



Vibration Analyzer VM100

Introduction



Key Features

- 9 (VM100A) or 3 (VM100B) IEPE inputs
- 24 Bit ADC
- 0.2 to 24 000 Hz
- Tacho/RPM input
- 7" touchscreen





Battery

- rechargeable via USB-C
- 10 to 14 hours of operation

Data Interface

- USB-C
- FAT file system
- CSV/BMP/WAV files





Data Formats on SD card

All measurements are stored as CSV files for easy transfer into other software and report generation

AMPLITUDE/TIME										
Instr.:	VM100A	Ser.:	123456							
Comment:	TEST 2									
NFC Id:										
Sensor 1X:		Ser.:	170345	Sensit.:	10.313	mV/m/s ²				
Sensor 1Y:		Ser.:	170345	Sensit.:	10.354	mV/m/s ²				
Sensor 1Z:		Ser.:	170345	Sensit.:	10.879	mV/m/s ²				
Sensor 2X:		Ser.:	181653	Sensit.:	100.45	mV/m/s ²				
Sensor 2Y:		Ser.:	181653	Sensit.:	100.35	mV/m/s ²				
Sensor 2Z:		Ser.:	181653	Sensit.:	100.18	mV/m/s ²				
Sensor 3X:		Ser.:	173871	Sensit.:	10.313	mV/m/s ²				
Sensor 3Y:		Ser.:	173871	Sensit.:	10.354	mV/m/s ²				
Sensor 3Z:		Ser.:	173871	Sensit.:	10.879	mV/m/s ²				
Date:	20.01.2022		Temp.:	22	°C					
Sensor:	1X	1Y	1Z	2X	2Y	2Z	3X	3Y	3Z	RPM
HP (Hz):	5	5	1000	5	5	5	5	5	5	
LP (Hz):	1000	1000	4000	4000	4000	4000	4000	4000	4000	
Mode:	RMS	RMS	RMS	RMS	RMS	RMS	RMS	RMS	RMS	
Unit:	m/s ²	m/s ²	m/s ²	m/s ²	m/s ²	m/s ²	mm/s	mm/s	mm/s	rpm
11:36:38	0.962	0.963	0.600	1.275	1.275	1.216	1.016	0.936	0.924	0
11:36:39	0.963	0.923	0.601	1.275	1.187	1.216	1.009	0.936	0.924	0
11:36:40	0.777	0.726	0.578	1.103	1.043	1.061	1.025	0.921	0.928	0
11:36:41	0.775	0.733	0.575	1.103	1.040	1.062	1.029	0.930	0.940	0
11:36:42	0.779	0.730	0.575	1.088	1.048	1.049	1.018	0.921	0.939	0
11:36:43	0.769	0.735	0.580	1.100	1.035	1.062	1.013	0.921	0.933	0
11:36:44	0.770	0.735	0.578	1.097	1.048	1.062	1.019	0.925	0.937	0




Data Formats on SD card





Screenshots and diagrams can be saved in BMP format

Save Measurements ✕

Enter file name (optional) or keep default name with date & time
SD:/AMP-TIME/

Enter comment (optional, max. 40 chars.):

