



Application

- Machine condition monitoring to ISO 20816-
- General vibration measurement in laboratory and industry
- Quality control

Properties

- Measurement of the RMS of vibration velocity or severity
- Precision shear type accelerometer with magnetic base
- Automatic detection of measuring points via the sensor base with electronic VMID measuring points
- Graphical trend display
- Memory for 16000 measurements
- USB interface
- PC software for measuring point management to MIMOSA convention (ISO 13373-1) and measuring data archiving
- Simple operation - no training required
- Brilliant, power-saving colored OLED display
- Economic AAA batteries or accumulators
- Pocket-sized

Manfred Weber

Metra Mess- und Frequenztechnik in Radebeul e.K.



Technical Data

Measurement functions

Measurands	Vibration velocity/severity	
Overall values	True RMS value	
Measuring range velocity	0.1 to 1000	mm/s
Accuracy	±5 (±2 digits)	%
ADC resolution	24	Bit
Vibration trend	Graphical history of the saved vibration values	
Lower frequency limit velocity	10	Hz
Indication	OLED; RGB; 128 x 160 pixels	

Connectors

Input channels	1	
Input signals	Low power IEPE	
Input connector	Socket Binder 711; 3 pins	
IEPE constant current	1.9 to 2.9	mA
Digital interfaces	USB 2.0 FS; CGC mode; ASCII command set; Binder 712; 8 poles	

Power Supply

Battery	3 x LR03 / HR03 / AAA	
Battery operating time	8 to 12	h
External supply voltage	USB; 5	VDC

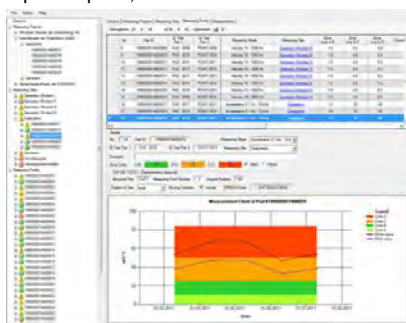
Case Data

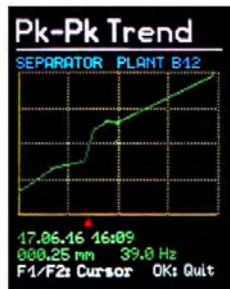
Dimensions without connectors	125 x 65 x 27 (H x W x D)	mm
Case material	ABS	
Weight	140 (without sensor)	g
Operating temperature range	-20 to 60 (95 % rel. humidity without condensation)	

Scope of delivery Accelerometer KS82L with spiral cable
 USB cable
 VMID measuring point sample
 Carrying case

Optional accessories VMID measuring points
 sensor probe VM2x-T
 PC software VM2x Measurement Data Base

Notice Upon request, we offer an accredited calibration to DIN EN ISO/IEC 17025:2018.





Application

- Measurements at oscillating conveyors, vibrating screens and separators
- Machine condition monitoring to ISO 20816-
- General vibration measurement in laboratory and industry
- Quality control

Properties

- Measurement of vibration amplitude or displacement
- Measurement of main frequency
- Measurement of vibration velocity or severity
- Peak-to-peak or RMS
- Automatic detection of measuring points via the sensor base with electronic VMID measuring points
- Precision shear type accelerometer with magnetic base
- Memory for 16000 measurements
- USB interface
- Brilliant, power-saving colored OLED display
- Economic AAA batteries or accumulators
- Pocket-sized

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Technical Data

Measurement functions

Measurands	Vibration velocity/severity	
	Vibration displacement	
Overall values	True RMS value	
	True pak-to-peak value	
Measuring range velocity	0.1 to 1000	mm/s
Measuring range displacement	0.01 to 60000	µm
Accuracy	±5 (±2 digits)	%
ADC resolution	24	Bit
Vibration trend	Graphical history of the saved vibration values	
Lower frequency limit velocity	2	Hz
Upper frequency limit velocity	100; 1000	Hz
Upper frequency limit displacement	60; 200; 300; 1000	Hz
Frequency analysis	FFT	
	512 points	
	For main frequency detection	
	No spectral display	
Indication	OLED; RGB; 128 x 160 pixels	

