Vibration Recorder

Facts & Figures

MENHIR (**M**odular **ENH**anced **I**ntelligent **R**ecorder) measures vibration and shock in an efficient and secure way in compliance with DIN 45669.

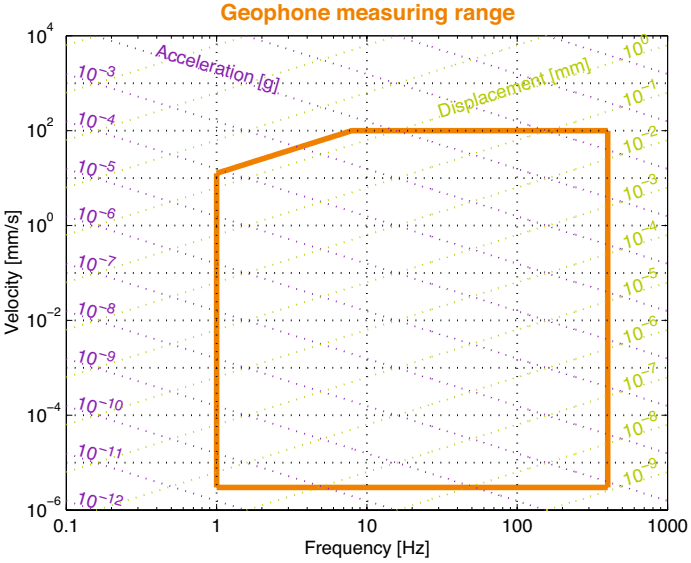
Complex tasks are made easy with **MENHIR** in structural dynamics and structural and vibration monitoring

The simple and intuitive operating concept allows quick and efficient operation with minimal training.

Sensors

Topology	Tri-axial, independent channels (X, Y, and Z)
Technology	Geophone (4 mm p-p)

Geophone measuring range



Data Acquisition

Topology	24-bit resolution per channel
Sample Rate	1000, 800, 500, 400, 250, 200, 100, 50 samples per second
Modes	Trigger, continuous and time window recording

Data Processing

Compliance	Time and frequency analysis in accordance with BS EN ISO 8041, BS EN ISO 4866 / DIN 4150-2, 4150-3 / OEN S9010, S9012, S9020 / SN 430 612
Timing Accuracy	Precision clock (<0.1 ppm) digitally locked to GPS, NTP, or IEEE-1588
Dynamic Range	>130 dB at 400 samples per second per channel
Trigger	configurable bandpass filter for each axis, Thresholds adjustable from 0.01% to 100% of the measuring range
Trigger Logic	AND/OR trigger combinations adjustable between three axes Selectable common trigger combinations in Master/Slave networks
Alarms	Selectable alarm output to designated personnel (SMS or e-mail)
Pre-Event Memory	1 to 100 seconds in 1 second steps
Post-Event Memory	1 to 1,000 seconds in 1 second steps
Data Storage	Two internal SDHC slots: Industrial quality SD cards Data: SD card (4 GB) / System: SD-Card (4GB) / other sizes on request
File System	LINUX EXT4, highly efficient, lossless, data compression

Communications Interfaces

LAN	10/100Base-TX, IEEE 1588 compliant
Sensor Bus	Universal connection of external sensors based on isolated RS-485
Power Relay Output	Floating single contact, normally open
Mobile M2M	GSM / GPRS / EDGE / UMTS / HSPA / HSPA+ with SIM card slot
Wi-Fi	2.4 GHz ISM band, 802.11 b/g/n compatible, Station, access point, Wi-Fi Direct
Sub-1GHz	Radio communications up to 2 km Line of Sight (LoS) 863-870 MHz SRD band
GNSS	GPS

Mechanical and Environmental

Housing	Corrosion resistant aluminum
Leveling	Integrated spirit level & leveling screws / deviation < 10 ° with electronic balance Leveling screws or fixed installation / alternative mounting platform
Dimensions	Length: 200 mm / Width: 140 mm / Height: 108 mm
Weight	4.5 kg
Temperature Range	Operating: -40 °C to 60 °C / Storage: -40 °C to 75 °C
Humidity	0 to 100% RH
Weatherproof	IP 65 (IP 67 optional)

Power

Supply Voltage	9-36 VDC unregulated (integrated potential-free DC / DC converter)
Protection	Reverse-voltage and over-/under voltage protected Supply power is isolated from signal ground
Autonomy	Built-in Li-Ion battery with integrated charge control for autonomous operation up to 48h depending on remote communication power requirement transmission
Consumption	2W (mobile / wireless connection turned off)

Service

Interface	Integrated HTTPS server with SSH and WPA2 Wi-Fi encryption / No VPN required
Security	Password secured web UI for configuration and parameter setting
Remote Access	Full support by the SmartData Center ™ cloud solution. Intuitive data management, analysis, visualization and automatically generated reports. Device status monitoring (State-of-Health)
File Format	Compressed format, ASCII, CSV

Certification and Conformity

Electrical Security	Compliance with DIN EN 61010-1
EMC	Compliance with DIN EN 61326-1
Conformity	CE

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