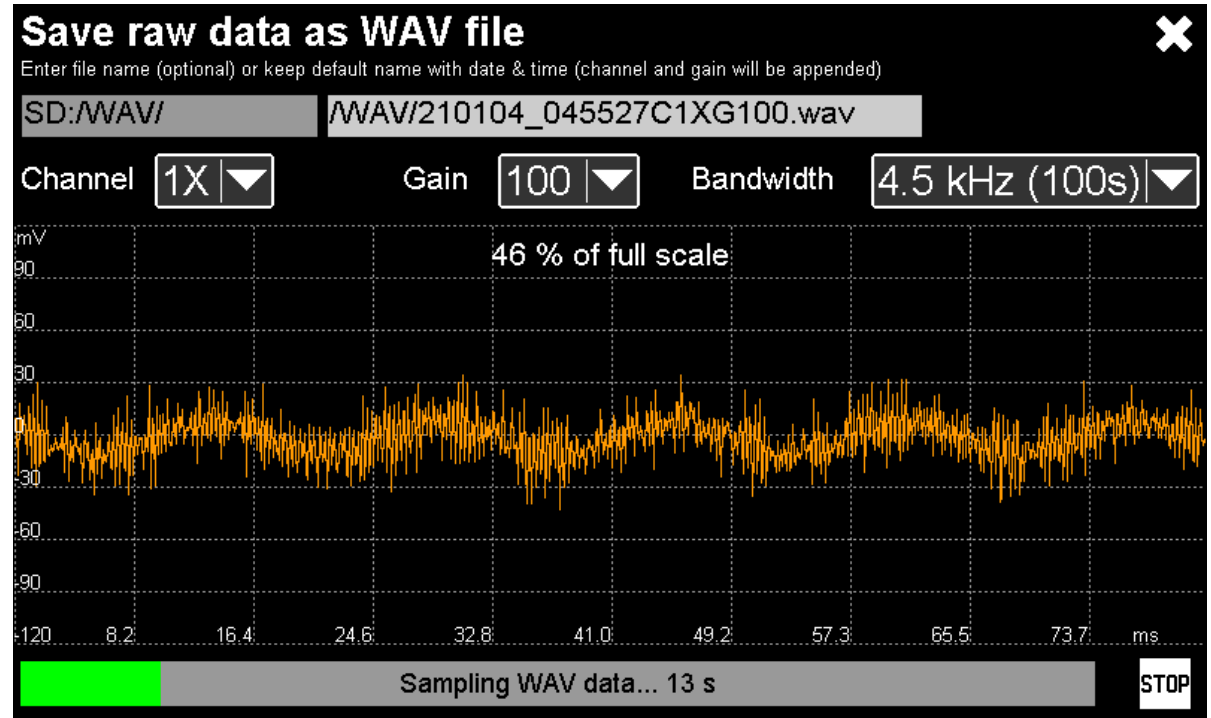


-  Save BMP screenshot
-  Save / log CSV data table
-  Save raw data as WAV file
-  View saved measurements



Data Formats on SD card

The VM100 supports raw data recording in WAVE format





Sensors

- All IEPE sensors, including accelerometers, force and pressure transducers, microphones
- TEDS sensor detection

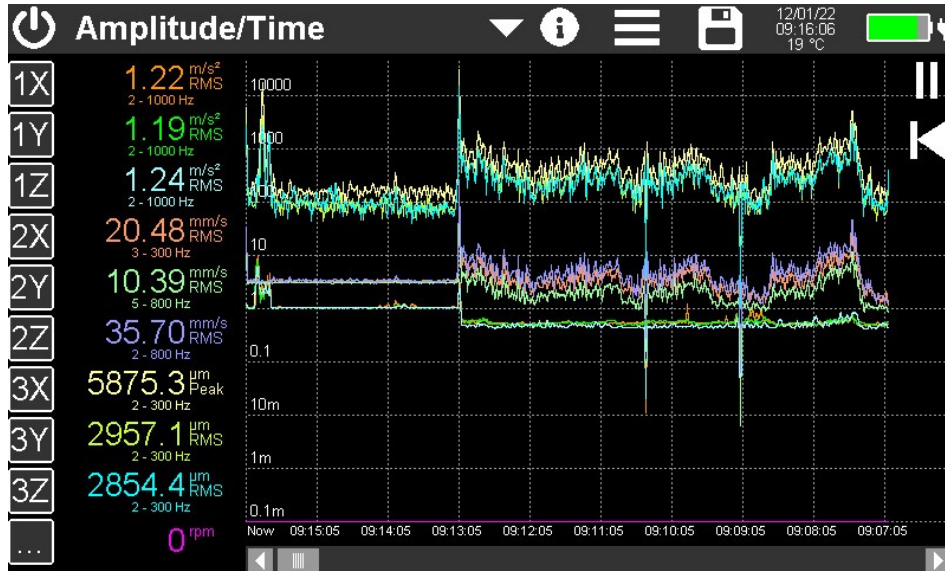
Sensors			
1X	1.0313	mV/m/s ² (TEDS)	KS903B10 #20014
1Y	1.0354	mV/m/s ² (TEDS)	KS903B10 #20014
1Z	1.0879	mV/m/s ² (TEDS)	KS903B10 #20014
2X	<input type="text" value="1.0000"/>	<input type="text" value="mV/m/s<sup>2</sup>"/>	<input type="text"/>
2Y	<input type="text" value="1.0000"/>	<input type="text" value="mV/m/s<sup>2</sup>"/>	<input type="text"/>
2Z	<input type="text" value="1.0000"/>	<input type="text" value="mV/m/s<sup>2</sup>"/>	<input type="text"/>
3X	<input type="text" value="1.0313"/>	<input type="text" value="mV/m/s<sup>2</sup>"/>	<input type="text"/>
3Y	<input type="text" value="1.0354"/>	<input type="text" value="mV/m/s<sup>2</sup>"/>	<input type="text"/>
3Z	<input type="text" value="1.0879"/>	<input type="text" value="mV/m/s<sup>2</sup>"/>	<input type="text"/>

