



Application

- Condition monitoring of rotating machinery, like motors, pumps, compressors, turbines or gearboxes
- Route-based measurements at machines
- Roller bearing diagnosis
- Balancing
- Measurement of hand-transmitted and whole-body vibration; Ride comfort evaluation
- Run up/coast down analysis; resonance finding
- Vibrations on passenger and merchant ships
- Vibration measurement at very sensitive equipment (VC/Nano)

Properties

- Large screen with touch operation for clear user guidance
- 3 independent sensor channels
- Measurement of vibration acceleration, velocity and displacement
- Amplitude over rotation speed graphs
- Frequency analysis (FFT) with waterfall mode; Envelope analysis
- Weighting filters for hand-arm vibration and whole-body vibration
- RMS (1 s and infinite); vibration dose value (VDV); vector sum; peak; maximum peak
- TEDS sensor detection; Measurement point identification with RFID tags
- Tachometer input for RPM measurement
- Measurements saved on μ SD card, PC connection via USB
- 3-channel time history plot of up to 10 hours
- Raw-signal recording as WAV file

Technical Data

Measurands and Ranges

Vibration measurands	Vibration acceleration	
	Vibration velocity	
	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	0.0000001 to 10000 (sensor dependent)	m/s ²
Accuracy	±1 (> 5 % of full scale; mid-band)	%
ADC resolution	24	Bit
Lower frequency limit acceleration	0.4 to 5000 (34 high pass filters)	Hz
Upper frequency limit acceleration	10 to 24000 (38 low pass filters)	Hz
Weighting filters	Wb; Wc; Wd; Wh; Wj; Wk; Wm; unweighted	
Frequency analysis	FFT; 1 to 22000 Hz; 3 channels	
	1024 to 65536 points	
	0.1 to 48 Hz resolution	
	Windowing: Rechteck, Hann, Hamming, Flattop	
	Triggering: auto; tacho; level	
	Waterfall mode: 50 spectra; 1 channel	
Envelope analysis	Frequency markers für fault frequencies; bearing list	
Measuring point identification	NFC reading interface for tags of types A, B, F and V	
Measurement data storage	Micro SD card; removable; FAT file system, via USB	
File types	CSV for measurement data, BMP for screen shots; WAV for raw signals	

Connectors

Input signals	IEPE	
Input connector	Socket Binder 711; 4 poles	
IEPE constant current	3.5 to 4.5	mA
TEDS support	IEEE 1451.4; templates 25, 27, 28	
Digital interfaces	USB 3.0 HS; MSC; type C	

Case Data

Dimensions without connectors	215 x 150 x 50 (W x H x D)	mm
Case material	ABS	
Weight	1300	g
Protection grade	IP65	
Operating temperature range	-20 to 60 (95 % rel. humidity without condensation)	°C

Scope of delivery USB cable and charger

Optional accessories VM100-RPM: License for amplitude-rotation speed measurement
VM100-MAC: License for machine vibration and measurement route management
VM100-ENV: License for envelope analysis for roller bearing diagnosis
VM100-BAL: License for balancing in one or two planes
VM100-VC: License for third-octave analysis; VC and Nano criteria
VM100-HA: License for hand-arm vibration measurement
VM100-WB1: License for whole-body vibration measurement

Notice The modules VM100-AMP (amplitude-time plotter) and VM100-FFT are included.

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