DATAMARK Reference Information

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Easy to Use, Small Size and Low Power Single Channel High Resolution Data Logger for Crustal Studies LS-8200SD Coming soon!

LS-8200SD is a single channel high-resolution data logger designed for large-scale crustal studies. Though small and low power consumption, the time calibration by GPS is also included. It is easy to use requiring a small team from preparation to the completion of the observation.

Main features

At start-up LS-8200SD performs self-checking, such as connection with the sensor, the sensor installation state (inclination) and battery state. Since the discovered error is notified by LED, failure of observation can be prevented. Since installation and withdrawal work can be carried out in a short time, large-scale crustal studies by a small team are possible. Moreover, operational cost is reduced since it can be installed without special knowledge and experience.

Dedicated software can perform setup and data retrieval easily. Since the device is recognized(*) as an USB mass storage device the data can be transfer to the PC even without installing a driver, by copying the files.

* Recommended OS: Windows 2000, ME and XP

The device runs with widely available dry cells and power consumption is only about 0.5W. Total 48 hours scheduled operations (at normal temperature, sample frequency 250Hz) are possible, for up to a week from installation. Moreover, the included high-resolution A/D converter assures a high dynamic range of 120dB or more at 250Hz sampling rate. It has the storage capacity and accuracy required for active source observations, such as blasting, air guns, and vibroseis.

Using the signal from one GPS satellite, time calibration is performed intermittently, and the time accuracy of 1msec or less is always maintained. Since time information is recorded on nonvolatile memory with data, the recorded observation data can be used even when the battery was exhausted.

The optional case is designed for the storage and transportation of 10 LS-8200SD's. It allows to setup and retrieve data from 10 LS-8200SD's simultaneously, using dedicated software.

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<Main specifications>

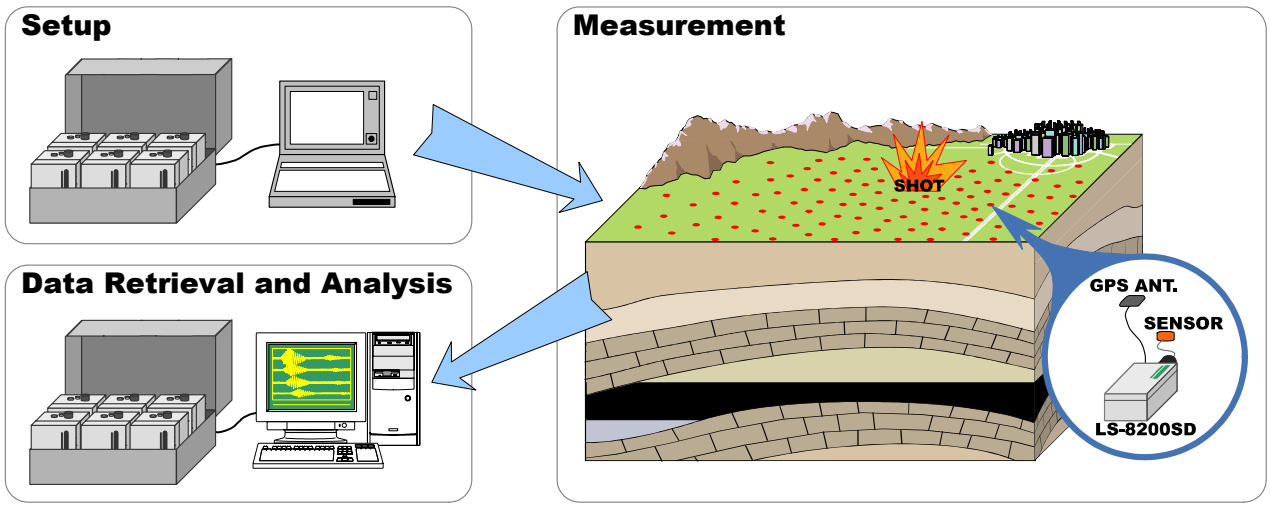
Items		Specification.
Digitization	Number of input channels	One channel
	Sampling frequency	1000Hz / 500Hz / 250Hz / 125Hz
	A/D converter	Δ Σ type modulator
	A/D resolution	24bit
	Dynamic range	120dB (at 250Hz sampling frequency)
	Anti-aliasing filter	Cutoff frequency at 40% of the sampling frequency. Damping characteristic of 120dB or more in the Nyquist frequency.
	Filter phase characteristic	The minimum phase characteristic
Schedule		Setup of schedule for start and stop of measurement, and time calibration
Observation trigger, Measurement start method		schedule (maximum400)
Measurement period	Schedule observation period	One week or more is possible (using Type I alkaline dry cell).
	Total Recording time	About 48 hours (at 250Hz sampling frequencies, and normal temperature)
Time calibration	Method	Time calibration for A/D and internal clock using the signal from one GPS satellite.
	Clock frequency	32.768MHz
	Clock precision	1ppm
	Accuracy	By intermittent time calibration, 1msec or less (except for the time the GPS satellite signal capture fails)

Items		Specification
Data buffer		Nonvolatile memory 128 M bytes
Number of data records		About 43,000,000 data
Data format		Measurement data length 3Bytes (time information is recorded in another file)
Data communications	Interface	USB 1.1 Mass Storage Class. Verified with Windows 2000, and ME and XP.
	Functionality	Setup of operation, data retrieval, maintenance, operating status (including GPS receiving state and time calibration information)
Operating temperature range		-20 Degrees C to +50 Degrees C
Power consumption		About 0.5W (average including the time of GPS satellite capture)
Power supply		Four Type I dry cells
Outside dimensions		200mm x 120mm x 75mm (except for protuberances)
Weight		About 1.5kg (including the dry cell)
Waterproofing and dust-protection		Compatible IP66 (panel portion and connector are included)

This product is designed and setup on the assumption that it is used with the following sensors.

Sensor	Geo Space GS-11D 4.5Hz 4000ohm
Sensor case	Geo Space PC-21

<Example of use>



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