7 8 9
4 5 6
1 2 3
0 . Del
10.23 ✓



Function Module 1

Measurement, plot and recording of RMS, peak etc.



Settings for Display Channel 1

Sensor	1X	Integration	none
Mode	RMS	High pass	2 Hz
Gain	Auto	Low pass	1000 Hz

Gain is set equally for all channels using the same sensor

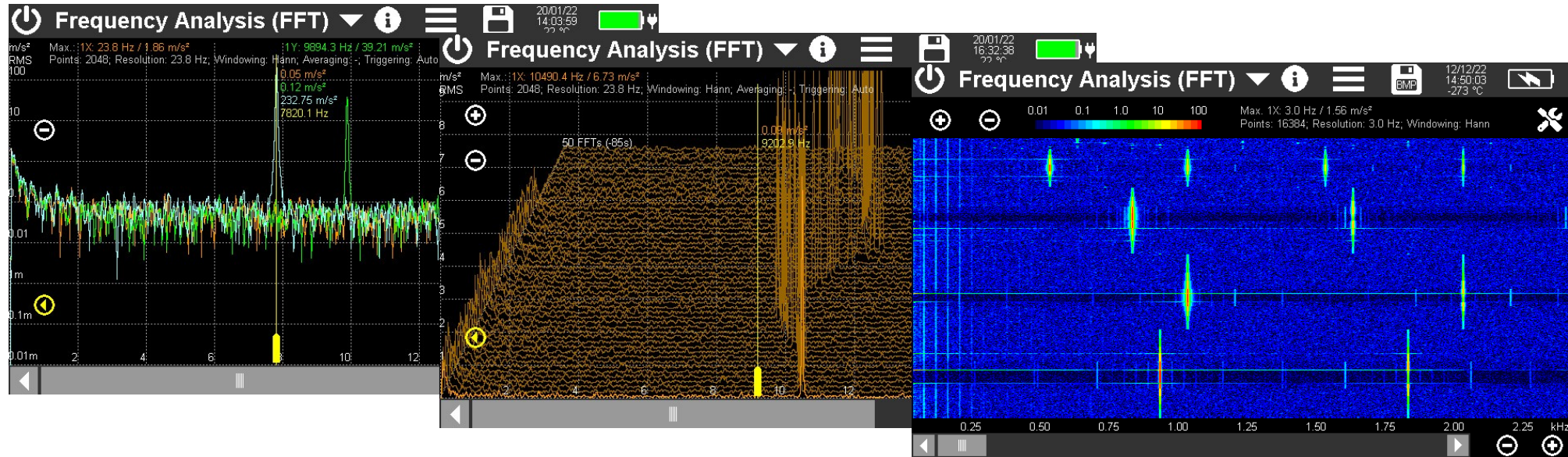
High pass frequency \leq 1/3 low pass frequency
With low pass $>$ 4 kHz only 3 channels, no integration

