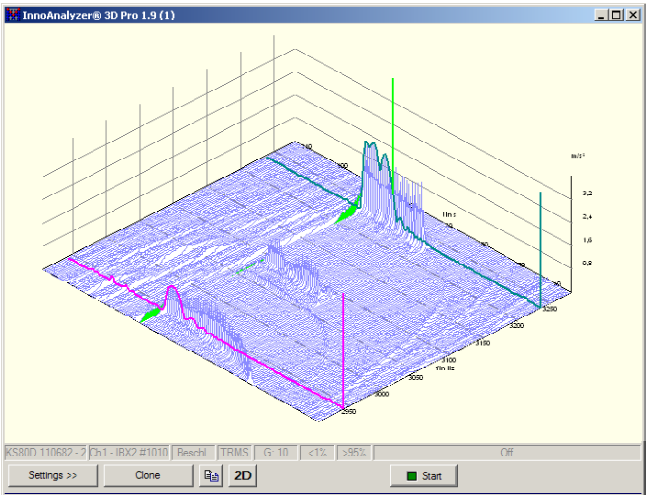
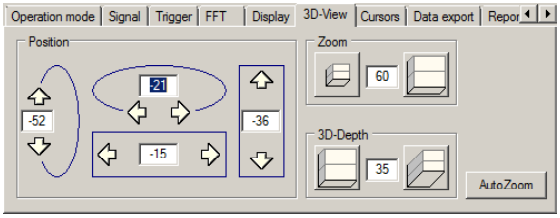
InnoAnalyzer® 3D 1.9

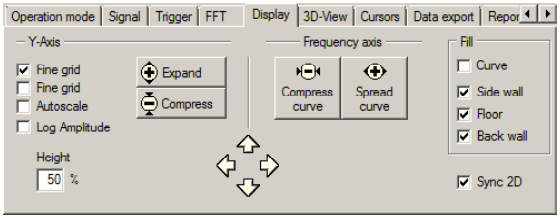
Time-Frequency Vibration Analyzer



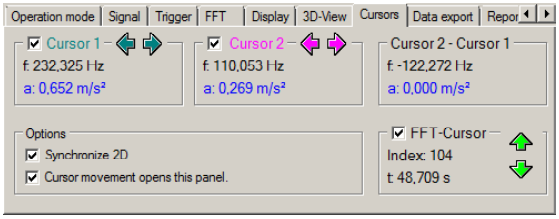
View a wide range of frequency analyses simultanously and identify critical frequencies at a glance.



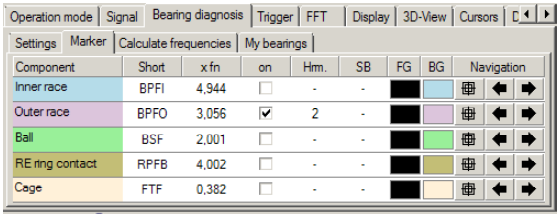
Rotate the measurement diagram on horizontal and vertical axis and vary the depth extension



Zoom, compress and arrange graphs acc. to your demands



2 cursors, display data and difference, as well as cursor to select FFT for 2D mode



Special modes, e.g. bearing diagnosis by envelope analysis

Application

In order to get the individual frequency components from many overlapping vibrations, a frequency analysis is performed. The frequency spectra of rotating machines are influenced by e.g. changes of rotational speed. Therefore, it is useful to be able to view several frequency analyses over time in connection to each other. With InnoAnalyzer 3D such time-frequency analyses can be performed. The spectra are displayed as a waterfall.

By means of the waterfall display of run-up and coast-down analysis the speed-dependent and -independent vibration components can easily be determined. Natural oscillations and resonance states are identified reliably.

Properties

The InnoAnalyzers 3D are universal vibration analyzers for vibration acceleration respectively also vibration velocity and displacement (Pro version).

The instruments perform freely configurable frequency analyses, bearing diagnosis by envelope analysis and acoustics measurements with weighting filters.

In addition to the time-frequency display (3D) it can be switched to a 2D-display for each spectrum.The selection is done by the corresponding cursor. The 3D diagram can be rotated, shifted and zoomed in various ways in order to get the best possible display.

The high number of lines of more than 500 000 FFT lines allows a frequency resolution of up to 0.01 Hz. Switching the frequency axis from Hz to 1/min simplifies the allocation to rotating parts.

During unattended operation, analyses can be saved periodically or limit dependent or be sent via e-mail.

Technical Data

	InnoAnalyzer 3D Pro	InnoAnalyzer 3D
Signal Processing		
Measurands	Alternating measurands: Vibration acceleration, velocity, displacement; force, pressure, sound pressure, voltage, user-defined measurands	
Integrated Measurands	Acceleration → Velocity and displacement	-
Units	m/s², mm/s², µm/s², nm/s², pm/s², g, mg, µg, km/s², kg, dB | m/s, mm/s, µm/s, nm/s, pm/s, in/s, mil/s, µin/s, dB | m, mm, µm, nm, pm, ft, in, mil, µin , dB | kN, N, mN, µN, nN, lb, oz | bar, mbar, MPa, kPa, hPa, Pa, mPa, µPa, nPa, psi | V, mV, µV, nV, pV | A, mA, µA, nA, pA	
Characteristics	Peak value, Peak-to-peak value, r.m.s. value, phase (2D mode)	
Measurands and Units X-Axes	Frequency (Hz) / Rotation speed (1/min), time (s)	
Frequency Range	Freely adjustable 0 .. 40 000 Hz **	
Frequency Resolution, Overlapping	< 1 mHz, 0 .. 99%	
Number of FFT in 3D display	4 .. 1000	
Windowing	Rectangle, Bartlett, Blackman, Hamming, Hann, Flattop	
FFT Modes	Manual, bearing diagnosis, acoustic	Manual
Time Data Feeding	Continuous / triggered in time domain	
Number of Lines	2 .. 524288	
Graphical Presentation		
Graphs	Switch between 2D and 3D possible, 3D mode: rotate, shift and zoom graph freely	
Refresh	1 .. 16 times per second *	
Interval Y-Axis	Magnitude: 0.1 .. 10000 (logarithmic as well) / Phase: 0..360°, -180° .. +180°	
Interval X-Axis	1 .. 40 000 Hz / 600 .. 2 400 000 min^{-1} **	
List of Magnitudes (2D mode)	1..20 magnitudes (search sensitivity adjustable), sorting acc. to magnitude or frequency	
Cursors	2 lines, freely adjustable by mouse or button, display of cursor values and difference, FFT cursor on time axis	
Markers (Bearing diagnosis)	Inner race, outer race, kaefig, ball, WK ring contact, side bands, harmonics (integrated database of > 20000 bearings)	-
Marker Control	Adjustable frequency / Rotation speed signal	-
Limit Graph	Graphically free adjustable with 100 points	-
Status Indicators	Sensor, measuring channel, measurand, characteristic, gain, underload, overload, level	
Data Export		
Control	Manually time- or level-triggered	
Formats	Bitmap, PNG, Enhanced Meta File (EMF), text	
Destinations	Clipboard or file	
Event Annunciators		
E-Mail	Trigger initiates tranfer of exported measurement data	
Miscellaneous		
General Functions	Measurement data is held after switching off, module is cloneable	

* Centrally managed in the InnoMaster
** when working with InnoBeamer LX2: Upper frequency limit 3200 Hz = 192 00 min^{-1}

Changes without prior notice

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