ZH instruments

SM30

Shirt Pocket – size magnetic susceptibility meter



Sensitive and accurate tool for field measurement of magnetic susceptibility of outcropping rocks, drill cores or rock samples.

GENERAL

The SM30 is a small magnetic susceptibility meter. Thanks to the high sensitivity we can measure sediments and rocks with extremely low level of magnetic susceptibility. In addition, we can distinctly measure diamagnetic materials such as limestone, qartz and also water.

The SM30 is controlled by three push buttons. One of them serves to save up to 250 measured values into nonvolatile memory and to recall them later. The last measured value is automatically displayed after SM30 is switched on. If no button is pressed for 3 minutes, the instrument switches off automatically. The SM30 has a beeper indicating intervals in which the information from the rock is picked-up.

The SM30 is powered from two coin lithium batteries CR2430. If the instrument is not used too extensively, the batteries may last for years thanks to their low self-discharge.



FEATURES

- HIGH SENSITIVITY 1×10^{-7} SI UNITS
  The sensitivity is 10 times better than that of the competitive instruments.
- SMALL SIZE AND LOW WEIGHT
  The SM30 is truly shirt pocket – size instrument. With dimension 100×65×25 mm and weight 0.18 kg SM30 outperforms competitors 3 times.
- LOW NOISE
  Thanks to sophisticated signal processing the noise induced in pick - up coil is suppressed well under the resolution 1×10^{-7} SI units.
- DEEP PENETRATION OF THE SIGNAL
  The sensor design enables to get 90% of its signal from the first 20 mm of the rock. This feature allows more accurate readings on uneven surfaces of all rock types.
- SIMPLE OPERATION
  Auto-ranging and three-button control makes the meter the easiest to operate by one hand only. Internal memory can store 250 readings.
- SIX MEASURING MODES
  Four from six measuring modes suppress linear part of the thermal drift.
- WARRANTY
  One-year warranty is icluded in the price. We offer 48 hours turnaround support and repair service for any instrument sent from any location worldwide. Subsequent customer support is provided.

SENSOR

The SM30 has 8 kHz LC oscilator with a large size pick-up coil as a sensor. The oscilation frequency is measured when

- the coil is put to the surface of measured rock
- the coil is removed tens of cm away

The SM30 offers six measuring modes. Four of them compensate for linear part of the thermal drift.

The large number of the memory registers (250) is used especially when scanning mode is used.

Though the instrument is small, the pick-up coil is large enough in diameter to measure sufficiently high volume.

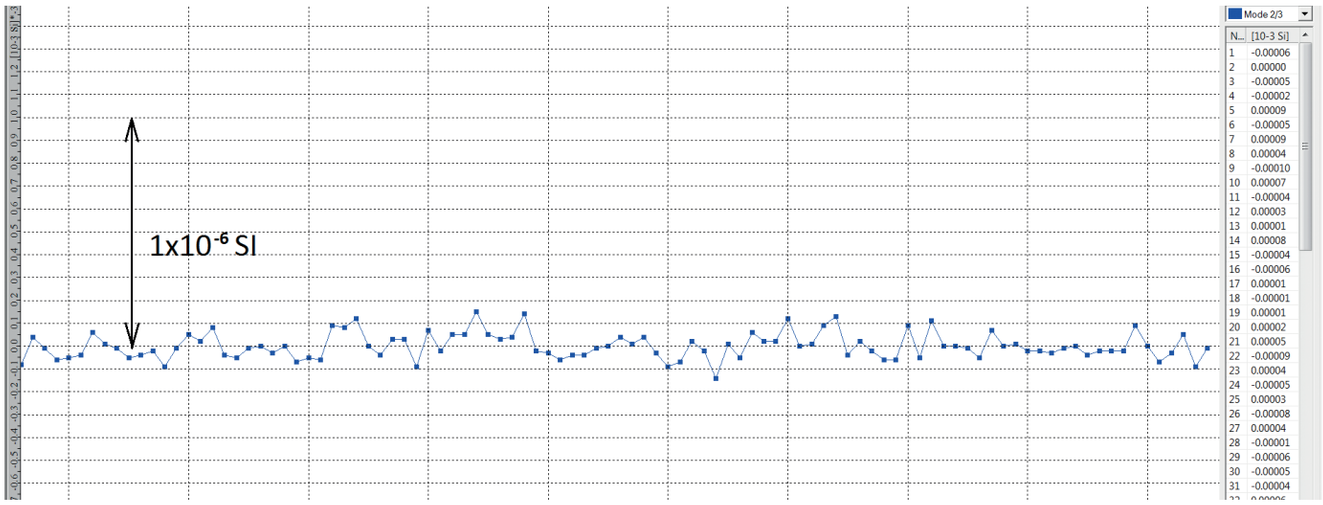
NOISE AND THERMAL SHOCK TEST

Each graph has 100 values, 4meas./min. No sample, no movement with the instrument. Test software supplied with the instrument.

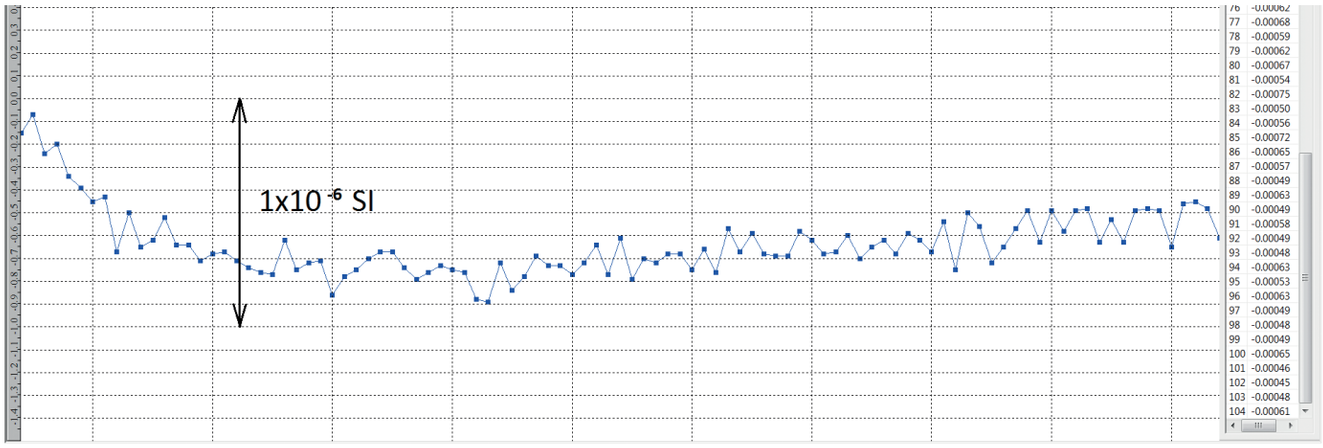
SPECIFICATION

Sensitivity	1×10^{-7} SI Units
Operating frequency	8kHz
Measurement time	Less than 5s
Digital display	4 digits LCD
Controls	3 push buttons
Pick-up coil	56 mm in diameter
Operating temperature	-20 °C to 50 °C
Battery	2 lithium CR2430
Battery life	Approx 80 hrs
Dimensions	100×65×25 mm
Weight	0.180 kg
PC interface	RS232C
Standard accessories	operating manual RS232 cable PC software for data transmission and for external control

Steady state



Thermal shock form -28,9 °C to 26,7 °C



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