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KiNOVA Lite

Type 5809A10

Portable Data Acquisition Hardware for NVH Analysis

KiNOVA Lite is a 4-channel, ultra-portable and easy-to-use data acquisition hardware, designed for NVH measurements on-the-spot.

Key technical features:
- 4 channels of Voltage/IEPE inputs
- Inputs configurable also for tacho signal
- 24-bit resolution, 144kSps/channel
- USB control and power
- Ultra-portable, small size, low weight
- Rugged case

KiNOVA Lite/Data Acquisition Hardware
KiNOVA Lite is an ultra-portable data acquisition system, designed for low channel count NVH applications. These characteristics make it suitable for measurements on-the-spot.

Low weight – 365gr – and USB-powered, KiNOVA Lite is a plug-and-play device, which is ideal when running common but insightful analysis like hammer impact testing, engine order analysis or NVH troubleshooting. Despite the small size, KiNOVA Lite provides industry standard measurement accuracy, relying on 144kSps at 24-bit signal resolution for each of the four channels, wide dynamic range and low noise floor.

Input channels are suitable for IEPE and voltage signals. Additionally, each channel can also be configured as tachometer input to address rotating NVH applications. KiNOVA Lite relies on internal signal conditioning with anti-alias filters.

The rugged housing of KiNOVA Lite makes it a data acquisition hardware capable of operating in nearly any environment and ready to flex around the NVH application at hand.

Depending on the application requirements, KiNOVA Lite can be complemented either by KiNOVA Capture or by KiNOVA Acquisition, software for data acquisition. Additionally, data can be analysed with KiSUITE, Kistler's analysis software for NVH applications.

Technical data

Hardware

Inputs		4 x analogue (IEPE or voltage)
Max. sampling rate		144 k sampels/ sec/channel
Resolution	bit	24
Noise floor	dB	–130
Overall accuracy	% FSD	±0.10
Input voltage range		±93.75 mV to ±24 V in 9 steps
Input impedance	MΩ	1
Non-linearity	LBS	<1
IEPE power	V	20 @ 4mA switchable
Communication interface		USB

Analogue inputs

Input mode - analogue		IEPE (single ended), voltage (differential)
Anti-alias protection	dB	>150
Dynamic range	dB	100 @ 10k samples/second
Maximum input range	V	±24

Tachometer input

Tacho input mode		IEPE, Voltage
Tacho range	rpm	2,160,000 @ 1ppr
Tacho input range	V	±24

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Technical data (continuation)

Environment and general data

Shock and vibration		MIL-STD-810G 2014, 514.7C-2; 514.7C-3
Operating temperature	°C	-30 … +65
IP rating		IP54
Humidity		95 % RH, non-condensing
Power consumption	W	<2 (total)
Voltage supply		5V from USB
Connectors		4 x SMA to BNC connectors USB-C
Dimensions (H x W x D)	mm	30 x 167 x 97
Weight	g	365 (excl. case and accessories)

KiNOVA Lite includes:
- KiNOVA Lite – data acquisition hardware
- Connecting cable – USB-A to USB-C (1 m)
- SMA/BNC adaptors (4 pieces)
- Ground cable (2 m)
- Transport case

KiNOVA Capture/Basic Acquisition Software
KiNOVA Capture is a software for basic NVH data acquisition, to be used in combination with KiNOVA Lite. KiNOVA Capture is designed to make the acquisition process essential and simple.

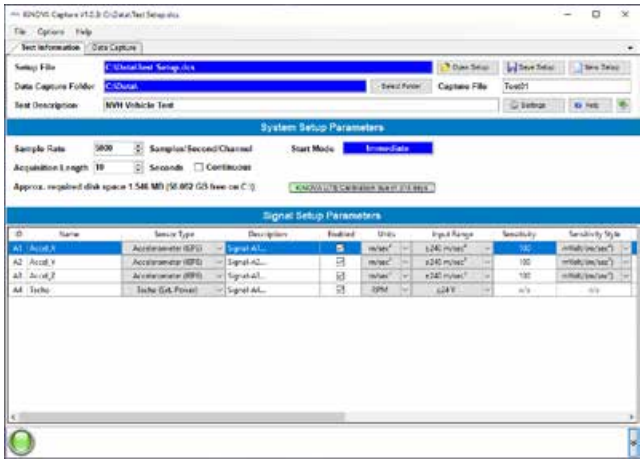
KiNOVA Capture is designed to:
- Setup the channels and triggers
- Visualize measured data live
- Export data

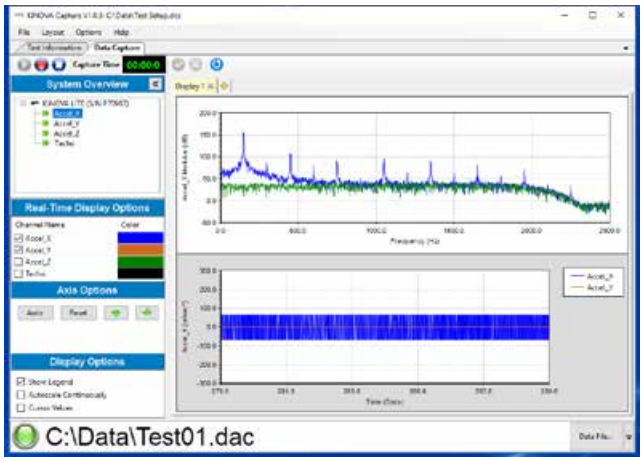
Technical data

KiNOVA Capture features

Channel setup	Signal setup assistant, acquisition control deck, triggers
Graphical display	Time series trace, frequency spectra, digital panel

KiNOVA Capture includes:
- KiNOVA Capture – basic acquisition software
- Installation USB stick
- License dongle





KiNOVA Acquisition/Advanced Acquisition Software
KiNOVA Acquisition is an advanced acquisition software, which provides full flexibility of data capture and live visualization. KiNOVA Acquisition allows setting up the channels of a KiNOVA Lite, making sure that all relevant details, like calibration and trigger information, are included.
KiNOVA Acquisition allows visualizing live data in complete freedom. Multi-window functionalities allow customizing the display with desired quantities: waterfalls, order analysis, speed curves, meters, time-domain, frequency-domain, octave bands, digital panels and much more.

