GEAsystem

THE SOLUTION FOR VIBRATION MEASUREMENT
AND MONITORING IN CIVIL ENGINEERING

SEQUOIA

LARGE STRUCTURAL HEALTH MONITORING SOLUTION

HERITAGE BUILDING PROTECTION

TRAFFIC INDUCED VIBRATIONS

TUNNEL CONSTRUCTION MONITORING

CONSTRUCTION SITE MONITORING

MINING EXPLOSION MONITORING

GEAsystem

is an extremely flexible and complete system that can be used to cover a wide variety of vibration measurements and monitoring needs within the civil environment.

FLEXIBLE AND MODULAR SOLUTION

The concept of digital distributed sensor brings several advantages in terms of system scalability and technical features such as the possibility of using extremely long connection cables, and the noise free data transmission.

A simple portable instrument

Just connect your **GEA** sensor to the pc to transform it into a powerful vibration analyzer suitable for building and ground vibration measurements.

GEAsystem

A multi sensor system

Thanks to the **SynkHub** that grants synchronization among different sensors and power them up to **1 km** lenght.

GEAsensor I

APPLICATION AREA

- Construction site monitoring
- Mining and explosive monitoring
- Tunnel construction monitoring
- Seismic applications with CLASS C requirements

SENSOR	
TYPE	MEMS
AXIS	3
FULL RANGE	10 g
NOISE DENSITY	10 ug/hz-2
CROSS AXIS SENSITIVITY	< 5%
SHOCK	5000 g
INTEGRATED DIGITIZER	
TYPE	SIGMADELTA
N° OF BITS	16
DYNAMIC RANGE	100 dB
SAMPLING FREQUENCY	1024 hz
CONSTRUCTION	
DIMENSIONS	Ø 110 X H 40 mm
CONSTRUCTION	ANODIZED AL
PROTECTION GRADE	IP68
OPERATING TEMPERATURE	-10 ÷ 75 °C
WEIGHT	500 g

GEAsensor II

APPLICATION AREA

- Construction site monitoring
- Human vibration exposure
- Modal testing and structural health monitoring
- Seismic applications with CLASS B requirements

SENSOR	
TYPE	HYBRID PIEZO-MEM
AXIS	3
FULL RANGE	8 g
NOISE DENSITY	1 ug/hz-2 @ 1 hz
CROSS AXIS SENSITIVITY	< 5%
SHOCK	3000 g
INTEGRATED DIGITIZER	
TYPE	SIGMADELTA
N° OF BITS	24
DYNAMIC RANGE	120 dB
SAMPLING FREQUENCY	1024 hz
CONSTRUCTION	
DIMENSIONS	Ø 110 X H 40 mm
CONSTRUCTION	ANODIZED AL
PROTECTION GRADE	IP68
OPERATING TEMPERATURE	-10 ÷ 75 °C
WEIGHT	500 g

SynkHub

SPECIFICATIONS	
POWER	MAIN / BATTERY (12 V)
DIMENSION:	110 X 170 X 30 mm
MAX SYNCH. ERROR	< 5 µ S
CABLE LENGTH	UP TO 1 Km

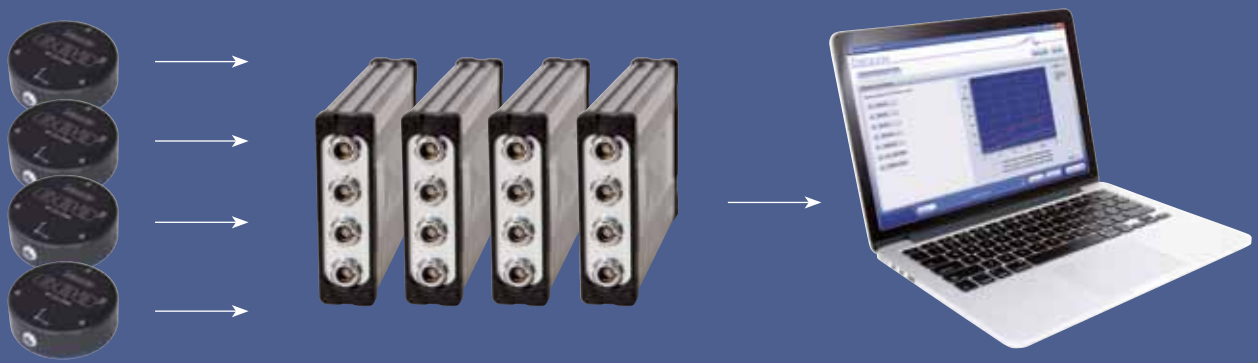
The **SynkHub** is supplied with required accessories for powering and parallel connection with other modules.

