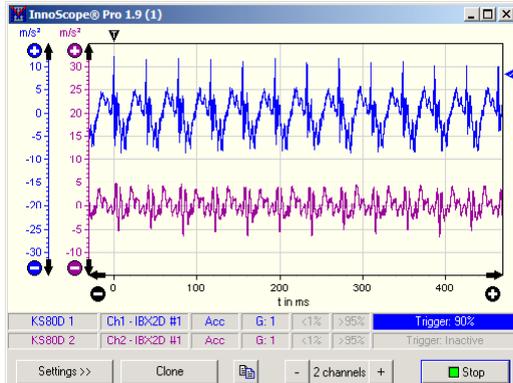




# InnoScope® 1.9

## Digital Oscilloscope



Numerous settings for signal conditioning

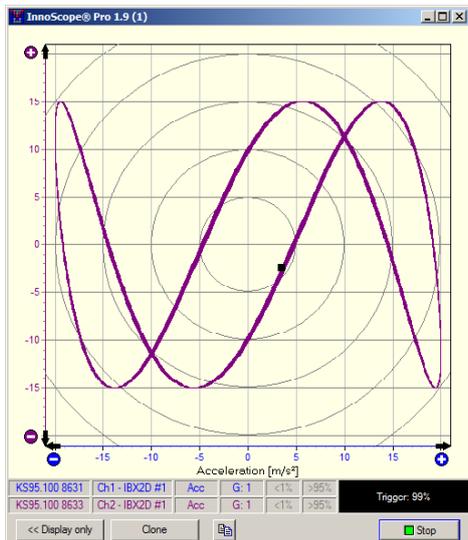
Arrange, zoom, compress graphs acc. to your demands

Analog and external digital trigger source

Decay time		Measured time		Parameter		Display	
Upper	Lower	between limits	Exp. decay time	Log. Decrement	Decay	Range	
90.0	10.0	4.645 e	2.114 e	0.16046			<input checked="" type="checkbox"/>

Automated signal evaluations (Pro version)

Simultaneous display of up to 4 graphs, optional: statistics



Orbital mode: display movements of the measurement object in the plane

Annunciation of measured data and events

### Properties

The InnoScopes are universal digital oscilloscopes.

Up to 4 measurement graphs can be displayed in one InnoScope simultaneously. They can represent both, signals of different sensors but also different measurands from one sensor signal, since the InnoScope Pro masters time integration and double integration.

The InnoScopes have a high memory depth of up to 10 million measured values per channel. They record up to 1000 seconds to display low-frequency processes, e.g. building vibrations.

The new statistical techniques can be used for smoothing the displayed processes, but also to detect the signal range.

For evaluation, 2 cursors are available. Time and measured values as well as differences at the cursor position are presented numerically.

The export of data as graphic or text provides additional fields of application. Furthermore, the recorded signals can be played back acoustically or be saved as wave file. The InnoScope can even carry out this export automated when triggering and then send this file via e-mail by means of the annunciator function.

### Application

The InnoScopes allow the signals' shape analysis of fast vibration and shock processes in time domain. These processes can be displayed in detail, measured and exported for documentation or post-processing.

Thus, e.g. construction parts which are exposed to impulse-like loads can be optimized. Automated evaluations determine e.g. the HIC (Head Injury Criterion) directly after the measurement, but also parameters of decay processes. Working together with the InnoAnalyzer, natural frequencies can be determined.

Likewise, the InnoScopes reliably display sporadically or periodically occurring events. The orbital mode displays movement of the object in the plane (e.g. shaft vibrations).



# Technical Data

	InnoScope Pro	InnoScope
<b>Signal Processing</b>		
Filter	Freely adjustable 0.1..40 000 Hz **	
Measurands	Alternating measurands: Vibration acceleration, velocity, displacement; force, pressure, sound pressure, voltage, user-defined measurands	
Integrated Measurands	Acceleration → Velocity and displacement	
Units	m/s <sup>2</sup> , mm/s <sup>2</sup> , μm/s <sup>2</sup> , nm/s <sup>2</sup> , pm/s <sup>2</sup> , g, mg, μg, km/s <sup>2</sup> , kg   m/s, mm/s, μm/s, nm/s, pm/s, in/s, mil/s, μin/s   m, mm, μm, nm, pm, ft, in, mil, μin   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	
<b>Trigger</b>		
Modes	Free running, normal, single shot	
Source	Analog or digital channel, each with rising / falling edge	
Level	Freely adjustable ±10000	
Pretrigger / Posttrigger	0 .. 1000 ms / 0.001 .. 1000 s	0 .. 1000 ms / 0,001 .. 100 s
<b>Graphical Presentation</b>		
Number of Graphs in the Chart	1 .. 4	
Number of Graphs for Statistics	1 .. 100	-
Statistical Presentation Modes	Minimum / maximum / mean value Current, min, max / mean, min, max	-
Interval Y-axis / X-axis (time)	0.01 .. 10000 / 1 ms .. 101 s	0.01 .. 10000 / 1 ms .. 11 s
Time Resolution / Memory Depth	Up to 0.01 ms *** / up to 10.1 million values	Up to 0.01 ms *** / up to 1.1 million values
Cursors	2 lines, freely adjustable by mouse or button, display of cursor values and difference	
Refresh	1.. 16 times per second *	
Status Indicators	Sensor, measuring channel, measurand, gain, underload, overload, trigger status	
<b>Data Export</b>		
Control	Manual and automatic after trigger	
Formats	Bitmap, PNG, Enhanced Meta File (EMF), text, wave	
Destinations	Clipboard or file	
<b>Event Annunciators</b>		
E-Mail	Trigger initiates transfer of exported measurement data	
<b>Miscellaneous</b>		
Integrated Evaluations	Decay time, log. decrement, Head Injury Criterion (HIC) and phase position (orbital mode)	-
Coupling	With InnoAnalyzer and InnoAnalyzer Pro	With InnoAnalyzer
Available in a Kit	VMSet-02;-03;-04;-05	-
General Functions	Measurement data is held after switching off, module is cloneable	

\* Centrally managed in the InnoMaster

\*\* 0.1 .. 3200 Hz when working with the InnoBeamer LX2

\*\*\* 0.125 ms when working with the InnoBeamer LX2

Changes without prior notice

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