



VMSet-11

The VMSet-11 come in a handy case and provide you with everything you need for the measurement of human hand-arm vibration acc. to ISO 5349:2001 and directive 2002/44/EC.

Simultaneous vibration measurement on up to two handles is possible. The complete solution exceeds the normal measurement with small hand-held units:

- The program guides you through the measurement reliably, with clear indications and graphics.
- Measured values as well as an assessment (red /yellow / green) are already indicated during the measurement.

The equipment shown depends on the respective VMSet-11

- Each measurement is automatically transferred to the data storage with time stamp and can be completed with your own remarks.
- A calculation sheet for combining different activities to one person-related daily vibration exposure is integrated.
- The Pro version additionally offers frequency analysis of both, weighted and unweighted vibration signal. Thus, components responsible for the exceedance are detected easily and time for developing improved hand-held machines is reduced considerably.

Equipment	VMSet-11-01	VMSet-11-02
	Measurement on 1 Handle	Measurement on 2 Handles
Hardware		
Sensor for Vibration Measurement	Piezoelectric accelerometer, shear design - Sensitivity: 10 mV/g, - linear frequency range: 0,15 .. 11.000 Hz - Operating temperature: -30 .. 100 °C - i208-5 sensor cable 5m, adaptercable i206-0,5	
	1 x	2 x
USB Box for Digitization	InnoBeamer LX2 - Inputs: 2x analog for vibration sensor(s), 1x digital for photoelectric reflex switch - Signal frequency: 0.1 .. 3200 Hz - Supply current: < 500 mA with supply of all sensors - no mains adapter required - Operating temperature: -20 .. 50 °C, weight: 350 gr. - Accessories: Synchronisation cable and 1m USB cable	
	1 x	2 x
Software licenses		
Globale Option Free Replay	✓	✓
Number of	1 x	2 x
InnoMeter HVM 5349 Pro	✓	✓

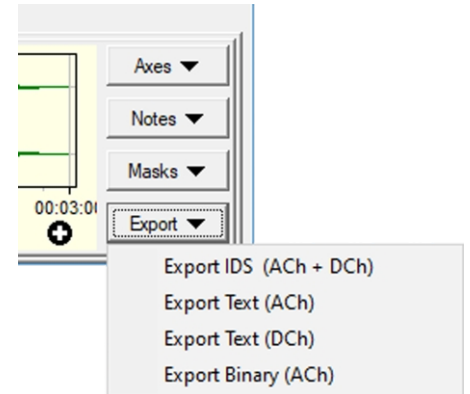
DS VMSet 11

Changes without prior notice • Edition May 2022

Global Options - InnoMaster Replay

IDS2ASC and IDS2BIN - Export functions

If you want to analyze the raw data with your own software, we recommend to use the option IDS2ASC or IDS2BIN. The original InnomicDataStream (IDS) format for the InnoMaster Replay not only contains the raw data, but also many other pieces of information, for instance the wall clock time valid during the measurement, your notes etc. By means of the option IDS2ASC, the InnoMaster Replay extracts the pure measurement data and saves it in ASCII text format. Now the data can be indicated with an arbitrary text editor or it can be further processed with your own software. In contrast, the option IDS2BIN exports the measurement data in binary format, which allows more compact files than in text format.



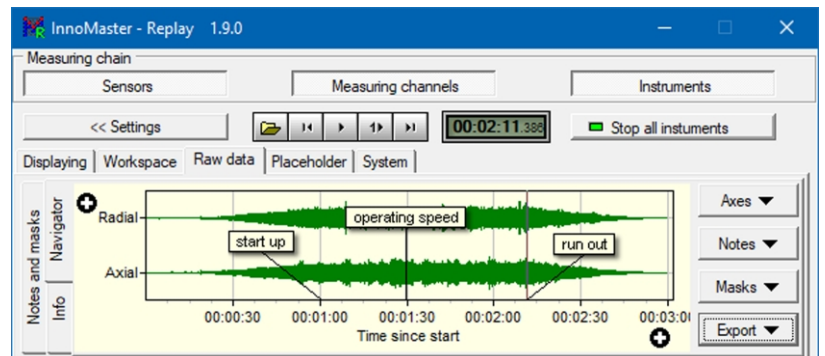
FRep - Free Replay

The complete off-line analysis of the InnoMaster Replay is available for you without extra charge if the same InnoBeamers are connected to the PC at both times, during measurement and off-line analysis. By means of Free Replay, that is not necessary. You can send the files with the raw data, the recipient downloads the free VibroMatrix software and can analyse the raw data. That is how you achieve an excellent team work between the field measurement staff and analysis team in your home company.

