SEND

GEOLON-MES

Marine Exploration Seismic Recorder

Description

The seismocorder GEOLON-MES has been optimised for exploration seismics at the seabed.
The data recorder is the result of SEND's long term experiences in handling of scientific data, combined with the consequent application of the latest hardware and software technologies.
Due to its high accuracy clock, low power consumption and high data storage capacity the MES can record continuously and autonomously over a period of 40 days at 2ms sampling rate, only using up 72 D-cell batteries.
A state of the art 24 bit A/D converter for each channel and a low internal electrical noise guarantees an excellent signal to noise ratio for your four-component measurements.
By using the SEND2X software, the data can be decompressed and stored in SEG-Y format.

Applications

GEOLON-MES is designed to cover the complete range of seismic signals for:

- Reflection seismics
- Refraction seismics
- HR seismics
- 4C measurements

Sampling rates of 0,25-8 ms are selectable. With a storage capacity of 20 GB, record lengths of 1 - 180 days are possible (depending on the sample rate and the capacity of 72 D-cell batteries).

SEISMOCORDER

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...the signal integrity experts

GEOLON-MES

Technical Data

Functional Description:

The instrument can be parameterised and programmed using an ASCII terminal via its RS232 interface. A command interpreter allows off-line definition of a configuration file which will be performed in the field after power-on. The precision oscillator is synchronised using DCF77 or GPS time pulse signals. In addition, the oscillator drives separate time management hardware which remains operational even after switching off the rest of the system resulting in the instruments low standby power consumption.

The sensitivity of the four input channels are software selectable. The preamplified signals are digitised using 24 bit Sigma-Delta A/D converters. Then the samples are permanently stored on a incorporated 20 Gbyte hard disk. An additional connector carries external trigger and status monitoring signals.The recorded data and a log file containing engineering data (e.g. history of battery voltage) is played back by using the Firewire link to a PC or Laptop. This allows a continuous operation in a sealed pressure housing. By using the SEND2X software on a Linux PC or Laptop, the data can be decompressed and stored in binary, audio wave or SEG-Y format.

The physical dimensions are shown in the illustration on the right. Its compact size allows its installation e. g. in a pressure cylinder of 147 mm inner diameter.
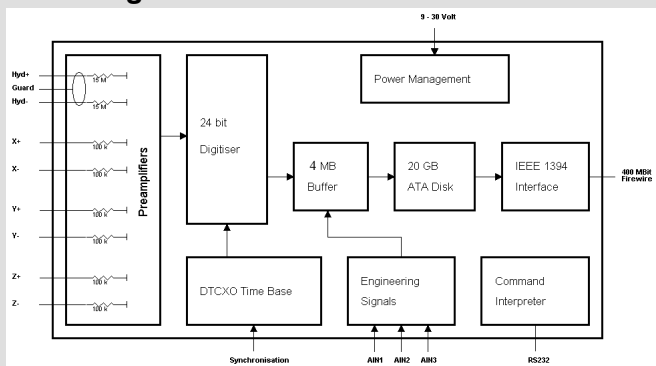
Technical Details:

Number of inputs:	4 differential input channels (3 for geophone, 1 for high impedance hydrophone)
Input sensitivity:	software selectable
Sample rate:	basic version: 125 - 1.000 samples/sec extended version: 125 - 4.000 samples/sec
Resolution:	24 bit
Signal-to-noise ratio	› 130 dB
Internal oscillator drift:	‹ 0.03 ppm @ -5 - +40 °C
Time synchronisation:	DCF77 or GPS time pulse
Storage medium:	20 Gbyte harddisk or 4 Gbyte Flashdisk
Storage interface:	IEEE 1394 Firewire
Data transfer rate:	5 GB ‹ 10 min
Power supply:	9 - 30 Volt
Power consumption:	0.36 W standby, 1,70 W recording
Weight:	1.3 kg

Block Diagram:
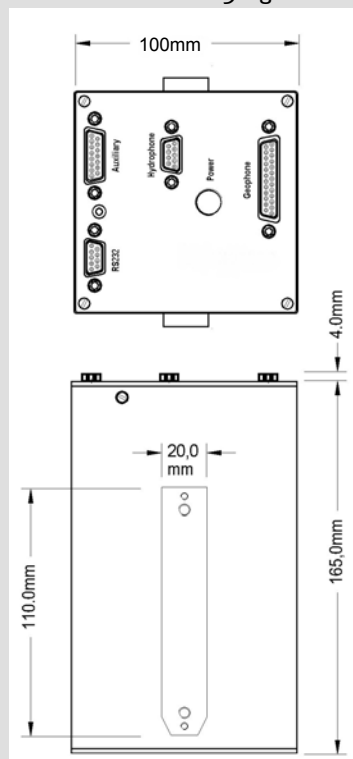
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