96 px; 4 push-buttons
Interfaces	USB, UART (SV 803 / SV 804 / SD 311); SP 79 cable (optional)
Ingress Protection	IP 65 (optional SA 810 external housing for harsh operating conditions)
Power Supply	Li-Ion battery (integrated), up to 8 h; external DC USB-C 5 V, 1 A
Environmental Conditions	-20 °C to +60 °C (-4 °F to 140 °F); up to 95 % RH, non-condensed
Dimensions / Weight	220 × 55 × 35 mm (8.66 × 2.17 × 1.38 in); approx. 270 g (9.5 oz) with SA 810: 360 × 65 mm (14.17 × 2.56 in); 470 g (16.6 oz)

