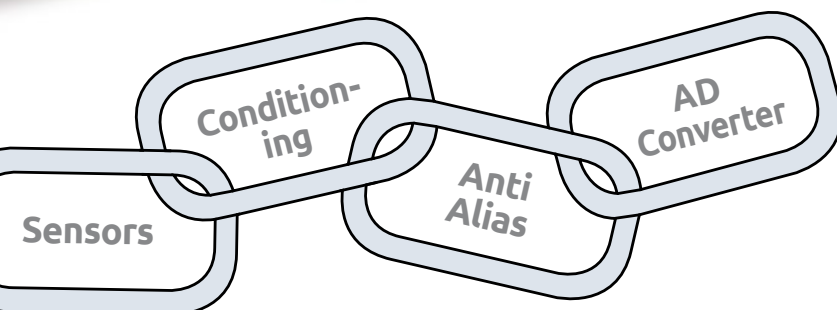# FastTRACER
Vibration Analysis at Finger Tips

FastTRACER – All the measuring chain within a sensor

FastTRACER is a new, innovativ concept in the vibration analyzer market. Due to MEMS Technology, we combine in a sensor all features required for powerfull vibration analysis.

– **Tri-axial MEMS Sensor**
– **Signal Conditioning and Anti Aliasing**
– **A/D Converter**

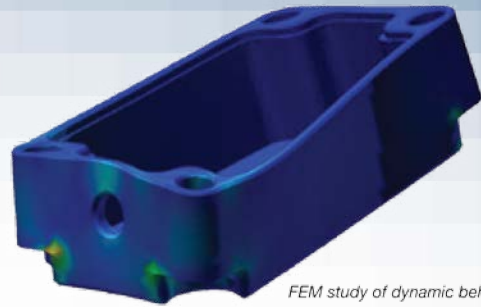Thanks to a standard USB port, FastTRACER brings vibration data into your PC.

Conditioning

AD Converter

Anti Alias

Sensors

TECHNICAL DATA	
Full Scale	± 5 g, optional ± (2g, 18g)
Bandwidth	0 – 2500 Hz
Tolerance	<5% (0 – 1000 Hz)
Dimension	30 x 55,5 x 15 mm
Weight	55 g
Protection Index	IP67
Shock Resistance	10.000 g
Operating Temperature	-20 – +70 °C

FEM study of dynamic behavior of sensor case

The concept of expandability behind FastTRACER

Few essential drivers have been followed into the FastTRACER design:
> keep it simple
> keep it handy
> keep it affordable
> keep it accurate
> keep it powerful

Sensor
The tri-axial, MEMS, digital, extremely robus sensor is the core of the whole system

Driver
No need to purchase any software. Simply use the supplied library and develop your own application.

Core Software
The core software includes what is neccessary to perform vibration analysis including tools such as RMS calculation, spectral analysis and data recording.

Application Software
Still not enough yet? You can also expand FastTRACER functionalities in our application software

FastTRACER Hardware

The hardware has been developed using MEMS technology. Thanks to the hardware, the robustness of the sensor is guaranteed for a long time. Furthermore, the accuracy of measurements ist granted by the calibration certificate.

The data are digitized directly in the sensor avoiding triboelectric noise from the cable. The assembling operation on ferromagnetic materials is very easy because of a base that has been designed to be used both on flat and curved surfaces.

Data Transmission –
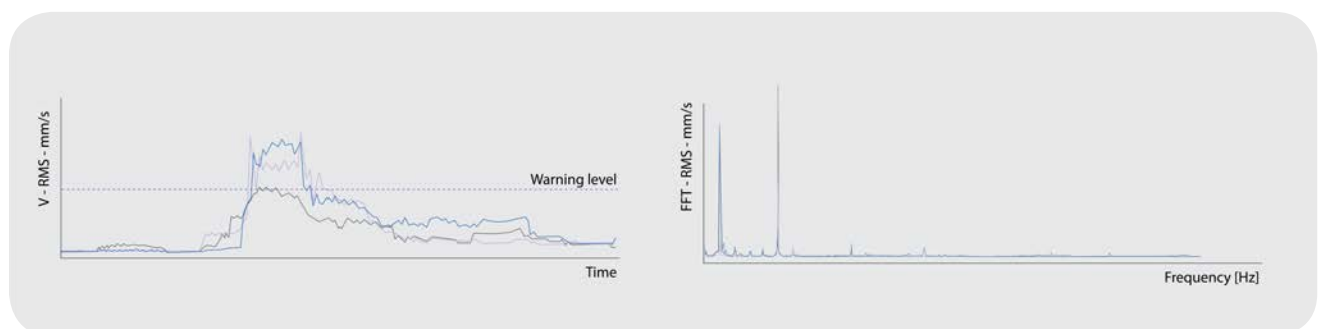### by USB Connection or via WI-FI Communication