Connectors

Input channels	1	
Input signals	Low power IEPE	
Input connector	Socket Binder 711; 3 pins	
IEPE constant current	1.9 to 2.9	mA
Digital interfaces	USB 2.0 FS; CGC mode; ASCII command set; Binder 712; 8 poles	

Power Supply

Battery	3 x LR03 / HR03 / AAA	
Battery operating time	8 to 12	h
External supply voltage	5 (USB)	VDC

Case Data

Dimensions without connectors	125 x 65 x 27 (H x W x D)	mm
Case material	ABS	
Weight	140 (without sensor)	g
Operating temperature range	-20 to 60 (95 % rel. humidity without condensation)	°C

Scope of delivery Accelerometer KS82L with spiral cable
 USB cable
 VMID measuring point sample
 Carrying case

Optional accessories sensor probe VM2x-T
 VMID measuring points

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Application

- Machine condition monitoring to ISO 20816-
- General vibration measurement in laboratory and industry
- Quality control

Properties

- Measurement of vibration acceleration, velocity and displacement
- True RMS, peak value and crest factor
- Precision shear type accelerometer with magnetic base
- Automatic detection of measuring points via the sensor base with electronic VMID measuring points
- Graphical trend display
- Memory for 16000 measurements
- USB interface
- PC software for measuring point management to MIMOSA convention (ISO 13373-1) and measuring data archiving
- Brilliant, power-saving colored OLED display
- Economic AAA batteries or accumulators
- Pocket-sized

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Technical Data

Measurement functions

Measurands	Vibration acceleration	
	Vibration velocity/severity	
	Vibration displacement	
Overall values	True RMS value	
	True pak value	
Measuring range acceleration	0.1 to 240	m/s ²
Measuring range velocity	0.1 to 1000	mm/s
Measuring range displacement	0.01 to 60000	µm
Accuracy	±5 (±2 digits)	%
ADC resolution	24	Bit
Vibration trend	Graphical history of the saved vibration values	
Lower frequency limit acceleration	0,1; 0,2; 3; 1000	Hz
Lower frequency limit velocity	2; 10	Hz
Upper frequency limit acceleration	1000; 10000	Hz
Upper frequency limit velocity	1000	Hz
Upper frequency limit displacement	200	Hz
Indication	OLED; RGB; 128 x 160 pixels	

Connectors

Input channels	1	
Input signals	Low power IEPE	
Input connector	Socket Binder 711; 3 pins	
IEPE constant current	1.9 to 2.9	mA
Digital interfaces	USB 2.0 FS; CGC mode; ASCII command set; Binder 712; 8 poles	

Power Supply

Battery	3 x LR03 / HR03 / AAA	
Battery operating time	8 to 12	h
External supply voltage	5 (USB)	VDC

Case Data

Dimensions without connectors	125 x 65 x 27 (H x W x D)	mm
Case material	ABS	
Weight	140 (without sensor)	g
Operating temperature range	-20 to 60 (95 % rel. humidity without condensation)	°C

Scope of delivery

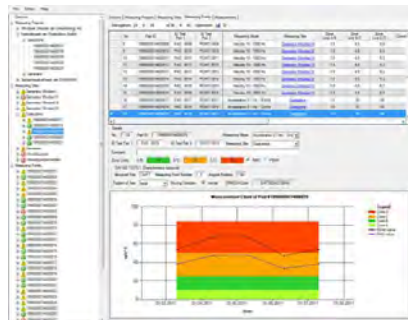
Accelerometer KS82L with spiral cable
 USB cable
 VMID measuring point sample
 Carrying case

Optional accessories

VMID measuring points
 sensor probe VM2x-T
 PC software VM2x Measurement Data Base

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Application

- Machine condition monitoring to ISO 20816-
- Roller bearing monitoring to VDI 3832 etc.
- General vibration measurement in laboratory and industry
- Quality control
- Optical rotation speed measurement
- Non-contact temperature measurement

