

Data sheet

Portable 4 channel analyzer VE 200



Description

The portable analyzer VE 200 is the newest type of handheld devices on vibration diagnostics market. It comes with a large touchscreen to analyze data on site. It's possible to measure more measurement types synchronously. The design offers 4 signal and 1 separate tacho (speed) trigger input. The second channel has connectivity to a triaxial sensor, therefore all 3 (4) channels can be measured simultaneously.

The VE 200 is designed for professional operation with a weight of 2kg and a battery life of more than 8 hours of operation, the unit is suitable for long route measurements. The expert system can automatically detect machine faults such as unbalance, looseness, misalignment and bearing faults.

The VE 200 instrument is configured with following modules:

- Analyzer
- ADS – Operating deflection shapes
- Advanced Balancer up to 8 planes
- Balancer
- Bump test
- Data collector
- Expert system Diagnostic
- Octave analyzer
- Stethoscope
- Tracking
- Ultrasound
- Time signal recorder
- Camera
- IR camera (optional)
- Gallery

Technical Data:

General

Processor:	Atom 1.9 GHz
RAM:	2 GB
Display:	LCD color 191 x 134 mm (9.1" diagonal), 1125x800 resolution
Data Memory:	16 GB (Flash); 64GB (internal SSD)
Interface:	USB 2.0, 3.0 compatible
Powering:	Li-Ion battery pack (more than 8 hours of measurement)
Operating temperature:	-10 °C - +50 °C, 15°F-120°F
Case:	industrial aluminium
Dimensions:	280 x 205 x 55 mm,
Weight:	2000g
EMC:	CE tested
Languages:	English, German, French, Spanish, Polish, Portuguese, Russian, Chinese (simple)
Built-in camera:	5MPx, auto focus

Optional

Thermal imaging camera:	384x288 pixel, -10°C~250°C temp. range, 50mK NETD sensitivity
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Inputs

Dynamic Channels (AC)

Number of synchronous parallel channels (AC):	4 AC
Frequency range (-3dB):	0.35 - max 90000 Hz (196kHz Hz sampling frequency)
Input range:	+/- 12V (only one range, no gain)
Measurement timing:	fully synchronous
A/D Resolution:	24 bit input, 64 bit double floating point (no gain procedures used!)
Dynamic range:	120 dB
Channel configuration:	voltage or ICP (individually every channel)
Input protection:	up to 30 V
Input impedance:	100 kOhm
Input type:	Acceleration, velocity, displacement, any non-vibration AC voltage
Integration:	single or double fully digital integration
2D Processing:	axis rotation according sensor mounting
Accuracy:	< 0.5 %
ICP / CCS drive:	18 V, 3.8 mA
User HP filtering:	0.35Hz - 12800 Hz
User LP filtering:	25Hz - 90000 Hz
Connector:	robust Push-Pull system

Tacho / Speed Channel

Number:	1 independent tacho input
Speed range:	0.01Hz - 1000Hz (more possible)
Input impedance:	80 kOhm
Input type:	voltage
Input range:	+ 10V (only one range, no gain) or +/-30 V (tacho signal + DC) with optional tacho signal converter
Accuracy:	<0.5 %
Trigger level:	0.1 V - 9.9 V, user defined
Input protection:	up to 48 V
Connector:	robust Push-Pull system

Static Channels (DC or 4-20mA)

Number:	4 DC or 4-20mA (has to be specified in order)
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Input range: +/- 24 V or 4-20mA
 Input impedance: 100kOhm (V-DC), 250Ohm (4-20mA-DC)
 A/D Resolution: 12bit input
 Accuracy: 0.1% fsd
 Input protection: up to 30 V

Measurement Functions

Data Analysis Speed: 0.1 sec for 25600 lines FFT spectrum
 Amplitude Units: Metric, Imperial (English) or EU
 Frequency Units: Hz, CPS, RPM, CPM, Orders

Amplitude scale: Acceleration, Velocity, Displacement, User defined

Scaling: Linear or Log, both X and Y axes
 Cursor: Single, Harmonics, Sidebands

Triggering: free run, tacho, amplitude (positive or negative), external (voltage)
 Signal Range: full, No Auto ranging

Data acquisition: true rms, true peak, true peak-peak, overall or band values, user defined high, low and band pass filters for band measurement
 time waveforms (8 388 608 samples max)
 real-time FFT
 3D graphs (waterfall, cascade)
 order analysis
 Amplitude + phase values on speed frequency
 speed measurement
 process static DC or 4-20mA values
 Envelope demodulation
 ACMT procedure for low speed machines bearings
Time waveform samples: 256 – 8 388 608
Waveform (ACMT) length: max 131072 sec (36h)
Spectrum ranges: 25 Hz – 90 000 Hz
Spectrum lines: 100 – 3 276 800
Spectrum units: RMS, P and P-P
Windows: Hanning, Rectangular, Exponential, Transient
Order analysis parameters: 1/2 - 10th order
Averaging: 1-255
Overlap: yes
 Smax, Gap and Centerline displays for proximity sensors

Recording

Sampling frequency: user defined in range 64Hz - 196 kHz
 Record length example: 3 GB for 1 hour record with 64kHz sampling (4ch AC+4ch DC+1ch tacho signal / 100GB memory enables over 30 hours of full 64kHz recording, lower sampling frequency enables much longer record)

Balancing

Planes: 1 or 2
 Speed range: 0,5 Hz - 1000 Hz
 Balancing Advisor for automatic fault detection: yes
 Balancing Quality factor according ISO1940: yes
 Balancing vector graph for balancing process reporting: yes

Balancing Report:	yes
Trim function:	yes
Vector split (for example to blades positions):	yes
Manual entry:	yes
Intuitive graphic user interface:	yes
Trial weight:	get out or leave in

SAFEGUARDS AND PRECAUTIONS:

Read and follow all instructions in the manual portable analyzer VE 200 carefully and retain this sheet for future reference.



Do not use this instrument in any manner inconsistent with these operating instructions or under any conditions that exceed the environmental specifications stated. This instrument is not user serviceable. For technical assistance, contact the sales organization from which you purchased the product.



In order to comply with EU Directive 2012/19/EU on Waste Electrical and Electronic Equipment (WEEE):

This product may contain material which could be hazardous to human health and the environment. DO NOT DISPOSE of this product as unsorted municipal waste. This product needs to be RECYCLED in accordance with local regulations, contact your local authorities for more information. This product can be returned to your dealer for recycling - contact the dealer for more information.

CE compliant. RoHS compliant. Meets the safety requirements of EN 55022, CISPR 22, EN 55011 EN 61000-6-1

This product is not waterproof.

This product is not user serviceable.
Please contact VIBROEngineering for technical support!



Engineering office for vibration technology, consulting and advanced training

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