The sensor can be easily connected to your PC via a standard USB plug&play connection.

A FastWI device is available for WI-FI transmission in order to carry out measurements in points most difficult to be reached.

Vibration are often a warning or a cause of malfunctioning in mechanical engeneering.
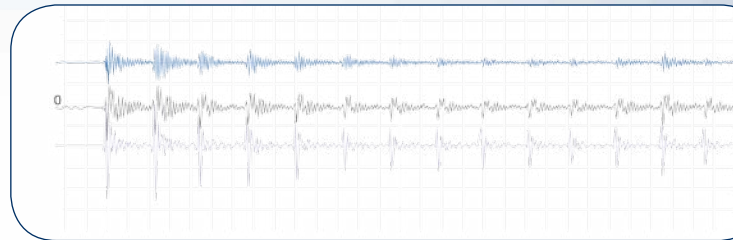
The overall vibration analysis helps you to identify easily any damages, either if you are using a complete system or a sub-component. Why does vibration level increase over time? You can detect and identify the cause of a problem by a spectrum analysis to separate eg. problems in tooth gear from ball bearings.

The FT Analyzer – the standard software supplied with Fast-TRACER system offers you a complete range of analysis:
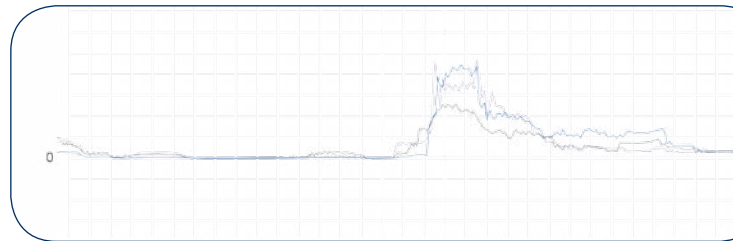
Time Signal Analysis

It allows a clear view of the aquired signal with zoom functionality. It is particularely useful to explore transitory phenomena.
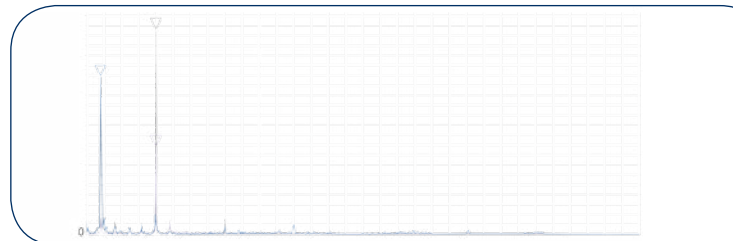
RMS Evaluation

The RMS vibration values, which are calculated in conformity with ISO 10816, allow a quick verification of the vibration severity. The calculated values can be compared with the provided standards. The tri-axial feature reduces the testing time, when measurements were performed in different locations eg. axial and radial direction on a shaft bearing.
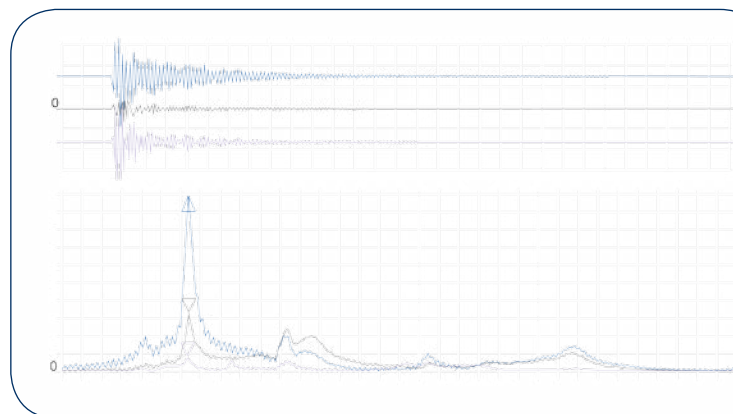
FFT Analysis

Spectral analysis includes several options which are not available in standard handheld instruments. It gives you the possibility of performing it in three axis but also analyzing the same signal in realtime with different setups, allowing the use of different frequency resolutions.

