e-QUAKE-ACC

ACCELEROMETER AND STRONG MOTION RECORDERS

e-QUAKE ACC Series has been designed with an innovative and state of art technological approach. These accelerometers and strong motion recorders are developed at 2 different sensitivity levels, as ultra–low noise and low noise. Both versions include uni, bi and tri component options.

e-QUAKE-ACC-21/22/23 provides a flawless measurement possibility with an ultra low noise level of only 130 nano-g/root-Hz. This version is based on force-balance and force-feedback technology. It is possible to measure accelerations at micro-g level with this device. In this form, e-QUAKE-ACC-2X series is an ideal solution for strong motion measurements, seismic networks, structural health monitoring under ambient vibration and microtremor measurements.

Although the noise level of e-QUAKE-ACC-01/02/03 series is slightly higher when compared to the other version, this model is still very sensitive and and offers an important cost-benefit advantage. In addition to widespread practices such as geological surveys, mining, oil engineering and explosion measurements, it is frequently used in applications such as factory vibration monitoring or Structural Health Monitoring on bridges.

FILEDS OF APPLICATION

- Seismic Strong Motion Monitoring Networks
- Structural Health Monitoring / Ambient Vibration
- Wireless Structural Health Monitoring
- Dynamic Identification
- 7/24 Real-Time Structural Health Monitoring
- Monitoring of Historical Structures
- Monitoring of Bridges and Tunnels
- Micro-Tremor Measurements
- Geological Surveys / Mining / Oil Industry
- Factory Vibration Measurements
- Explosion Monitoring

USB Storage Connection Point 4 GB / 8 GB / 16 GB

Triggered Recording with User-Defined Pre/ Post Buffer Cache Length

IP67 Ethernet/TCP-IP Easy Connection Interface

Direct GPS Technology and GPS Antenna Connection Point

EASY-REC Technology Immediate Synchronized Recording via Single Button Press

Water/Rust Proof Metal Body

Internal Accelerometer

TECHNICAL SPECIFICATIONS

	e-QUAKE-ACC-21/22/23	e-QUAKE-ACC-01/02/03
ADC Resolution	24 Bit	
Synchronization	GPS based simultaneous sampling – independent ADC/ channel	
Sampling Speed	1 kHz, 500 Hz, 200 Hz, 100 Hz, 50 Hz, 20Hz, 10 Hz, 5Hz, 1Hz (2kHz/4kHz)	
Axis (Number of Components)	1/2/3	
Dynamic Interval / Inner Noise	140 dB / 1.2 micro-Volt RMS	
Acceleration Measurement Interval	± 2 g	+-2g / +-5g / +-10g / +-20g / +-50g
Frequency Bandwidth	DC - 120 Hz	DC - 400 Hz, ±2 g version
Accelerometer type	Force Balanced – Force Feedback	Nitrogen Damping
Accelerometer Noise Level	130 dB 130 ng√Hz	5 µg/ Hz, ±2 version
Axis Sensitivity	0.002 g/g	0.02 g/g
Alert / Calibration	Voltage – temperature – GPS – RAM status/ independent calibration/ channel – automatic /sine / square /user-defined	
Mechanical Shock Resistance	2000 g	
Analog Filter	Anti-aliasing / Low-pass	
DSP	Oversampling / downsampling / decimation / digital filtering	
Operating System	Dual ARM Processor - Embedded Linux - Real-Time calculation features	
Communication Interface	Ethernet TCP/IP-ADSL-3G / WIFI connection ready – data loss preventing communication algorithm /RS232-optional	
Data Storage	USB - flash memory (4GB - 8GB - 16GB)/ triggered recording / STA/LTA/Other	
GPS Functionality	Time – coordinate info, uninterrupted internal oscillator signal when GPS signal is lost	
Remote Connection	TCP/IP - FTP Server - seedlink server* - web server	
Lightning Protection	Independent protection for each channel	
Operating Voltage,	optional Uninterrupted Li-Ion / Lead Acid Battery support	
Operating Temperature	-40 °C ~ +70 °C	
Enclosure / Connector	Stainless steel enclosure / IP67 connectors(optional- military grade connectors / IP67 enclosure)	

*It is possible to add compatibility for other common transfer methods upon user request

Teknik Destek Grubu

- 24 Bit ADC
- Internal Accelerometer
- Micro-G Resolution Acceleration Measurement
- Direct – GPS Technology
- 130 nano-g/ Root Hz- Ultra Low Noise
- 140 dB Sensor Dynamic Range
- Dual-ARM Processor
- Embedded Linux
- EASY-REC Recording Technology
- Ethernet And TCP/IP Easy Access
- High Capacity USB Storage
- New and Innovative Technological Design Platform
- High Benefit/ Cost Rate
- Robust and Portable Design
- No Mass Locking
- High Tolerance to Installation Tilt Errors