Plot



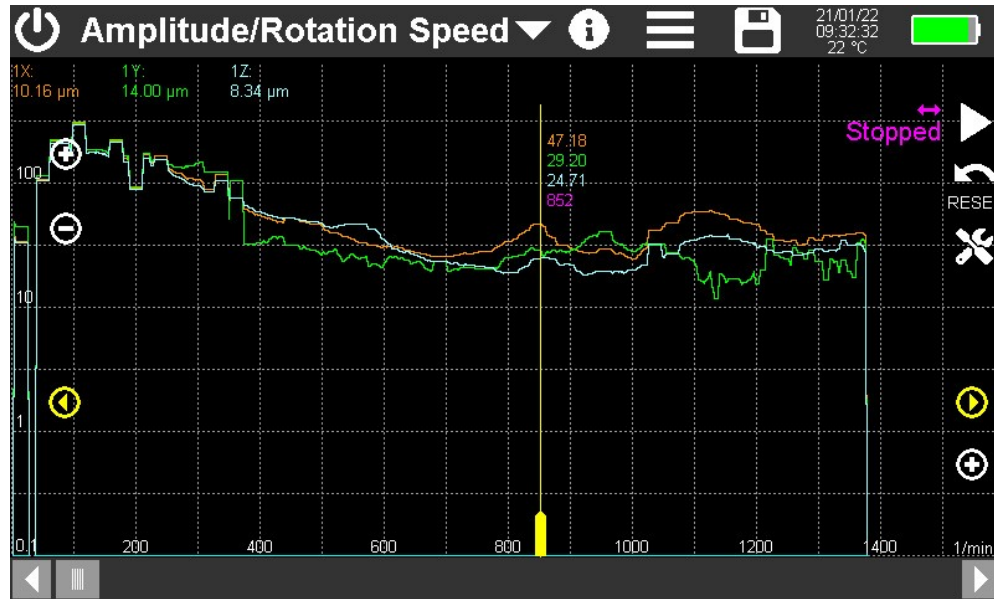
Function Module 2

Frequency analysis (FFT) with 1 to 3 channels, waterfall and spectrogram mode



Function Module 3

Amplitude / rotation speed of 1 to 9 channels





Function Module 4 (optional)

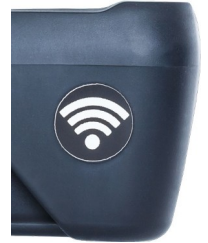
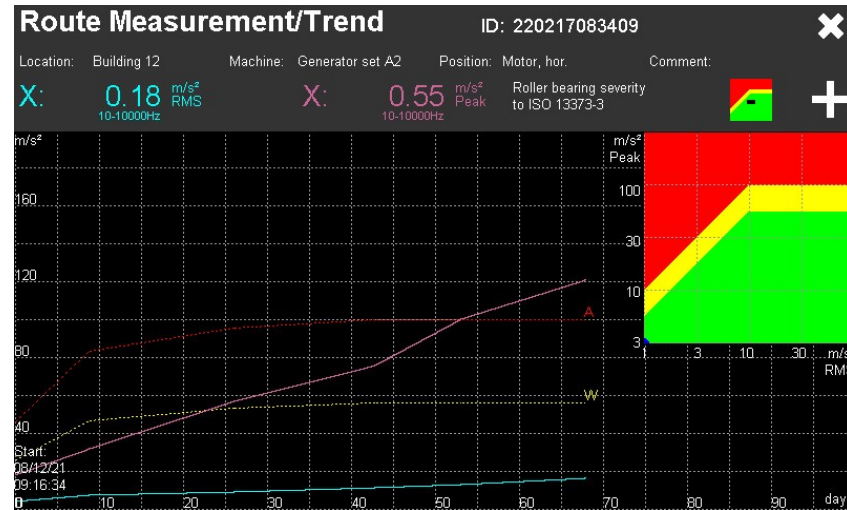
Machine vibration monitoring, route based measurement
Integrated support for relevant ISO standards

Machine Vibration

16/02/22
14:59:35
23 °C

Intu. Ch. days no.	Mode	Inte-gration	High pass	Low pass	Warning limit	Alarm limit	ID	Date of last meas
30 1	RMS	single	2 Hz	1000 Hz	4.5	7.1	220215134005	15/02/22
30 1	RMS	single	10 Hz	1000 Hz	6.0	8.0	040855D2DF6481	16/01/22
30 1	RMS	single	10 Hz	1000 Hz	8.0	12.0	044E3BD2DF6480	28/12/21
30 1	RMS	single	10 Hz	1000 Hz	7.0	10.0	04D125D2DF6480	10/11/21

