



## QUAKELY RUGGED ACCELEROGRAPH

*For affordable seismic measurements earthquake early warning and structural health monitoring*

- High computing power enables edge computing with open data flow, allowing you to write your own applications using the appropriate toolchain.
- Internet connectivity via LAN/WiFi, Virtual Private Network (VPN), and ModBus.
- Local data storage for continuous time series or triggered events.
- International SeedLink standard for real-time data streaming, compatible with SeismoWin, Earthworm, SeisLog, SeiscomP, and more.
- Real-time measurements according to UNI9916 standards; converts measured acceleration to velocity within the required frequency band.
- Low power consumption for remote installations powered by small accumulators and solar panels.
- Easy configuration and management through a web browser.
- Automatic position sensing and XYZ axis relocation.
- Automatic frequency peak-picking with frequency shifting alarm reports.

### KEY FEATURES

- ETHERNET AND WIFI
- THREE-COMPONENTS ACCELEROGRAPH
- MEMS TECHNOLOGY
- RANGE +/-2G
- LOW POWER CONSUMPTION
- DIMENSIONS 115 X 140 X 61 MM
- 20BIT ANALOG TO DIGITAL CONVERTER
- EMBEDDED SEEDLINK SERVER
- REALTIME TELEMETRY AND LOCAL STORAGE
- MINISEED DATA FORMAT
- LINUX OS
- WEB CONFIGURATION INTERFACE
- SSH, SFTP, HTTP, NTP, MQTT, MODBUS
- TELEGRAM ALERTING FOR GROUPS, MESSAGE BOT OR SMS
- STA/LTA, AMPLITUDE, IP VOTING, SCHEDULE, NETWORK TRIGGERING
- OPERATION RANGE: -10 to +50°C
- IP44 ALUMINUM CASE



## TECHNICAL SPECIFICATIONS

Power supply:	10-36 VDC
Power consumption:	< 3W (WiFi off, LAN on)
Number of channels:	3 @ 20bit
Sampling rates:	50,100,200,250,400,500,1000,1200 sample-per-second (sps)
Real Time Clock:	NTP synchronized (local NTP server available upon request)
Mass memory:	microSD internal and USB pen-drives (external)
Data format:	SAC, SAF, GSEcm6, GSEint (others upon request)
Data interface:	Ethernet 10-100 / WiFi (optional with USB dongle)
Protocols:	TCP/IP, HTTP, MQTT, SSH, Telnet, FTP, Modbus, SeedLink, etc.
Messaging:	Telegram alerting for groups, message bot or SMS
Triggering:	STA/LTA, amplitude, IP voting, schedule, network
Case:	Aluminum IP44 (115 x 140 x 61 mm)
Operative temperature:	-10 / +50°C
Accelerometer:	MEMS sensor
Noise density:	< 28 µg/√Hz
Resolution:	< 0.1 mg (sine-wave visible at sight in the time series)
Dynamic range:	> 85dB (from peak to time series noise threshold)
Bandwidth:	DC-480Hz (maximum at 1200 SPS)
Cross axis sensitivity:	< 1%
Non linearity:	< 0.1%
Control panel:	Status of health by LED coded flashes and one operating button



## APPLICATIONS

- Structure Health Monitoring (SHM)
- Earthquake Early Warning (EEW)
- Seismic Switch (For industrial facility or equipment sensitive to vibrations)
- Modal Analysis (Thanks to its low-noise MEMS sensors)
- Easy Integration to Strong Motion Networks



## MAIN FEATURES

- High computing power with edge computing capabilities
- Open data flow for custom application development
- Internet connectivity via LAN/WiFi, VPN, and ModBus
- Local data storage for continuous or triggered events
- Real-time seismic streaming via SeedLink protocol
- Real-time measurements compliant with UNI9916 norm
- Low power consumption for remote installations
- Easy configuration and management through a web browser
- Automatic position sensing and axis relocation
- Frequency peak-picking with frequency shifting alarm



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