Properties

- Measurement of vibration acceleration, velocity and displacement
- True RMS, peak value and crest factor
- Precision shear type accelerometer with magnetic base
- Automatic detection of measuring points via the sensor base with electronic VMID measuring points
- Graphical trend display
- Spectral analysis (FFT) for acceleration and velocity
- Built-in infrared thermometer
- Built-in non-contact optical rpm sensor with laser pointer
- Memory for 16000 measurements
- USB interface
- PC software for measuring point management to MIMOSA convention (ISO 13373-1) and measuring data archiving
- Headphone output
- Brilliant, power-saving colored OLED display
- Economic AAA batteries or accumulators
- Pocket-sized

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Technical Data

Measurement functions

Measurands	Vibration acceleration	
	Vibration velocity/severity	
	Vibration displacement	
Overall values	True RMS value	
	True pak value	
	Crest factor	
	K(t) Bearing Diagnosis Coefficient	
Measuring range acceleration	0.1 to 240	m/s ²
Measuring range velocity	0.1 to 1000	mm/s
Measuring range displacement	0.01 to 60000	µm
Rotary speed measurement	Optical; built in	
RPM range	1 to 9999	min-1
Accuracy	±5 (±2 digits)	%
ADC resolution	24	Bit
Vibration trend	Graphical history of the saved vibration values	
Bearing Diagnosis Coefficient K(t)	1 - 10 kHz; with memory for 1600 rms/peak start values	
Lower frequency limit acceleration	0,1; 0,2; 3; 1000	Hz
Lower frequency limit velocity	2; 10	Hz
Upper frequency limit acceleration	1000; 10000	Hz
Upper frequency limit velocity	1000	Hz
Upper frequency limit displacement	200	Hz
Frequency analysis	FFT; 125 points; acceleration or velocity	
	10 frequency ranges from 11.5 to 11712 Hz	
Indication	OLED; RGB; 128 x 160 pixels	

Connectors

Input channels	1	
Input signals	Low power IEPE	
Input connector	Socket Binder 711; 3 pins	
IEPE constant current	1.9 to 2.9	mA
Output connector	Head phone output; Binder 712; 8 pins; with 3.5 mm audio adapter	
Digital interfaces	USB 2.0 FS; CGC mode; ASCII command set; Binder 712; 8 poles	

Power Supply

Battery	3 x LR03 / HR03 / AAA	
Battery operating time	8 to 12	h
External supply voltage	5 (USB)	VDC

Case Data

Dimensions without connectors	125 x 65 x 27 (H x W x D)	mm
Case material	ABS	
Weight	140 (without sensor)	g
Operating temperature range	-20 to 60 (95 % rel. humidity without condensation)	°C

Scope of delivery

Accelerometer KS82L with spiral cable
USB cable
VMID measuring point sample
Carrying case
Headphone adapter

Optional accessories

VMID measuring points
sensor probe VM2x-T
PC software VM2x Measurement Data Base

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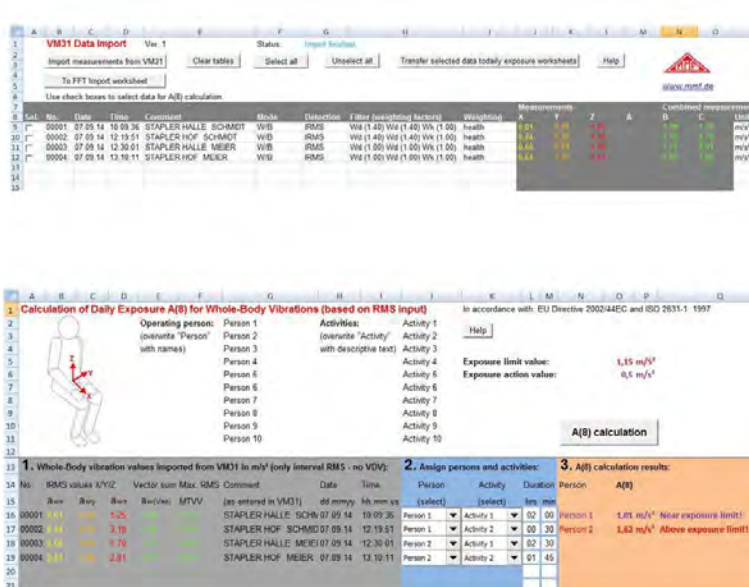
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Four Channel Human and Universal Vibration Meter

