SVAN 974
Vibration Level Meter & Analyser

The SVAN 974 is a vibration level meter and analyser designed to measure vibrations from machinery. The instrument uses the SV 80 accelerometer, which is an ideal choice for walk-around vibration measurements in challenging industrial environments with heavy machinery, such as pumps, motors or fans. The flexible accelerometer input also supports different types of vibration sensors including IEPE, charge and direct.

SVAN 974

Vibration Level Meter & FFT Analyser

Machine Vibration

ISO 20816
Vibration Analysis

The SVAN 974 Vibration Meter and Analyser is intended for general vibration measurements and machinery condition monitoring. It can be used by consultants, maintenance services, industrial R&D departments etc. Most of the required weighting filters, like VelMF, meeting ISO 20816 standard requirements, are available with this instrument.

RMS, PEAK, MAX

Acceleration, Velocity and Displacement

The instrument allows parallel acceleration, velocity and displacement measurements. Three vibration profiles in the SVAN 974 Vibration Meter allow parallel measurements with independently defined filters and RMS detector time constants. Each profile provides a significant number of results (like RMS, Peak or Max).

FFT & RPM

Frequency Analysis and Rotation Speed

The FFT analysis allows selection of the frequency band providing accurate analysis of the vibrational source of interest (e.g. 1600 lines in the frequency band up to 1.25 kHz). With a dedicated tachometer the SVAN 974 can monitor RPM together with vibration assessment (simple order tracking).

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Key Functions

Machine vibration measurements

The SVAN 974 is a vibration level meter and analyser designed to measure vibrations from machinery.

ISO 20816 specification

Most of the required weighting filters, like VelMF, meeting ISO 20816 standard requirements, are available with this instrument.

Real-time frequency analysis

The instrument can perform real-time 1/1 or 1/3 octave or FFT analysis. 1/1 or 1/3 octave can be activated at any time by ordering the activation code, the FFT is already installed.

Rotation speed measurements

With a dedicated tachometer the SVAN 974 can monitor RPM together with vibration assessment (simple order tracking).

Time signal recording

Time signal recording means recording the raw signal with a defined frequency sampling. The time signal is recorded in a WAV format. The option can be activated at any time by ordering the activation code.

Time history logging

The powerful digital signal processor allows incredibly fast time history logging to a microSD card. The measurement data can easily be downloaded to a PC using the SvanPC++ software package over a USB connection.

Robust hardware with 3-year warranty

Robust aluminium housing protects the hardware against electromagnetic interference. Each SVAN 974 is supplied with its factory calibration certificate and a 36-month warranty card.

PC software

SvanPC++ is a PC software supporting functions such as measurement data downloading from instruments to PC, measurement setups creation, basic RMS recalculation, measurement results in text, table and graphical presentation forms, export data to a spread sheet or text editor applications.

SvanPC++ offers the Wave Analyser that is designed for analysis of wave files from Svantek's noise or vibration instruments. The module provides calculation of overall results such as RMS, Leq, Lmax, Lmin, Lpeak as well as 1/3 octave and FFT calculations. The module has been designed to make calculations from a selected number of wave files enabling for example a tonality analysis from 24 wave files in a single operation.

