

# VIBRAS-7003 Vibration Monitoring Systems



WALESCHELECTRONIC

◆ Printed Overview ◆ Building site

vibras.net Simple - Connectable

Building site  
All Locations  
23.Nov.2015

Map

Lead Peak (Static) | Lead Peak (Dynamic) (Sort by Location)

Sensor 1 - Events at 23 Nov 2015

Event ID	Trigger Time	Maximal V Speed	Dominant Frequency Examination	State (Visibility)
00418927	23.Nov.2015 21:55:54	0.02 mm/s	16 Hz	Unchecked (Private)
00418928	23.Nov.2015 21:58:33	0.01 mm/s	12 Hz	Unchecked (Private)
00418929	23.Nov.2015 22:28:55	0.02 mm/s	29 Hz	Unchecked (Private)
00418930	23.Nov.2015 23:02:31	0.4 mm/s	11 Hz	Unchecked (Private)

Current Position (0) 1269,009184

Gifts Top

VIBRAS® are vibration measurement systems manufactured by WALESCH Electronic GmbH of Switzerland. These systems operate on a principle using microcomputers and are built according to the standard DIN 45669, DIN4150-2.

The VIBRAS-7003 is the latest, compact and modular system with which all manner of man-made vibrations can be measured, (such as from blasting, pile driving, dynamic compaction, machinery, traffic, etc.)

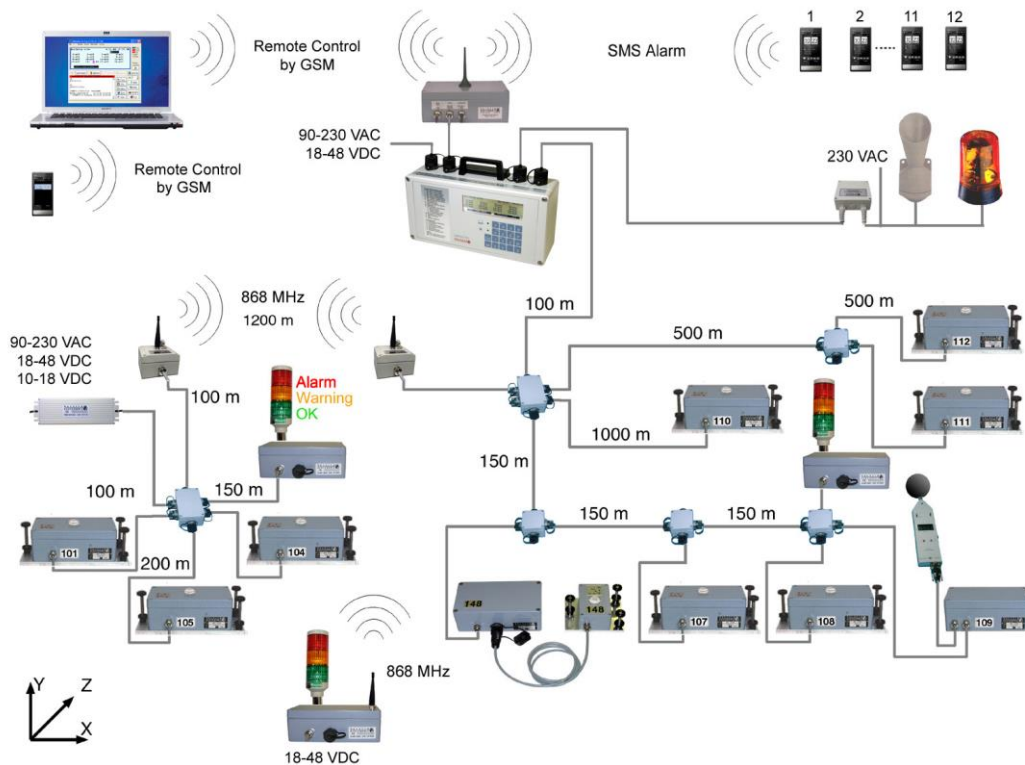
The system consists of the evaluation instrument and the sensors, which can be either analogue or digital. Up to 16 digital sensors may be connected to a single evaluation instrument. The system enables therefore simultaneous measurement of vibration at up to 16 independent locations, each in three orthogonal directions, i.e. 48 channels.