Free Replay means: Arbitrarily many persons at arbitrary locations at arbitrary times can replay and analyse the recorded raw data with the InnoMaster Replay.

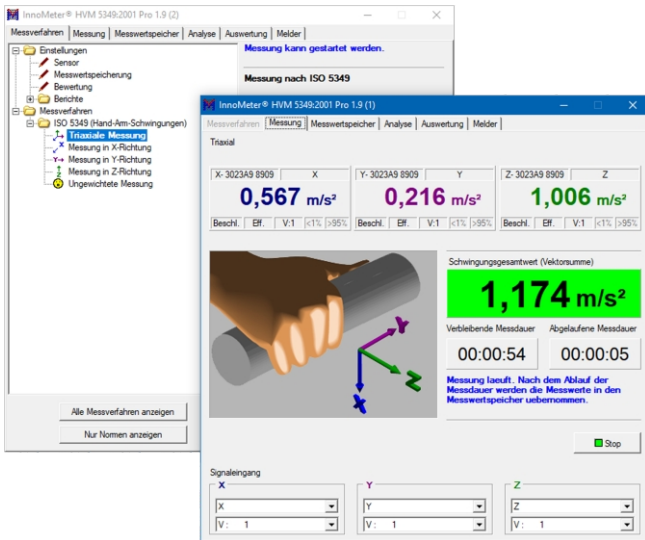
Without the need to invest a single cent for measurement equipment. Thus, you multiply the advantages of VibroMatrix.

For analysis, the instruments which were licensed during data recording are available.

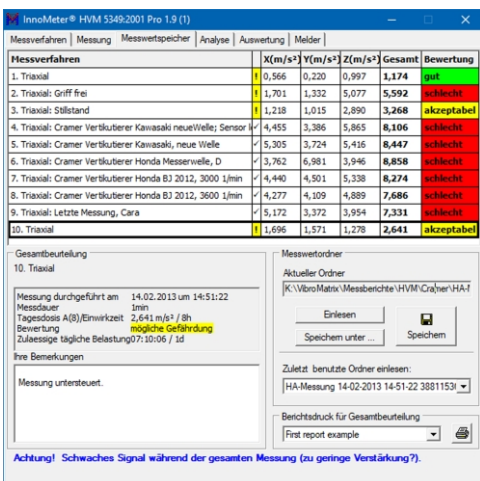


Software Module - InnoMeter 5349 Pro[®] 1.9

Measurements according to EN ISO 5349:2001 and directive 2002/44/EG



Clear selection and implementation of the measurement procedure



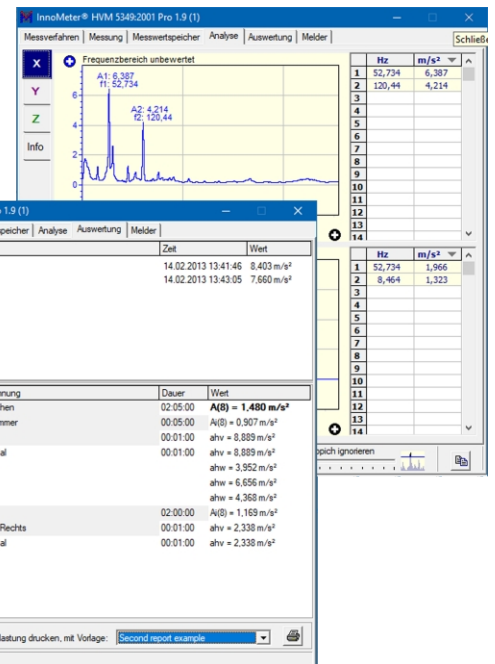
Automatic storage of the measurement data

Application

The InnoMeter 5349 is used to measure hand-arm vibration in accordance with EN ISO 5349:2001 and Directive 2002/44/EC.

