SVAN 974

Vibration Level Meter & Analyser

SVANTEK

INSTRUMENTATION FOR SOUND & VIBRATION MEASUREMENTS

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.

The SVAN 974 can simultaneously present the parallel vibration acceleration, velocity and displacement results along with frequency analysis and wave recordings.

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

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

The input supports **IEPE** and **CHARGE** type accelerometers.

Optional connection of the **TACHOMETER**.

Aluminum **ROBUST** housing

OLED 2.4" color display (320 x 240 pixels)

The SV 80 vibration accelerometer enables vibration measurements from **0.5 Hz up to 14 kHz.**

4xAA **BATTERIES** that can be easily replaced in the field.

The **TIME HISTORY LOGGING** with two simultaneous logging steps is saved on a 8 GB **microSD** card.

What's inside the SVAN 974 kit?

The kit consists of SVAN 974 together with SV 80 accelerometer and SA 27 mounting magnet, SC 27 coil cable all packed in SA 74 waterproof carrying case. The accessories list also contains 8 GB microSD card and CD with user manual. Each SVAN 974 has its factory calibration certificate and 36 months warranty card.

Standard functions

SvanPC++ is an advanced PC software dedicated for data analysis from general noise and vibration measurements. It provides sophisticated functions such as Projects or Wave Analyser enabling various data comparisons.

Optional functions

TIME SIGNAL RECORDING means recording the raw signal with a defined frequency sampling. Analysis of the raw signal is used whenever frequency analysis is not sufficient. Time signal is recorded in a wave format. The option can be activated at any time by ordering the activation code.
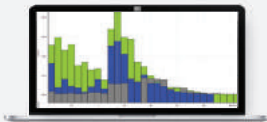
FREQUENCY ANALYSIS of the signal in 1/1 or 1/3 octave bands is often used for a comparison of the machine vibration condition with the manufacturer's data. It can be activated at any time by ordering the activation code.
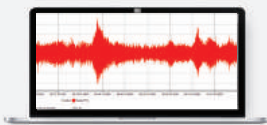
DIGITAL OSCILLOSCOPE is used to observe the change of an electrical signal over time, such that voltage and time describe a shape which is continuously graphed against a calibrated scale. The observed waveform can be analyzed for such properties as amplitude, frequency, rise time, time interval, distortion and others. The option can be activated at any time by ordering the activation code.
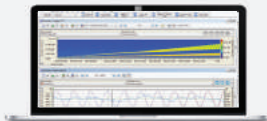
ROTATION MEASUREMENT OPTION is used whenever measuring vibration of machines with rotating elements. Information about revolutions per minute is calculated and added to data files basing on impulses generated by external tachometer. Function works simultaneously to other functions such as level meter or frequency analysis. The option can be activated at any time by ordering the activation code.

Optional accessories

SV RPM_PROB
Laser Tachometer
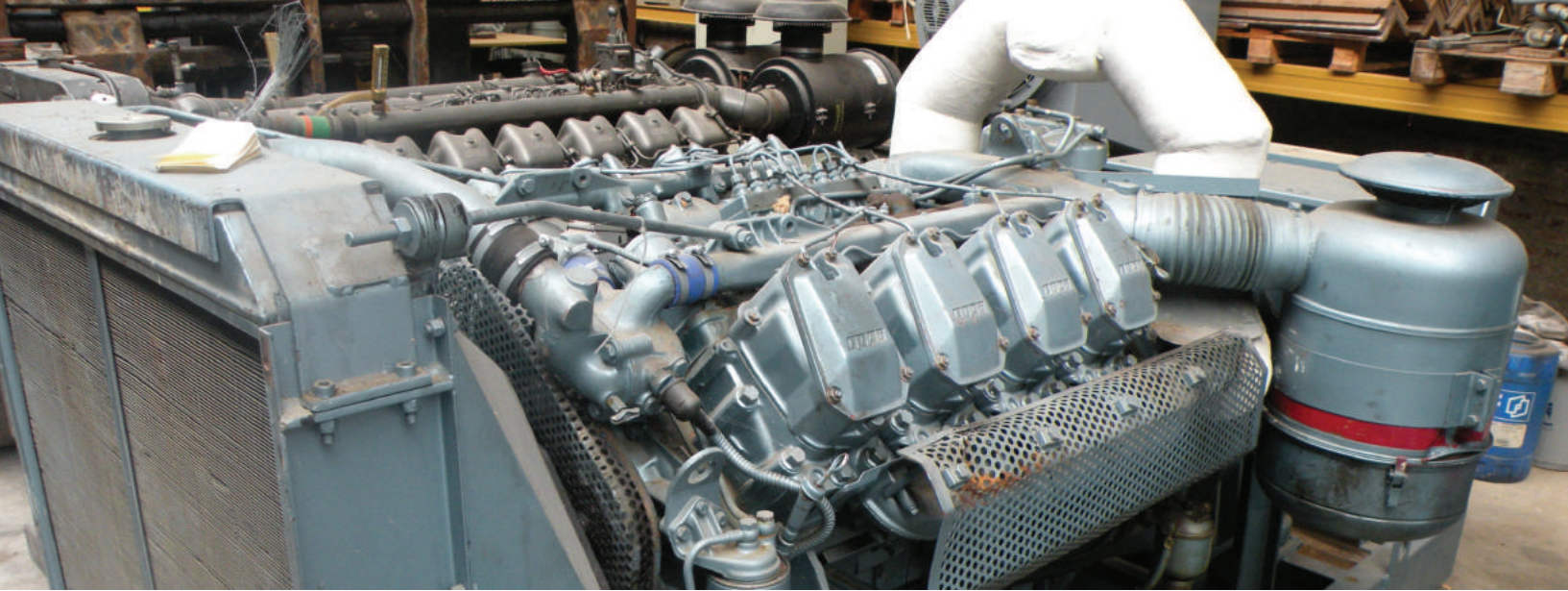
SV 81
Vibration
Accelerometer
500 mV/g

SV 110
Hand-held
Vibration
Calibrator

SV 111
Hand-Arm and
Whole-Body Vibration
Calibrator

SA 47
Fabric Carrying Bag

SVAN 974 Technical Specifications

Vibration Level Meter

Standards	ISO 20816-1
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 ms^{-2} RMS ÷ 500 ms^{-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[1]	Time-history logging including spectra with 2 adjustable logger steps down to 2 ms
FFT[1]	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[1] (optional)	Real-time analysis, 15 filters with centre frequencies from 1 Hz to 16 kHz meeting Class 1: IEC 61260
1/3 Octave[1] (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 8 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)	operation time > 12 h (6.0 V / 1.6 Ah)[2]
	Four AA rechargeable batteries (not included)	operation time > 16 h (4.8 V / 2.6 Ah)[2]
	USB interface	500 mA HUB
Environmental Conditions	Temperature	from -10 ºC to 50 ºC
	Humidity	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]function parallel to the meter mode
[2]depending on configuration and environmental conditions

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