Due to the digital transmission of data it is possible to have the sensors located at considerable distances from the evaluation instrument, (e.g. a single digital sensor can be located at a distance of up to 1500 meters using a standard cable).

However, if the cables cannot be accommodated, a wireless version of the system that works on the radio signal principle is also available. Measurement can then be taken at locations situated of up to approximately 1.2 km away from the evaluation instrument.

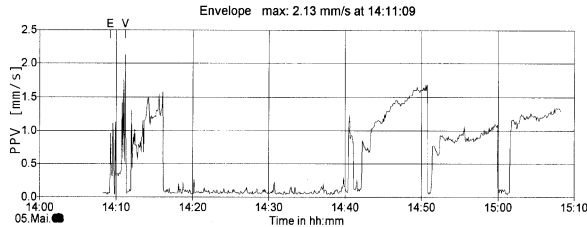
Although the VIBRAS-7003 is virtually completely programmable parametrically, the operation remains extremely simple. For general applications the default parameters of the instrument may be used. Data Acquisition begins as soon as the required sensors are defined. Long strings of parameter entry are therefore unnecessary.

The VIBRAS-7003 is ideal for the registration of short duration events as well as unattended monitoring of vibration over extended periods of time. During monitoring in the ramming or traffic mode the current vibration levels are constantly displayed on LCD. Furthermore, the maximum values of the last 200 events stored in the memory can be reviewed at any time.



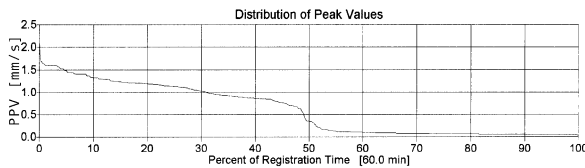
The WALESCH Electronic GmbH VIBRAS-7003 Vibration monitoring system with digital sensors MST 7003/3004

Project Name : VIBRAS CHARTING DEMONSTRATION  
 Client Name : WALESCH Electronic GmbH, CH-8307 Effretikon, Switzerland  
 Operation title: PILING OPERATION Trigger : 05.05 14:09:10  
 Sensor title : Sensor 1 Registration time: 60.0 min  
 Sensor number : 1 / Sensor ID: 101 Cadence envelope : 5.0 sec  
 Sensor vers. : Geofon Type2 / Frq.: 1 Max. vector before trigger:  
 Event number : 416 / Ramming 05.05 14:09:04 0.07 mm/s  
 Meas+Trig range: 10.00 mm/s / 0.50 mm/s Max. vector after trigger:  
 05.05 14:11:09 2.13 mm/s  
 File : ...\\vi505416.hed



Report of peak values (Peak level = 0.25 mm/s. Cadence = 5.0 sec)

Time	mm/s
14:09:34	1.12
14:11:09	2.13
14:16:04	1.58
14:20:09	0.26
14:39:49	0.29
14:40:34	1.24
14:41:34	0.26
14:50:34	1.69
14:59:34	1.11
15:07:19	1.34

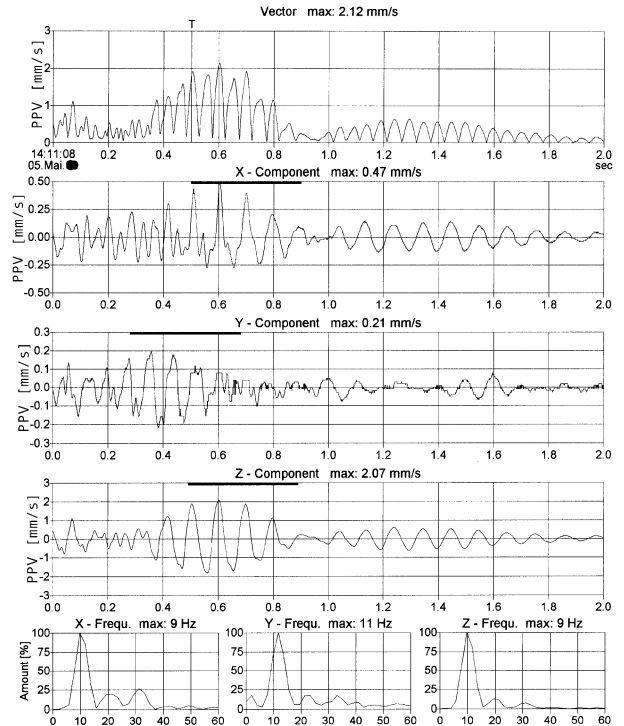


Peak particle velocities and statistical distribution during vibropiling

The VIBRAS-7003 provides the following:

- Vibrograms of the components along x, y and z axes in terms of the peak particle velocity in mm/s
- Vector curve of the maximum sum of the peak particle velocity of x, y & z components;
- Envelope curve, (time-history), of the true peak values of the vector;
- Report of the true peak values of the vector equal to or exceeding a defined maximum level;
- Distribution (%) curve of the true peak values of the vector;
- FFT frequency analysis curve for all three components;
- Adjustable frequency range for the sensors (between 1-80Hz, 1-315Hz or 4-315Hz);
- Envelope curve of the r.m.s. value of each component and also of the vector sum of r.m.s. value of the three components for a sustained event;
- KB-Values according to the DIN 4150;

Project Name : VIBRAS CHARTING DEMONSTRATION  
 Client Name : WALESCH Electronic GmbH, CH-8307 Effretikon, Switzerland  
 Operation title: PILING OPERATION Trigger: 05.05 14:11:09  
 Sensor title : Sensor 1 Max. V : 2.12 mm/s  
 Sensor number : 1 / Sensor ID: 101 Max. X : 0.47 mm/s 9 Hz  
 Sensor vers. : Geofon Type2 / Frq.: 1 Max. Y : 0.21 mm/s 11 Hz  
 Event number : 416 / Ramming Max. Z : 2.07 mm/s 9 Hz  
 Meas+Trig range: 10.00 mm/s / 0.50 mm/s File : ...\\vi505416.hed



Tri-axial waveforms and spectral analyses

To facilitate supplementary or after-event evaluations, the recorded data are stored on the VIBRAS Compact Flash memory. The stored data can be transferred to a PC, which can be achieved either directly via an RS232 connection or indirectly via a GSM modem. An easy-to-use Windows® based software for data transmission/remote control is available: *VibModem*. Remote control is functionally equivalent to operating directly with the evaluation instrument. To support the evaluation and documentation of the VIBRAS data, Windows® based software is available: *VibChart*, *VibLongPeak*, *VibPBFList*. The data can be automatically transferred via GSM GPRS or 3G Modem to a FTP server and displayed with our powerful Web Monitoring Solution *Vibras.net*.

The above functions together with fully automatic trigger and alarm facilities, make the VIBRAS-7003 a useful system for monitoring of vibration from a wide range of sources under various conditions.

The problem with complex digital equipment belongs to the past. The VIBRAS-7003 VIBRATION Measurement System is constructed on an open architecture computer concept, which permits staying in step with future developments. The instrument continues to be adaptable to the latest standards or requirements.

## Measuring Instruments



### Evaluation Instrument VIBRAS 7003ME

- Operating mode: single events, continuous, RMS value, KB, sound level measurement
- Frequency analysis
- Inputs for 16 digital tri-axis measuring stations MST 7003/3004
- Remote control and data transmission on PC
- Alarm output
- Sending SMS Alarm with an optional GSM Modem  
Displaying the measurement values of the 16 sensors
- CF CARD Memory Adapter (up to 512 MB) for data recording
- Optional built in or External GSM GPRS or 3G modem
- Optional external 12V battery Adaptor
- Optional "Peli" transportation case
- Dimensions (W x H x D) 320 x 200 x 100 mm
- Weight (depending on options) 4.5 kg
- Power supply 90..250 VAC or 18...48VDC
- Operating Temperature -10°C...50°C

### Digital tri-axis sensor for velocity measurement MST 7003

- Frequency range 4.5 – 315 Hz, Option 1 - 315 Hz
- Measurement range 1...200mm/s
- Resolution (max.) 0.00004mm/s
- Memory (max. points per axis) 120'000
- Dimensions (W x H x D) 285 x 90 x 120 mm
- Power supply 18...48VDC
- Temperature -20°C...60°C
- Power consumption 3.5 VA
- Weight 3.2 kg
- Case IP65

Where up to now invincible ground obstacles as motorways or rivers prevented the connection of the sensors with cables to a single VIBRAS Evaluation Instrument, there is a solution with the radio link WT7003-1.