KiNOVA Acquisition is designed to:
- Setup the channels and triggers
- Fully customize data visualization
- Support you with sensor calibration
- Export data

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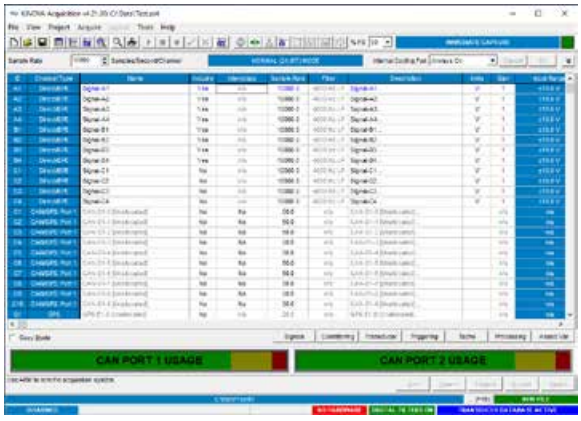
Technical data

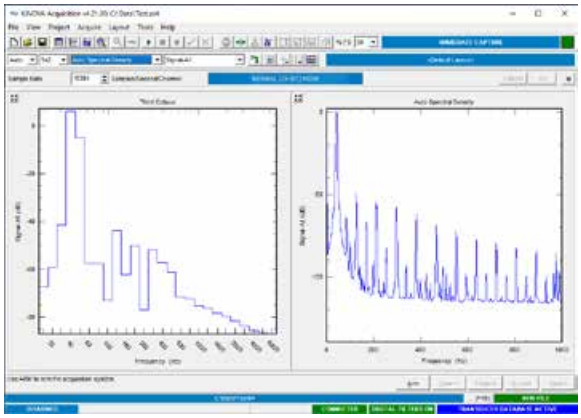
KiNOVA Acquisition features

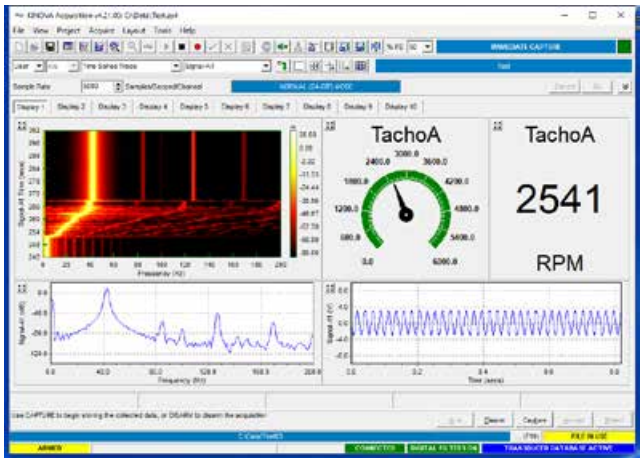
Channel setup	Signal setup assistant, acquisition control deck, Pre- and Post-triggers, Start/Stop trigger on tacho signal, Auto-range
Graphical display (displays can be fully customized)	Time series trace, time series snapshot, time series trend, trend and speed, frequency spectra, Nth octave, RMS meter, sound intensity, cross spectra, signal vs signal, modulus/phase snapshot, transfer function, waterfall, order track, order-based snapshot, speed curve, digital panel, data grid, overrange grid, multi-signal histogram, triggered data capture, review results (optional), record event information
Calibration	Audio, tone, DC, shunt, multi-channel
Additional features and functions	Expression editor and virtual channels, CAN-bus parameter definition and setup, Transducer database, Acquisition scheduler for standalone mode, Replay mode, DAC replay output suite (optional) for signal generation, Remote statistics for monitoring function

KiNOVA Acquisition include:

- KiNOVA Acquisition – advanced acquisition software
- Installation USB stick
- License dongle







Optional packages for NVH:	**Type/Mat. No.**
• KiSUITE Analysis software for NVH	2840A…
• KiNOVA Care Annual product maintenance	
• KiNOVA/KiSUITE training	
• KiNOVA Lite hardware calibration	

Compatible products for NVH	**Type/Mat. No.**
Impact hammers	
IEPE impact hammers	9722A.../9724A...
Single-axis IEPE accelerometers	
• PiezoStar miniature, through hole, high thermal stability	8715A...
• Quartz, general purpose	8702B.../8704B...
Triaxial IEPE accelerometers	
• PiezoStar miniature, high thermal stability	8766A…
• Ceramic, general purpose	8763A...

Ordering key	**Type**
KiNOVA Lite	**5809A10**
KiNOVA Capture	**2840A40**
KiNOVA Acquisition	**2840A50**

For further information and questions on the KiNOVA product line and Kistler sensors, please visit our website or contact us at kinova@kistler.com.

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