Measurement route file: hall2.csv (4 points) Please select a route point or scan an RFID tag

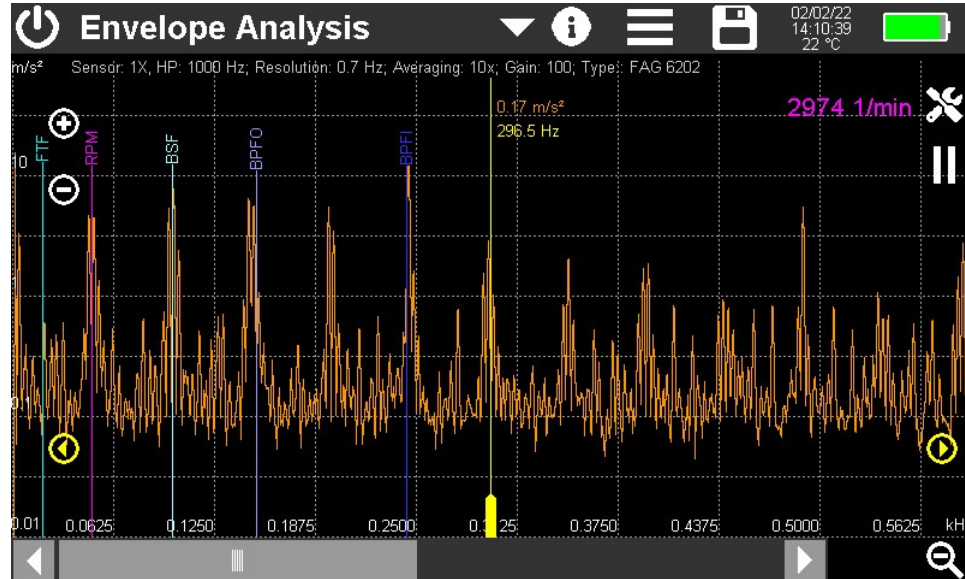


NFC Measuring point identification



Function Module 5 (optional)

Envelope Analysis for roller bearing diagnosis



Envelope Analysis Settings

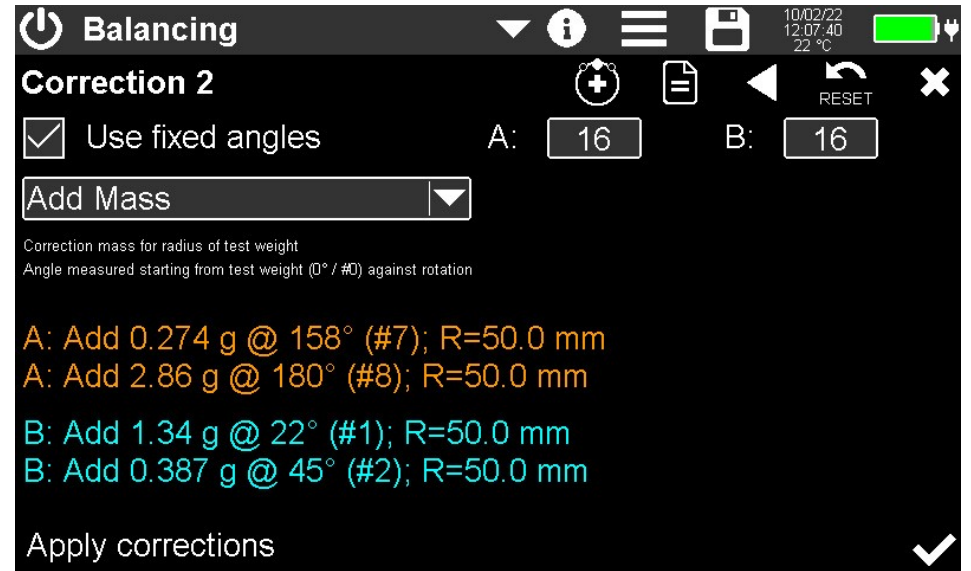
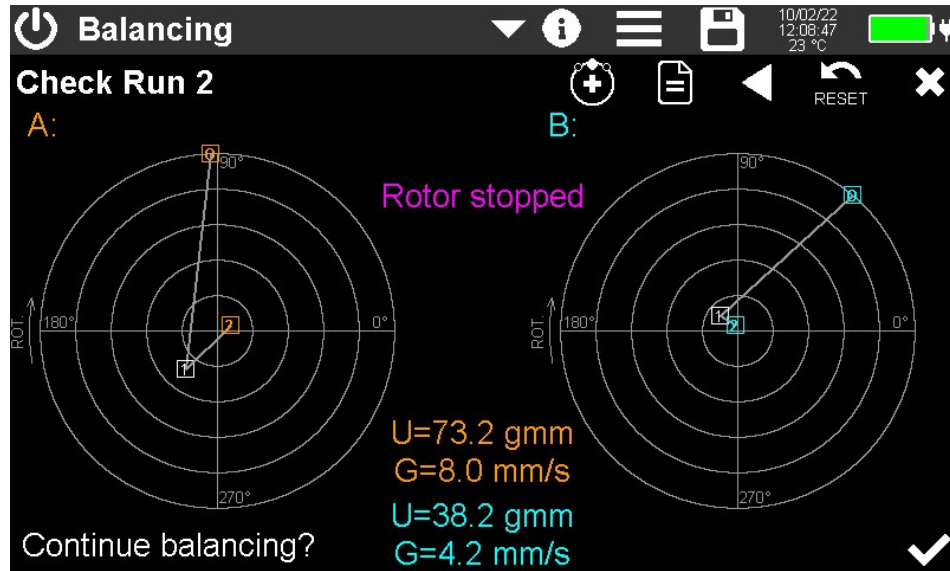
Sensor	1X	RPM sensor	<input checked="" type="checkbox"/>
High pass (Hz)	1000	RPM input (1/min)	<input type="text"/>
Gain	100	Bearing marker frequencies	
Averaging	10x	Type:	FAG 6202
		BPFI (inner race)	4.94
		BPFO (outer race)	3.06
		FTF (cage)	0.38
		BSF (rolling elements)	2.00