VM31



Application

- Versatile tool for vibration measurement during product development and for health and safety at the workplace to EU guideline
- Measurement of hand-transmitted vibration
- Measurement of whole-body vibration
- SEAT measurement at driver seats
- Vibrations on passenger and merchant ships
- Condition monitoring of rotating machinery in three axes
- Vibration measurement in vehicles
- Supported standards: ISO 8041; ISO 2631; ISO 5349; ISO 10326; ISO 20816; ISO 20238-5; ISO 28927; ISO/TR 18570; 2002/44/EC

Properties

- Four independent measuring channels
- Weighting filters to ISO 8041 Wh for hand-arm vibration and Wb, Wc, Wd, Wj, Wk, Wm for whole-body vibration
- Interval and running RMS, maximum RMS (MTVV), vibration dose value (VDV), vector sum, peak and maximum peak
- Measurement of vibration acceleration, velocity and displacement
- FFT of acceleration with 125 lines
- TEDS sensor detection
- Memory for 10000 measurements and 1000 FFTs with date and comment
- USB interface
- Excel macro included for data transfer and calculation of daily exposure A(8)
- Clear user guidance with colored OLED
- Very compact design
- 10 hours operation with 3 Micro (AAA) batteries
- Available as hand-arm kit and whole-body kit including suitable sensors and accessories

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Technical Data

Measurands and Ranges

Vibration measurands	Vibration acceleration	
	Vibration velocity/severity	
	Vibration displacement	
Overall values	True RMS value	
	Maximum transient vibration value MTVV	
	Interval RMS value; unlimited averaging time	
	Vector sum of X, Y, Z	
	Vibration dose value VDV	
	True pak value	
	Maximum peak value	
Measuring range acceleration	0.01 to 600 (Transducer sensitivity 10 mV/ms-2)	m/s ²
	0.1 to 6000 (Transducer sensitivity 1 mV/ms-2)	m/s ²
Measuring range velocity	0.01 to 5000 (Transducer sensitivity 10 mV/ms-2)	mm/s
Measuring range displacement	0.1 to 7500 (Transducer sensitivity 10 mV/ms-2)	µm
Linear amplitude range	>75 (±6 % error)	dB
ADC resolution	24	Bit
Noise	<0.003 m/s ²	
Lower frequency limit acceleration	0.2; 1	Hz
Lower frequency limit velocity	1; 2; 10	Hz
Lower frequency limit displacement	5	Hz
Upper frequency limit acceleration	1000; 1500	Hz
Upper frequency limit velocity	100; 1000	Hz
Upper frequency limit displacement	250	Hz
Weighting filters	Wb; Wc; Wd; Wh; Wj; Wk; Wm; unweighted	
Frequency analysis	FFT; 125 points for X/Y/Z	
	Acceleration spectrum	
	3 to 240; 6 to 480; 12 to 960; 24 to 1920 Hz	
Indicators	OLED; RGB; 128 x 160 pixels	

Connectors

Input channels	4	
Input signals	IEPE	
Input connector	Socket Binder 711; 4 poles; channel 4: Socket Binder 711; 8 poles	
IEPE constant current	0.7 to 1	mA
TEDS support	IEEE 1451.4; template 25	
Digital interfaces	USB 2.0 FS; CGC mode; ASCII command set; Binder 712; 8 poles	

Power Supply

Battery	3 x LR03 / HR03 / AAA	
Battery operating time	10 to 14	h
External supply voltage	5 (USB)	VDC

Case Data

Dimensions without connectors	125 x 65 x 27 (H x W x D)	mm
Case material	ABS	
Weight	140 (without sensor)	g
Operating temperature range	-20 to 60 (95 % rel. humidity without condensation)	°C

Scope of delivery

Carrying case ; USB cable
 VM31-HA: VM31; KS963B10; 091-CMR-B711-3; 141B; 143B; 027
 VM31-WB: VM31; KS963B100-S; 027
 VM31-HAWB: VM31; KS963B10; 091-CMR-B711-3; 141B; 143B; 027; KS963B100-S

Notice

For data import and calculation of vibration exposure A(8) and VDV(8) an Excel macro file is provided

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