The GSM modem allows the remote control and the data transfer between the VIBRAS and your office and sending different kind of SMS messages. The data can be transferred automatically on a FTP Server

## Radio and GSM Modem



### External GSM Modem VIB-GSM

Frequency band	900 / 1800 MHz
Transmission power Max.	2 W
Baud Rate	9600-57600 Bit/s
Antenna connector	FME (female)
Interface to VIBRAS or PC	RS232
SIM Interface	3V SIM Card
Send SMS on alarm condition	Standard
Main voltage	100 ... 240VAC
Dimension W x H x D w/o antenna	220 x 80 x 120 mm
Operating temperature	0°C ... +50°C
Weight	1.8 kg
Environmental protection	IP65

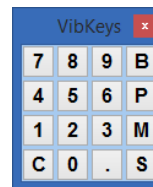
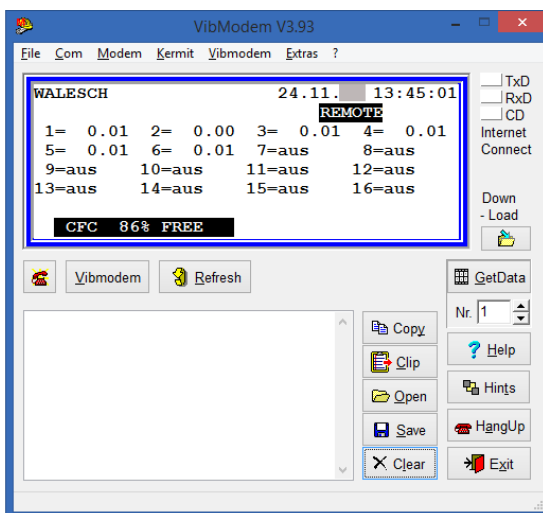
### WT7003-1 Radio Modem

Range:	
Indoor	50 to 100 m
Outdoor, just in the line of sight	300 to 400 m
Outdoor, 4 m above ground in line of sight	up to 1.2km
Connection of MST3004 Sensors	up to 16
Frequency Band	868 MHz
Number of Channels	2 ctrl., 18 data
RF Transmission Power	25 mW
Channel Selection	via RS232 with PC
Interface Protocol and Baud Rate	HDLC / 31250
Interface for MST3004	RS485
Maximum Power Consumption	1 W
Input Voltage	12 – 48 VDC
Operating Temperature	0° C ... +50° C
Housing Case	Robust IP-65 (Sealed against spray)
Dimensions w/o Aerial (W x H x D)	100 x 80 x 115 mm
Weight	0.8 kg
Aluminium bracket for fixing to structures	Option

*VibModem* has been developed for remote controlling and the data transfer to the computer. You can check the construction sites from everywhere with a computer connected to the internet. The measured data can be transmitted manually or automatically.

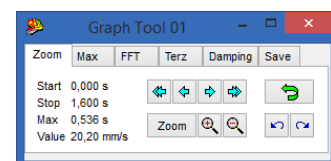
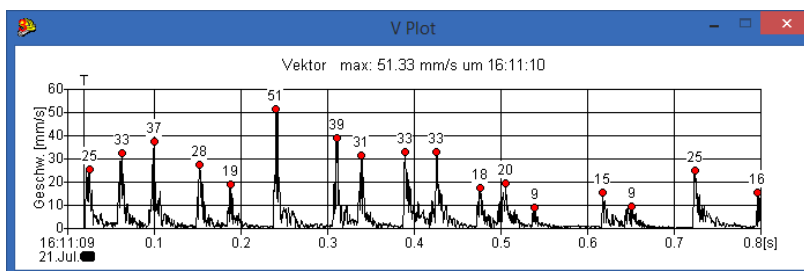
The professional software *VibChart*, *VIBLongpeak*, *VIBPbfList* and a powerful Web Monitoring Solution *vibras.net* are available for the printout, the analysis or the post evaluation of the measuring data on a computer.