Bump Test

It is very important to understand the resonance frequency of a structure in order to avoid that a vibration source could be enhanced by the structural behaviour. The bump test functionality allows to perform a resonance test without using a modal hammer.

Data Recording

While performing a real time analysis, raw data can be recorded for further post processing in the FTAnalyzer or exported as a text file for analyzing in another advanced software such as EXCEL or MATLAB.

Data can easily be integrated in Microsoft Office environment with quick EXCEL or WORD reports and export functions for email and internet.
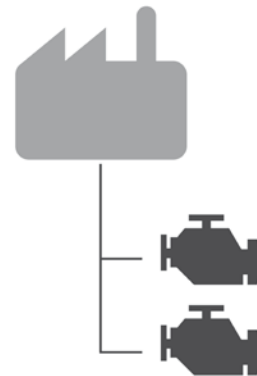
The FastTRACER application software

Balancer

Rotor unbalance is one of the main causes of excessive vibrations in rotating equipments. The balancing in situ is often complicated due to the necessity of setting up a correct phase reading by means of a tacho probe. When applicable, the BALANCER application provides a fast and reliable way to balance your rotor for single plane static rotor balancing. Just mount the sensor and follow the procedure.

Explora 3D

The root base management software of SEQUOIA IT.
The software allows building up your standard vibration test on your machine providing to non-expert users a graphical guide for operating the machine for testing, to know where and how to place the sensor, which kind of tests should be performed, the indication of the problem and the correction to be performed. The basis of your preventive maintenance program (BETA Version).

Multisensor

From now on, with FT analyzer it is possible to use multi sensors at the same time. This functionality speeds up not only the measuring time (when several test locations on your machine should be evaluated) but it extends some applications of the software, e.g. testing transmission property of damper in situ.

Genset

Special application software dedicated to assess the vibrations of a generator in situ, to define position on generators where test should be performed, to set the order to be evaluated and to define appropriate limits. It is also available with a special version of the sensor suited to high temperature operations.

FastTRACER Kits

FastTRACER - PA
The basic FastTRACER kit is delivered with the calibration certificate, the leather case, DLL and LABVIEW library for programming purposes.

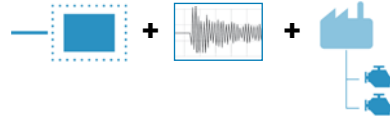| ORDERING INFO		
FTK-0501	±5 g	Full scale
FTK-0201	± 2 g	Full scale
FTK-1801	±18 g	Full scale

FastTRACER - Full
As the PA, it includes also the powerful FTAnalyzer software and the Esplora 3D. It is available in three versions:

ORDERING INFO		
FTK-0502	±5 g	Full scale
FTK-0202	±2 g	Full scale
FTK-1802	±18 g	Full scale

FastTRACER - Balancer
As the PA, it includes also the Balancer for plane static rotor balancing:

ORDERING INFO		
FTK-0503	±5 g	Full scale
FTK-0203	±2 g	Full scale
FTK-1803	±18 g	Full scale
FTS-0002	Balancer License	

FastTRACER - Extended
As the FULL, it includes also the Balancer application:

ORDERING INFO		
FTK-0504	±5 g	Full scale
FTK-0204	±2 g	Full scale
FTK-1804	±18 g	Full scale
FTS-0001	FT Analyzer License	

Accessories

EXTENSIONS CABLES	
FTC-0004	4m
FTC-0010	10m
FTC-0018	18m
FTC-0027	27m

WIFI OPTIONS*	
FTH-0001	FastWi (Wifi Module)
FTH-0002	Battery pack for FastWi

*Only supported by FTAnalyzer software