Monitoring box

For permanent and/or semi-permanent installations we can provide ready to use system including industrial pc with Linux operating system, all accessories for remote communication and site protection, pre-installed software.
The system is extremely robust and easy to carry on.

MONITORING BOX INCLUDES SYNKHUB FOR 4 SENSORS, INDUSTRIAL PC WITH INSTALLED SOFTWARE.

UPGRADABLE TO A 16 SENSORS SYSTEM.



SEQUOIA

In standard configuration up to **4 SynkHub** modules can be connected in parallel for a system up to 16 sensors.

GEAsystem

ALARM BEACON

GPRS 3G ROUTER/WIFI MODULE
FOR REMOTE COMMUNICATION

RELAY MODULE FOR CONTROLLING
EXTERNAL DEVICES

Permanent monitoring solutions

The ideal cost-effective solution to deploy Dynamic Structural Health Systems on civil structures.

GEAsystem

Global Software Structure

GEAsystem

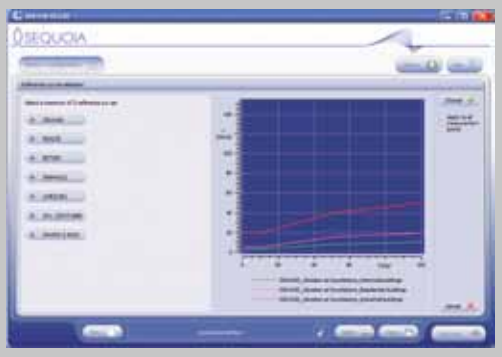
Single sensor

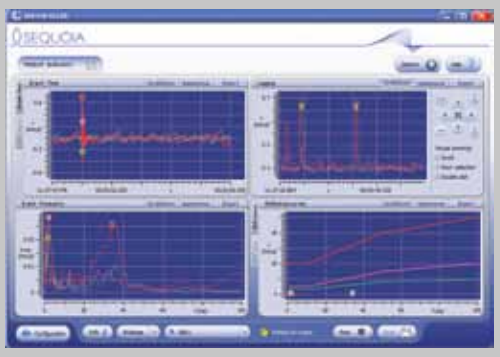
Licenses are written directly within the sensor firmware.

FREE
- Raw data recording

MEASUREMENT OPTION
- Structural damage
  IN CONFORMITY WITH SEVERAL RELEVANT STANDARDS, STARTING FROM DIN 4150-3 FOR P.P.V AND P.C.P.V CALCULATIONS
- Human confort
  IN CONFORMITY WITH DIN 4150-2, ISO 2631

MONITORING OPTION
- Long term monitoring and scheduling
- E-mail notification system