Touch frequencies to switch markers on/off.



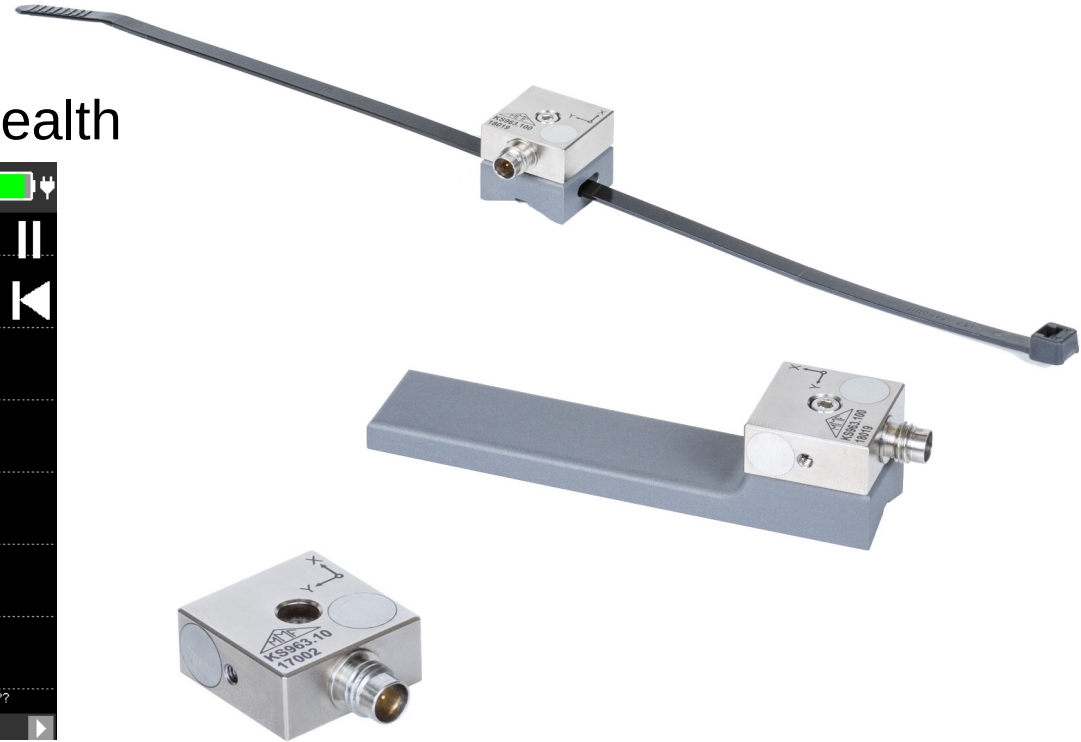
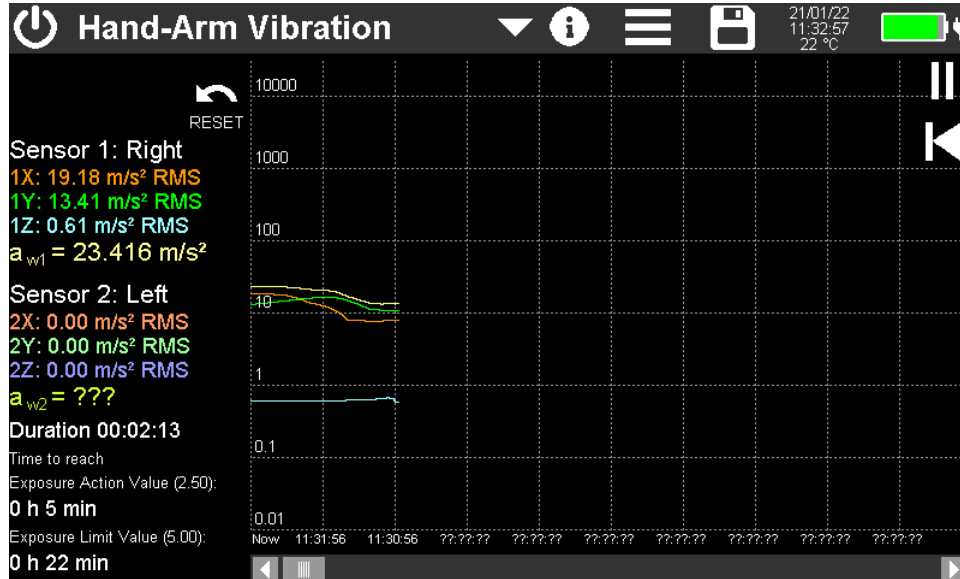