## PC Software



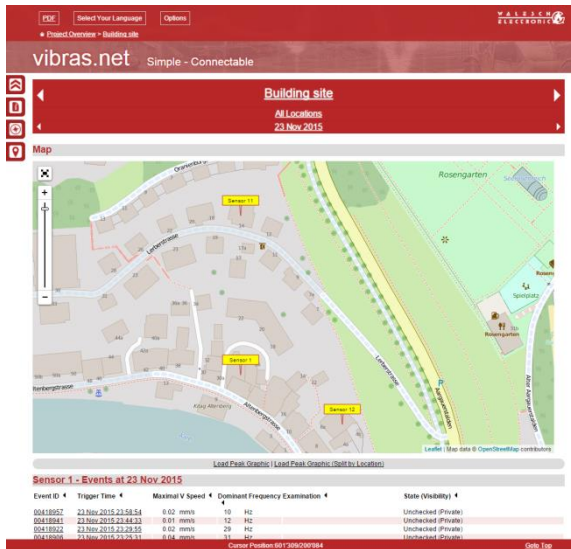
### VibModem for the remote control and data transfer

- Operation and display as at the VIBRAS
- Store of modem settings and phone numbers
- Automatic transfer of the measuring data and the brief data memory
- Translation of the \*.PBF file into ASCII-Format
- Versions for all Windows Computers



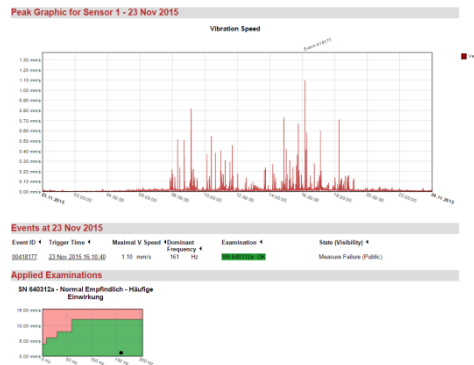
### Printout and analysis Software VibChart

- Direct readout of the \*.PBF files
- Automatic printout of the measuring data
- The graphics are as a bitmap or as high-resolution metafiles for your documents available
- Your company logo is printed as page titles
- Calculation of the sliding RMS and the Leq value's of a vibration curve
- Calculation of the acceleration and the movement from the vibration curve
- Graphics tools for zoom and peak value search within the envelope curve and the vibration curve
- Peak value display in the graphics for zooming field
- Translation for other physical dimensions
- ...



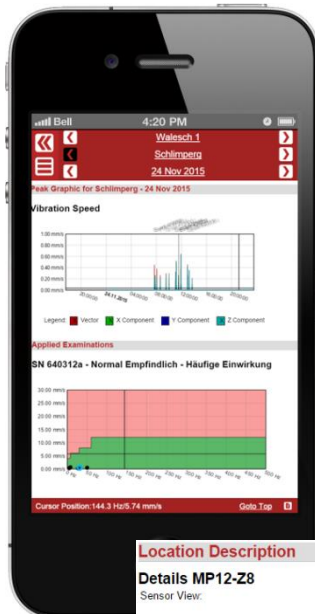
*vibras.net* is a new web monitoring software designed by Walesch Electronic GmbH. Existing VIBRAS devices and other sensors can be easily integrated into the new system. *vibras.net* is a simple and easy using platform to visualize data.

# Web Monitoring Solution



## Features of vibras.net:

- Recording of events and long-time wave forms. Examples of measurement data: Vibration Speed, Max Peak, Water Level, Temperature, Tilt.
- Interactive view supported with standard web browsers and mobile web browsers
- Multi Lingual
- Automatic creation of PDFs
- Structured data storage
- Advanced search functionality
- Project management
- Role based access control
- Events can be manual marked, classified and commented
- Automatic examination profiles (Example: Red, Yellow, Green)
- Automatic triggering of actions or alarms
- Data always in a fast manner available (CSV, Text, PBF, JSON, ...)
- M2M API
- ...



## Location Description

Details MP12-Z8  
Sensor View:

Inside View:

Phone Number:



0123 456 789

## Assigned Devices

mst347\_B146 Configure

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