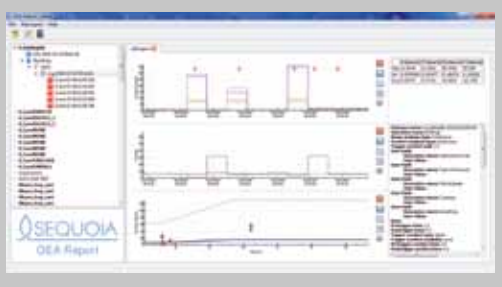


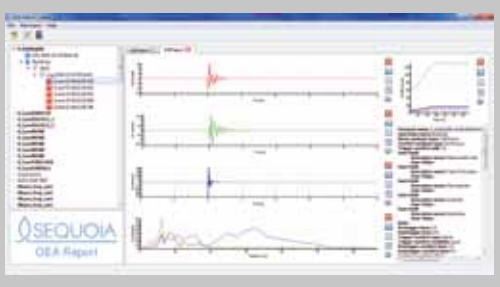
Multiple sensors

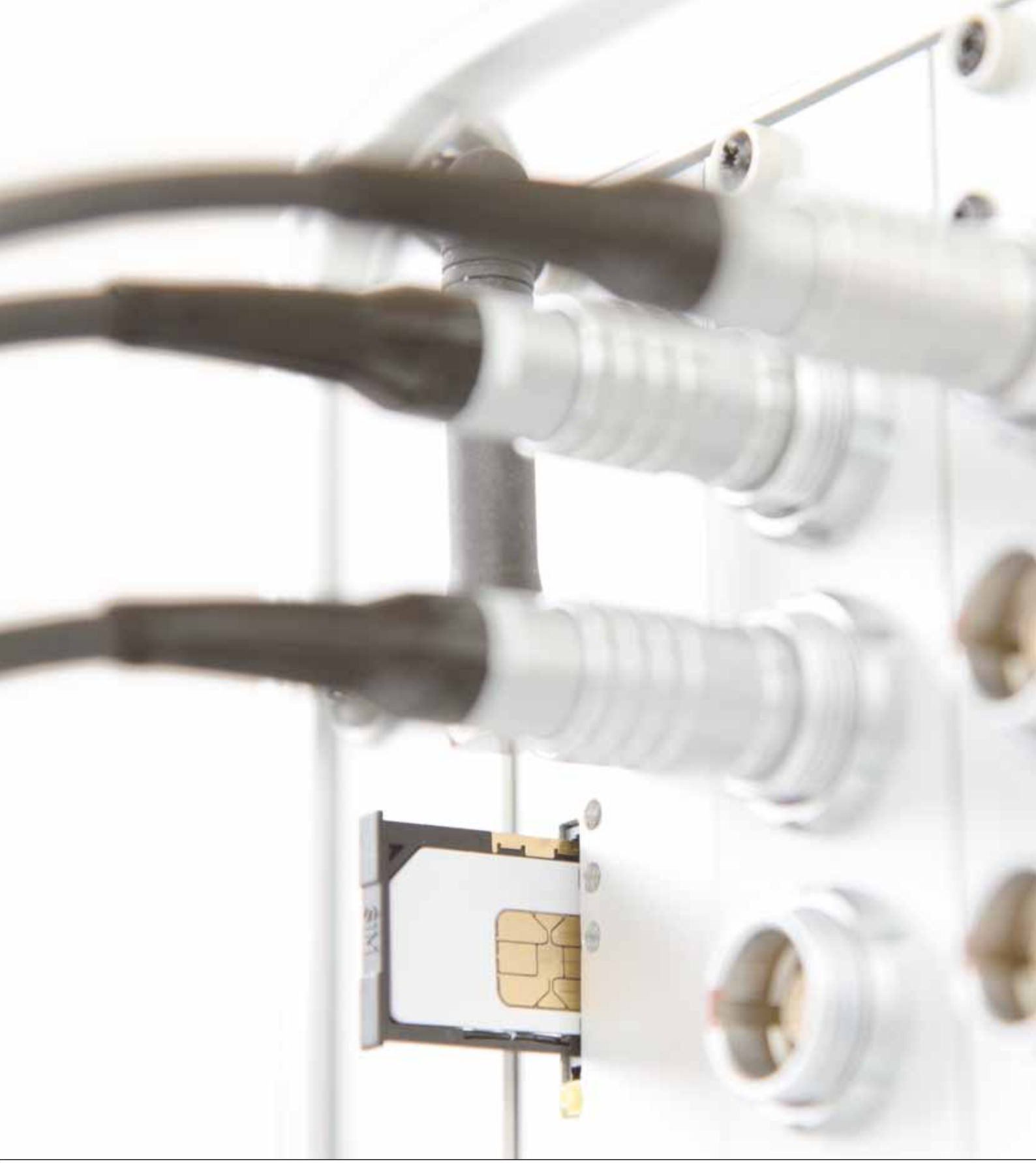
Once one of the above measurements or monitoring licenses are activated on one of the used sensors, NO EXTRA LICENSE is required but just an economical multi-sensors license for each sensor in your system.

Reporting Software

For handling the acquired data, print simple reports, export data to .txt format, copy chart and other functionalities the GEA Report software is available for improving GEA System usability.







SEQUOIA

SMART SOLUTIONS FOR VIBRATION MONITORING

Distribuito da:
Zetalab s.r.l.

Via Umberto Giordano, 5 - 35132 Padova
Tel 049 2021144 - Fax 049 2021143
www.zetalab.it - email: info@zetalab.it

Zetalab.it