Function Module 6 (optional)

Rotor balancing in one or two planes



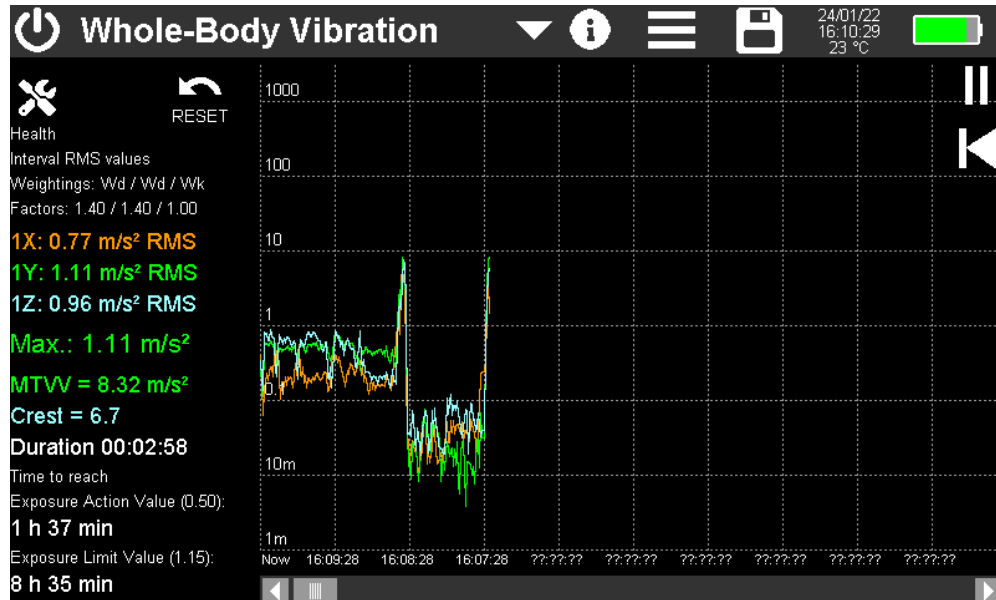
Function Module 7 (optional)

