VIBdaq 2.1 - Dual channel data acquisition module with configurable gain

VIBdaq 2.1 is a double channel data acquisition module for signal processing in IEPE standard. Device's inputs can be also configured as AC or DC inputs. The selected input type is indicated by an appropriate diode on the panel, and can be switched using proper buttons. The device is fully powered from USB port. The small size and weight make the device very convenient to use.

VIBdaq 2.1 has configurable gain (1,10,100) for each channel that is indicated on the panel by diodes, and is easily adjustable using buttons on the panel. The device has also signal overload indicator for both channels.

The module is designed for mechanical components condition analysis based on collected vibration time signals.

Features:

- Possibility to work with two ICP sensors
- Ability to switch the input type to DC or AC
- Configurable gain (1,10,100) for each channel that is indicated on the panel by diodes (gain can be adjusted by using buttons)
- Indication of signal overload – for both channels
- The module is fully powered from USB port
- Does not require external drivers for the system
- In the operating system the device is seen as a sound card (it allows to use the module in a variety of applications)

Key parameters

Number of input channels	2
Input channels connectors	BNC
Input signal type	DC, AC, ICP®
ICP®	24 VDC, 2.4 mA
Input voltage range	±10 V
Gain	x1, x10, x100
Input impedance	AC: 220 kΩ DC: 220 kΩ ICP®: 110kΩ
THD	typically: -88 dB max: -70dB (at F =48 kHz, input signal: 1 kHz sinusoid)
SNR	92 dB
Crosstalk	1 kHz sinusoid: 10 kHz sinusoid: 20 kHz sinusoid : < - 86 dB
A/C converter	multi bit Delta - Sigma 16 bit (optionally 24 bit)
Sampling frequency	44.1 kHz, 48 kHz (16 bit, 24 bit) 96 kHz (only for 16 bit)
Anti-aliasing filter	digital decimation
Anti-aliasing filter gain	0-0.39 F: ± 0.1 dB 0.55-0.63 F: 75 dB 0.1425 F: 0.25 dB 0.45 F: 3 dB 0.5 F: 17.5 dB
Communication interface	USB
Power supply	USB port
Power consumption	approx. 300 mA
Dimensions	60 x 100 x 30 mm
Weight	250 g
Operational temperature	0°C - 70°C