Multi-Sensor Core Logger (MSCL-S SN25)

⚠️ **Attention:**

Please note that the system can only be operated upon request. Operations with the MSCL-S requires experienced scientific staff on board. The system is <u>not</u> operated by the ship's crew. Announce operations with the MSCL-S to AWI-Logistics prior to the cruise and clarify the data transfer after the cruise.

Summary

Multi-Sensor Core Loggers capture physical measurands of sediment cores automated and non-destructive.

Manufacturer	Geotek Ltd.
Model	MSCL-S
Serial No	25
Type	Multi-Sensor Core Logger

Contacts

Role	Name
Principal Investigator	Frank Niessen
Data Scientist	Catalina Gebhardt
Engineer in Charge	Dietmar Penshorn

Components

The system consits of the measuring bench with a ballscrew, which pushes core section past 5 sensors measuring Gamma Density, P-wave Velocity, Magnetic Susceptibility (Loop and Point), Non-Contact Resistivity (NCR). All sensors simultaneously acquire the data, which is displayed real-time during logging. The acquired data is stored locally in the electronics with simple user interface.

Sensor Type	Gamma Density Sensor	P-Wave System	Magnetic Susceptibility Loop Sensor MS2C	Magnetic Susceptibility Point Sensor MS2F	Non-Contact Resistivity Sensor (NCR)
Manufacturer	Geotek Ltd.	Geotek Ltd.	Bartington Instruments	Bartington Instruments	Geotek Ltd.
Components	Gamma ray source (137-Caesium source with energies at 0.662 MeV) detector sensor stand mount (alignment of source/detector with center of core)	Geotek ultrasonic (230 kHz) acoustic transducers Laser micrometer PRT temperature Probe	Magnetic Susceptibility Loop Sensor MS2C	Magnetic Susceptibility Point Sensor MS2F	transmitter coil (inducing a high-frequency magnetic field) receiver coil

Data logging, storage and archiving

Logged parameters

Gamma Density, P-wave Velocity, Magnetic Susceptibility (Loop and Point), Non-Contact Resistivity

Rawdata storage on board
Local storage on MSCL-S electronic. Operator is in charge of data backup.

Documentation

- MSCL-S.pdf
- Discrete_P-wave_System.pdf
- MS2_MS3 DS0020.pdf
- http://www.geotek.co.uk/products/gammadensity/
- http://www.geotek.co.uk/products/ncr/