

## VIBRA-series: VIBRA<sup>+</sup>



### The VIBRA<sup>+</sup>, the smartest vibration monitor in the world

Pile driving, construction, road or rail traffic, demolition work and blasting can create vibration nuisance or cause damage to buildings and sensitive equipment. These vibrations are instantly measured, saved and displayed with a system of the Profound VIBRA-series. Combine a sensitive 3D sensor with a compact unit, include high-performance processing, and the result will be unmatched performance in monitoring vibrations.

### Advanced

During each time interval the VIBRA measures, directly displays and records both the maximum vibration levels and the vibration frequencies in x-, y- and z-direction. In addition every hour a full measuring signal of the highest peak value(s) is recorded. The VIBRA's digital signal processing guarantees measurements of a high quality and accuracy.

The VIBRA<sup>+</sup> has several special features, including integrated 4G/GPRS internet options, PC Trace Recorder, displacement measurements and automatic level- and calibration checks.

### Monitoring according to standards



With Profound's VIBRA<sup>+</sup> vibrations are measured reliably in accordance with national and international standards, such as DIN 4150-2 and -3, BS 5228-2, BS 7385-2, SBR, SS 460 48 66/61, AS 2187.2 and is according to DIN 45669-1:2010.

The VIBRA<sup>+</sup> also determines the dominant frequency in accordance with the advanced FFT-method. The

measuring values for vibrations in buildings as well as for the effects on persons are shown simultaneously on the display.

### Compact system for long-term monitoring

- Easy portable
- IP65 watertight robust housing
- Magnetic USB-connector
- Rechargeable integrated Li-ion battery (universal charging via USB connector or fast charging via dedicated charging port)
- Integrated 4G modem with multiple fall back options
- Optimum signal receipt by state-of-art antenna geometry
- Easy accessible SIM-card holder

### Efficient operation

Performing a measurement is straightforward: attach the 3-dimensional geophone to the structure to be monitored, program the system and start measuring. While measuring, all relevant information appears on the VIBRA's display, such as time, time interval and the vibration peak values including frequency in all 3 directions. You can also immediately check the overall maximum values.

An alarm level can be set for velocity or acceleration. An external wireless alarm beacon can be used to warn on-site. The VIBRA<sup>+</sup> model also features a displacement and a smart frequency-dependent velocity alarm and can send alerts via SMS or e-mail.

### Real-time monitoring and analysis

The VIBRA<sup>+</sup> can be set up for wireless automatic data transfer via the integrated GPRS/4G modem to your PC. Data can also be continuously uploaded to any FTP server for real-time online monitoring. As an alternative Profound offers a turnkey online monitoring service via [www.vibramonitoring.eu](http://www.vibramonitoring.eu).

The VIBRA can be connected to your PC via USB for data retrieval, even while measuring. With the PC software supplied together with the system, data are directly presented in graphs for detailed reporting. You also simply export data to a csv-file. With the PC Remote Control software it is possible to log in remotely to your VIBRA system.

Over 25 years Profound has been the leading supplier of vibration measurement equipment. With a Profound VIBRA system you have a unique and reliable instrument to measure vibration continuously and accurately.



### FOR FURTHER INFORMATION

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## Technical specifications VIBRA<sup>+</sup>

Velocity (PPV), frequency and acceleration (PPA)	: In x, y, z-direction per time interval
Displacement	: In x, y, z-direction per time interval
Frequency accuracy	: According to DIN 45669-1:2010-09
Frequency characteristic	: Lower limit: 1 Hz Upper limit I: 80 Hz Upper limit II: 315 Hz
Dominant frequency determination	: FFT and Zero Crossing Method
Velocity range	: 0 – 100 mm/s (depending on geophone model)
Data measurement and processing	: According to DIN 4150-2 According to DIN 4150-3
KB <sub>pl</sub> and KBF <sub>max</sub>	: In x-, y-, z-direction according to DIN 4150-2
Extensive technical specifications available at our website	

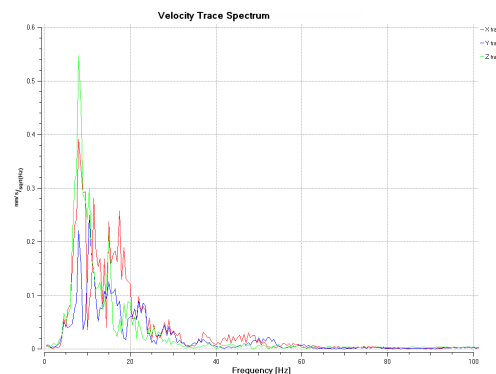
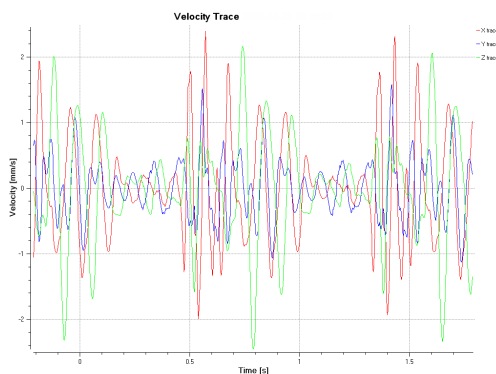
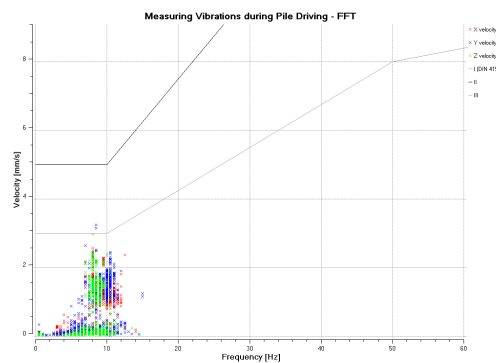
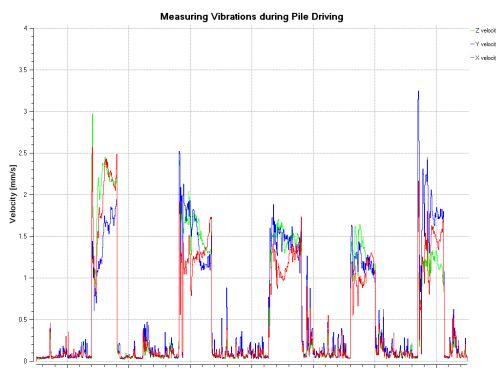
Available accessories (among other things):



Wireless alarm beacon



DIN geophone mounting plate



With the VIBRA PC software the measurement data are shown directly in accordance with DIN guidelines. The above graphs show the measured peak values against time, the peak values against frequency (in accordance with FFT method) and the continuous measurement signal (trace) with the accompanying spectrum.

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