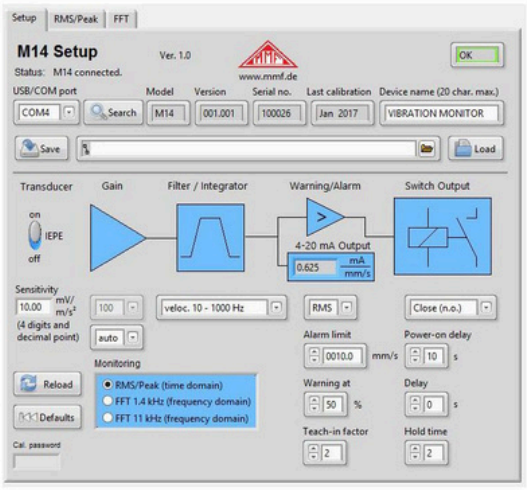
M14

Système de surveillance vibratoire avec alarmes intégrées



Application

- Vibration monitoring in time or frequency domain
- Monitoring of vibration velocity (severity) of rotating machinery to ISO 20816-1
- Vibration monitoring of reciprocating engines to ISO 10816-6
- Monitoring of pumps, compressors, centrifuges, ventilators, mills, and mixers
- Monitoring of bearing vibration with frequency analysis
- PLC connection via RS-485 with MODBUS-RTU
- Emergency shut-off or alarm tripping in case of increasing vibration
- Production quality control

Properties

- Extremely flexible
- Setup and measurement via RS-485 bus at rear and front side USB interface with free PC setup program
- Monitoring of vibration acceleration or velocity
- Programmable high pass and low pass frequencies
- 500 lines FFT with 10 free adjustable alarm bands for frequency selective monitoring
- 2 Relay outputs with adjustable threshold for warning and alarm
- Teach-in function sets the warning / alarm limits automatically based on the current vibration level / spectrum
- Insulated current loop output (4 .. 20 mA) for RMS or peak
- AC output for signal analyzers, recorders or scopes
- LED bar graph display for vibration signal and threshold
- Snap attachment on 35 mm DIN rails including connection of power supply and RS-485 via DIN rail connectors

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Technical Data

Measurement functions

Measurands		
Overall values	Vibration acceleration; velocity	
Measuring range acceleration	True RMS value; pak value	
	1 to 1000 (Transducer sensitivity 10 mV/ms-2)	m/s²
	10 to 10000 (Transducer sensitivity 1 mV/ms-2)	m/s²
Measuring range velocity	1 bis 1000 (Transducer sensitivity 10 mV/ms-2)	mm/s
Voltage gain	1; 10; 100; autoranging	
Input of transducer sensitivity	8 to 120 mV/g; interface	
Accuracy	±1 (> 10 % of full scale; mid-band)	%
ADC resolution	24	Bit
Lower frequency limit acceleration	0.3; 5; 10; 20; 50; 100; 200; 500; 1000	Hz
Lower frequency limit velocity	2; 5; 10	Hz
Upper frequency limit acceleration	100; 200; 500; 1000; 2000; 5000; 11500	Hz
Upper frequency limit velocity	1000	Hz
Frequency analysis	FFT	
	500 points	
	5 to 1400 Hz; 50 to 11000 Hz	
	Spectral monitoring with limit line of 10 free frequency bands	
	LED bar graph for level and alarm; 10 steps	
Indication	LEDs for sensor and overload	

Connectors

Input channels	1	
Input signals	IEPE	
	AC voltage	
Input connector	Spring terminals	
IEPEconstant current	3.5 to 4.5	mA
Output connector	4 – 20 mA RMS or peak; insulated; spring terminlas	
	±3 V raw signal; gain · 0,4; unfiltered; spring terminals	
Relay output	PhotoMOS relay; 60 VAC; 0.5 A; spring terminals	
Relay trip value	Alarm: 0.1 to 9999 m/s² or mm/s; warning: 10 to 90 % of alarm	
Relay trip delay	0 to 99; via interface	s
Relay hold time	1 to 9; via interface	s
Digital interfaces	USB 2.0 FS; CDC mode; ASCII command set; Mini; front	
	RS-485; 57600 baud; ASCII command set; bus terminals; rear	
	MODBUS RTU via RS-485	

Power Supply

External supply voltage	12 to 28	VDC
External supply current	<100	mA
Supply connection	Spring terminals	
	Bus terminals; rear	

Case Data

Dimensionswithout connectors	13 x 100 x 114 (W x H x D)	mm
Case material	ABS	
Weight	90	g
Operating temperature range	-40 to 60 (95 % rel. humidity without condensation)	°C

Scope of delivery M14-BUS3: Bus connector for power supply and RS-485 connection via DIN rail bus

Optional accessories DIN rail power supply 100 to 240 VAC; 24 VDC/1.3 A for 10 M14 DIN rail power supply 100 to 240 VAC; 24 VDC/2.5 A for 32 M14 M14-BUS1: Bus terminal for power supply and RS-485 M14-BUS2: RS-485 bus termination connector