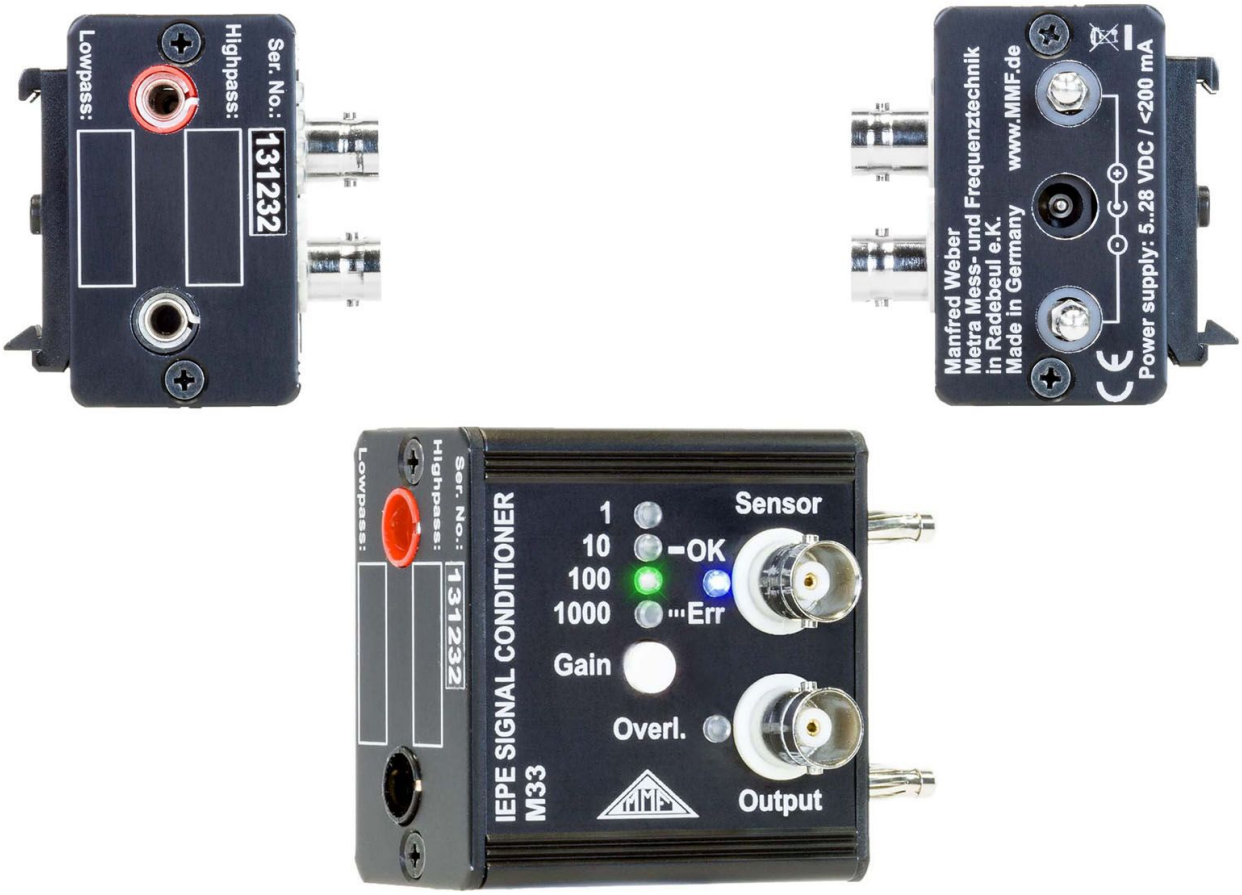
IEPE Signal Conditioner

M33



Application

- Signal conditioning for dynamic measurements with IEPE transducers for acceleration, force, pressure or IEPE microphones
- Multichannel systems
- Suitable for industry, laboratory and field due to compact design and wide supply voltage range
- Amplification and anti aliasing filtering for applications in data acquisition systems
- High pass filtering and single or double integration for vibration velocity or displacement

Properties

- Modular system
- Two plugs in the sidewall provide mechanical and power supply connection to the neighboring unit
- Mounting adapter for 35 mm DIN rails optionally available
- Rugged and compact aluminum case
- Sensor status LED indicates three conditions: OK, cable break and shorted sensor cable
- Four gain ranges: 1; 10; 100; 1000; selectable with push button
- Replaceable high pass and low pass filter or single / double integrator plug-in modules
- Powered by DC voltage via circular DIN 45323 connector or two 4 mm banana sockets at the sidewall
- Wide supply voltage range, also from USB voltage
- Insulation between signal ground and power supply voltage avoids grounding problems
- Flexible and economic

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Technical Data

Measurands and Ranges		
Vibration measurands	Vibration acceleration	
	Vibration velocity/severity; with FBV integrator module	
	Vibration displacement; with FBD integrator module	
Measuring range acceleration	0.00001 to 5 (Transducer sensitivity 1000 mV/ms-2)	m/s²
	0.001 to 500 (Transducer sensitivity 10 mV/ms-2)	m/s²
	0.1 to 50000 (Transducer sensitivity 0.1 mV/ms-2)	m/s²
Voltage gain	1; 10; 100; 1000	
Gain selection	Push button	
Accuracy	±0.5 (Gain = 0.1/1/10/100; > 10 % full scale; mid-band)	%
Output noise	<0.01 (0.2 to 30000 Hz; G = 1)	mVRMS
	<0.1 (0.2 to 30000 Hz; G = 10)	mVRMS
	<0.3 (0.2 to 30000 Hz; G = 100)	mVRMS
	<3 (0.2 to 30000 Hz; G = 1000)	mVRMS
Lower frequency limit acceleration	0.2 to 1000 (with FB3 high pass module)	Hz
Lower frequency limit velocity	3 (with FBV integrator module)	Hz
Lower frequency limit displacement	5 (with FBD integrator module)	Hz
Upper frequency limit acceleration	100 to 30000 (with FB2 low pass module)	Hz
Upper frequency limit velocity	1000 (with FBV integrator module)	Hz
Upper frequency limit displacement	200 (with FBD integrator module)	Hz
Indicators	IEPE LED: OK; cable break; short circuit	
	4 gain LEDs	
	LED for overload	

Connectors		
Input channels	1	
Input signals	IEPE	
Input connector	BNC front	
IEPEconstant current	3.5 to 4.5	mA
Output connector	BNC front	

Power Supply		
External supply voltage	5 to 28	VDC
External supply current	<200	mA
	4 mm banana plug for inter-module connection; side	

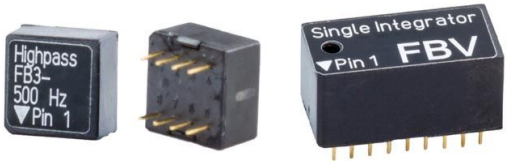
Case Data		
Dimensions without connectors	54 x 55 x 45 (W x H x D)	mm
Case material	Aluminum, hard anodized	
Weight	130	g
Operating temperature range	-40 to 55 (95 % rel. humidity without condensation)	°C

Optional accessories

PS1600 Mains plug adapter for up to 5 M33; 115/230 VAC; 12 VDD; <1600 mA
DIN rail adapter M29/33DIN
FB2-xx low pass module (required)
FB3-xx high pass module (optional)
FBV single integrator module
FBD double integrator module

Notice

The single or double integrator modules FBV or FBD can be plugged in instead of high pass and low pass filters.



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