If hand-held machines or workpieces transmit strong vibrations to the operator, this can lead to reduced performance or illness. For this reason, various directives prescribe measurement according to EN ISO 5349, which determines the effects on the hand-arm system of humans.

The InnoMeter HVM 5349 is used to carry out these measurements in accordance with standards. To do this, sensors are attached to handles of hand-held work machines. An InnoBeamer data acquisition device records the sensor data and forwards it to the InnoMeter HVM 5349 via the USB interface.



Integrated frequency analysis and daily load calculator

Properties

Compared to simple handheld meters, the InnoMeter HVM 5349 has convenient user guidance. The user is guided in a logical sequence through the selection of the measuring method to the evaluation of his measurement results. A graphic illustration of the standard-compliant axis assignment for the feeding hand facilitates correct multi-axis measurement. In this way, even users who are not involved in HVM measurements on a daily basis can comply with all the details of the standard.

The InnoMeter HVM 5349 also enables all measurement methods listed in the standard, such as measurement in 3 axes simultaneously or measurement in the main vibration axis with evaluation of the other two axes.

In addition to the display and quick evaluation of individual measurements at measurement time, the complete calculation of the daily vibration load is also integrated. Measurement data can be sorted into load sections or assigned to a handle by drag & drop. With the powerful report function, you can generate detailed reports at the push of a button.

The Pro version additionally includes the frequency analysis of both the unevaluated vibration signal and the signal evaluated according to occupational health aspects. In this way, the causative components are quickly found and the causes of vibration are eliminated in a targeted manner.

Technical Data Software Module - InnoMeter HVM 5349:2001®

	InnoMeter HVM 5349:2001 Pro®	InnoMeter HVM 5349:2001®
Signal Processing		
Filter	W _h filter according to the standard or unweighted(for calibration)	
Measurand	Vibration acceleration	
Unit	m/s ²	
Characteristic value	Interval rms value, measurement duration adjustable 1 s .. 1 day	
Graphical Presentation		
Numeric Display	5 digits: 0.001 .. 99999	
Refresh	1.. 4 times per second *	
Status Indicators	Sensor, measuring channel,measurand, parameter, gain, underload, overload	
Data Acquisition, Storage and Presentation		
Measurement Modes	<ul style="list-style-type: none"> - Simultaneous triaxial measurement - Sequentially triaxial measurement with one sensor - Measurement in one axis, weighting of two axes 	
Calculations	<ul style="list-style-type: none"> - Axis weighting in case of using a respective measurement mode - Vibration total value - Daily vibration exposure A(8) 	
Data Storage	<ul style="list-style-type: none"> - Saving up to 100000 measurements - Indication of measurement mode, selected parameters as well as a verbally expressed assessment (good, acceptable, bad) - Integrated calculation and indication of the admissible exposure duration - Indication of detailed data for the marked measurement - For each measurement, remarks can be entered - Save and reload measured values in CSV format - Printing a report about the measurement, individual report examples can be configured 	
Calculation of Daily Vibration Exposure A(8)	<ul style="list-style-type: none"> - Several A(8) calculations possible at the same time - Export of the calculation into text file possible or print as a configurable report - Arbitrarily many exposure segments possible per A(8) calculation - Arbitrary name and duration of the exposure segments - Evaluation acceleration of the exposure segment calculated and indicated automatically - Arbitrarily many measurements can be included for each exposure segment - Consideration of several handles/measuring points possible - Weighting of not measured axes adjustable 	
Vibration Analysis	<ul style="list-style-type: none"> - Separate analysis for each measurement - Analysis already carried out while measuring - Analysis for each measurement is saved - Frequency resolution 1 Hz - Automatic amplitude recognition - Zooming and scaling 	-
Event Annunciators		
Display	Display of total vibration value as well as evaluation of single measurement in traffic light colors	
Radio Switch	Binary signaling of single measurement's evaluation (good/bad)	
Digital Output	Binary signaling of single measurement's evaluation (good/bad)	
E-Mail	Transfer of total vibration value as well as evaluation of single measurement	
Miscellaneous		
Available in a Kit	VMSet-11	
General Functions	module is cloneable	

* Centrally managed in InnoMaster