Hand-Arm Vibration, Occupational Health



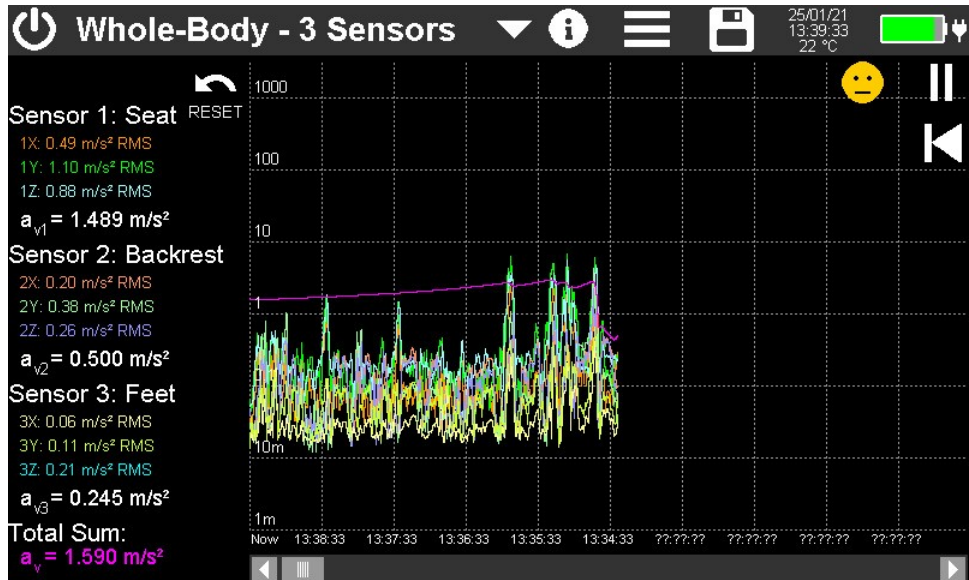
Function Module 8 (optional)

Whole-Body Vibration, Occupational Health and Comfort



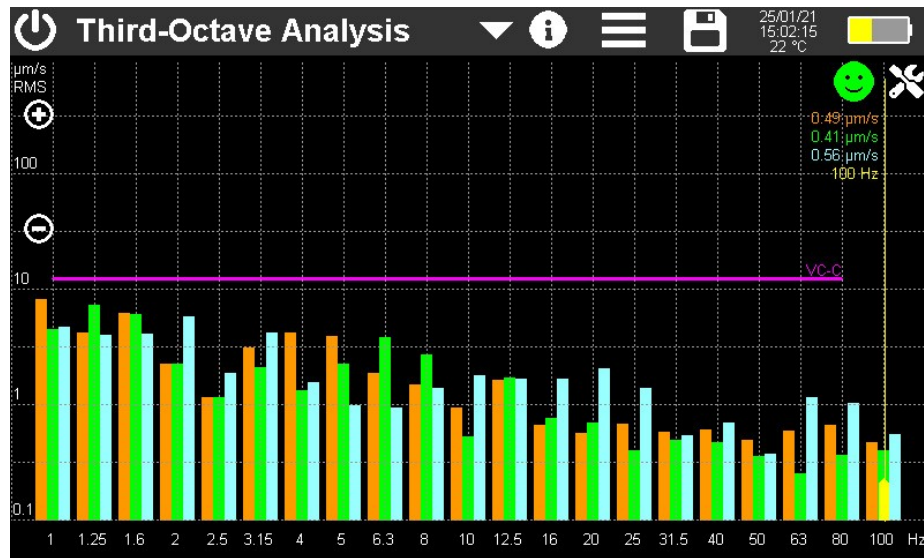
Function Module 9 (optional)

Whole-Body Vibration with 3 sensors, automotive ride comfort (GB/T 4970-2009)



Function Module 10 (optional)

Third-octave analysis, very sensitive measurements, VC and Nano criteria



Coming soon: Frequency Response Function (FRF)
For modal analysis