Optional accessories
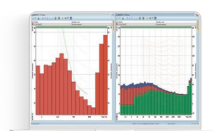

SV 110
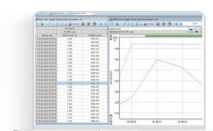*Hand-held Vibration Calibrator*

SV 81
Mono-axial Accelerometer

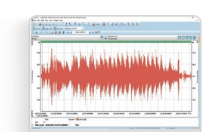*SV 111*
Vibration Calibrator

SV RPM_PROB
Laser Tachometer
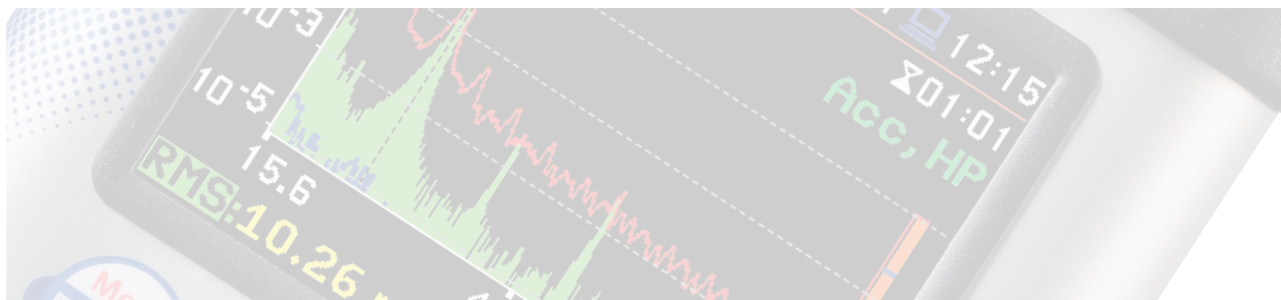

SF 974_3
1/1 & 1/3 octave analysis option

SF 974_8
Rotation measurement option
without Laser Tachometer

SF 974_15
Time domain signal recording

SvanPC++ EM
Post-processing software

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Technical Specifications

Vibration Level Meter	
Standards	ISO 20816-1
Meter Mode Results	RMS, Peak, Peak-Peak, Max Simultaneous measurement in three profiles with independent set of filters and detectors
Weighting	Filters HP1, HP3, HP10, Vel1, Vel3, Vel10, VelMF, Dil1, Dil3, Dil10, HP, Wh
RMS Detector	Digital True RMS detector with Peak detection, resolution 0.1 dB
Time Constants	From 100 ms to 10 s
Accelerometer	SV 80 IEPE type, sensitivity 100 mV/g
Measurement Range	0.01 m/s^2 RMS ÷ 500 m/s^2 Peak (with SV 80 and HP1 filter, accelerometer dependent)
Frequency Range	0.5 Hz ÷ 14 kHz (with SV 80 and HP1 filter, accelerometer dependent)

Vibration Analyser	
Data Logger	Time-history logging including spectra with 2 adjustable logger steps down to 2 ms
FFT	400 or 800 or 1600 lines in selectable band from 78 Hz to 20 kHz with HP weighting filter, selectable averaging: linear or exponential, and selectable window
1/1 Octave (optional)	Real-time analysis, 15 filters with centre frequencies from 1 Hz to 16 kHz meeting Class 1: IEC 61260
1/3 Octave (optional)	Real-time analysis, 45 filters with centre frequencies from 0.8 Hz to 20 kHz meeting Class 1: IEC 61260
RPM Measurements (optional)	1 ÷ 99999 rotation speed measurement parallel to the vibration measurement
Time-Domain Recording (optional)	Time-domain signal recording to WAV format

General Information		
Input	IEPE, Charge amplifier or Direct with TNC connector	
IEPE Current	Selectable: 1.5 mA, 3.0 mA, 4.5 mA	
Dynamic Range	More than 100 dB in single range	
Internal Noise Level	Less than 10 µV RMS (IEPE input & HP1 filter)	
Frequency Range	0.5 Hz ÷ 22.6 kHz, sampling rate 48 kHz	
Display	Colour OLED 2.4", 320 x 240 pixels	
Memory	MicroSD 32 GB included (slot supports 4 GB ÷ 128 GB cards)	
Interfaces	USB 1.1, Extended I/O - AC output 1 V RMS Sine (1.41 V Peak) or Digital Input/Output (Trigger - Pulse)	
Power Supply	Four AA batteries (alkaline) Four AA rechargeable batteries (not included) USB interface	operation time > 12 h (6.0 V / 1.6 Ah)[1] operation time > 16 h (4.8 V / 2.6 Ah)[1] 500 mA HUB
Environmental Conditions	Temperature Humidity	from -10 °C to 50 °C (14 °F to 122 °F) Up to 90 % RH, non-condensed
Dimensions	140 x 83 x 33 mm (without accelerometer and cable)	
Weight	Approx. 390 grams including batteries (without accelerometer and cable)	

[1] depending on configuration and environmental conditions

The policy of our company is to continually innovate and develop our products.

Therefore, we reserve the right to change the specifications without prior notice.

SOUND AND VIBRATION MEASUREMENT SOLUTIONS