



## SEISMIC RECORDER MAS24

The high resolution integrated unit (**24-bit sampling** and dynamic > 130 db) 3 or 6 channels (up to 6 monoaxial or 2 Triaxial accelerometers in version 6.SD.) can operate as a **strong motion vibration acquisition unit** or **micro seismic recorder**, fulfilling international standards DIN45669 DIN4150-3-1 and UNI9916. Its characteristics make it suitable for monitoring of civil and industrial structures or for natural or anthropic seismic monitoring. The high resolution allows the use of this instrument in micro seismic field or as a strong motion acquisition unit. Thanks to internal GPS receiver data are synchronized with an absolute time reference and then correlated with other remote stations. Software packages for configuration and communication, EDAXSOFT, and data processing and visualization, VIBROSOFT, are also supplied. Signals are stored in an internal Compact Flash or directly on PC. Remote downloading is provided by **GSM-GPRS modem** or Ethernet network. The unit, in addition to **recording signal in case of event, storages of minimum and maximum values for all channels**.

## REGISTRATORE SISMICO MAS24

L'unità integrata ad alta risoluzione (**24 bit di campionamento** e dinamica >130 db) a **3 o 6 canali** è in grado di operare sia come **acquisitore vibrazionale strong-motion** sia come **acquisitore microsismico** (secondo le normative di internazionali DIN4150-3, DIN45669-1 e UNI9916) ed è quindi adatto al monitoraggio vibrazionale di strutture civili e industriali nonché al rilevamento di eventi sismici naturali o antropici. Tramite un **ricevitore GPS interno** i dati sono sincronizzati ad un riferimento di tempo assoluto e quindi correlabili ad altre stazioni remote. A corredo è fornito il pacchetto di configurazione e comunicazione EDAXSOFT ed il pacchetto opzionale di visualizzazione ed elaborazione dati VIBROSOFT. Memorizzazione segnali su Compact Flash interna o direttamente su computer. Trasferimento remoto dei dati tramite **modem GSM-GPRS-UMTS** o rete Ethernet. **Acquisizione del segnale in caso di evento** e memorizzazione continua dei valori min/max.

# Instrument

## MAS24

### SISMIC RECORDER

Type converter	CRISTAL 24 bit Sigma/Delta for each channel.
Dynamic and consum	dynamic >130 dB - consum 2,5 W.
Number of RAU chan-nel	3 channel. Overvoltage protected differential Inputs.
Fondo scala	Conversion: 0.32 - 3.2 - 8 -16 -32 Volt PP Useful :0.2 - 2 - 5 - 10 - 20 Volt PP
Frequency conversion	31.25 - 50 - 62.5 - 100 - 125 - 200 - 250 - 400 - 500 Hz. selectable via software
Corresponding ban-dwidth	12.9 - 20.5 - 25.7 - 41.5 - 51.5 - 83 - 102.9 - 164 - 205.9 Hz
Anti-Aliasing Filter	Digital filter FIR . Attenuation rate Nyquist (1/2 sampling frequency) di -130dB
Event memory	Standard on Compact Flash memory card SanDisk with 512Mb, ( optional with me-mory card since to 2Gb). FAT16 Formatting directly readable by PC
Pretrigger	Since to 40.000 samples (>100 seconds 3 channels of 125Hz) selectable via software in seconds (available option with extended pre-trigger functions )
Logging Parameters	Selectable via software: length post-trigger, min. length and max length single registration. Registration in sequence up to fill available space or circularly
Channel Trigger	Sta/Lta, Soglia/STA, Independent Threshold for each channel . Mode STA/LTA con RATIO independent of TRIGGER/DETRIGGER and partial LTA during event block. Weight of trigger and detrigger
Trigger filters	Type Butterworth 6 dB/eighth type high pass, low pass, band-pass or switchable step fixed via software. Possibility of transmission signal continues even after the filter.
Trigger	Independent Threshold triggers/Detrigger sum of weights of individual channels .
Time reference	Absolute reference internal synchronized time and sampling pegged to reference by GPS satellite network, internal, external antenna receiver with cable length of 3 Me-tres.
Synchronization network of aquisitor	Sampling synchronized by GPS satellite network, maximum error 10 microseconds. Trigger recording synchronized via cable connection. Version available with registra-tion activation time.
Ancillary Measures	Supply voltage, temperature internal and two external sensors.
Transmission Format	Communication protocols for sending alerts via SMS, unloading events via analog or ISDN modem, ADSL, GPRS, GSM, via Internet/LAN, even wireless (optional). Con-tinuous transmission signal formats 24 bits (3 and 6 channels) and 20 bits (type a, B or C). Data transmission format INGV, NETPAK, CERPAK.
Interface	Serial data Interface RS232 or Ethernet. Siemens MC35 GSM Modem (optional)
Power supply	Internal 7Ah battery, autonomy of operation 12 Hours (without GSM modem). AC 110/220Vac via car charger included. Prepared for connection of external solar panel (maximum power 40W).
Temperatur	Da -20 a 70 gradi centigradi
Supplied Software	Connection software and acquisition EDAXSOFT, setting parameters, transfer and storing events, monitor real-time signal acquired and station events view. Program automatic alerts via SMS, data download via modem GSM, GPRS or also in Internet on LAN. Serial program of aggregation and conversion events in ASCII format SEI-SAN, and ISMES-PRAXSOFT. Data processing software for data elaboration from VIBROSOFT vibrometric spectral analysis and measures (optional processing method Nakamura)



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