


Multi-Sensor Core Logger (MSCL-S SN*NEU*)

**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 not 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	NEU
Type	Multi-Sensor Core Logger

Contacts

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

Components

The system consists of the measuring bench with a ballscrew, which pushes core section past 6 to 7 sensors measuring Gamma Density, P-wave Velocity, Magnetic Susceptibility, Point Magnetic Susceptibility, Colour Spectrophotometry, Linescan Imaging and optional Natural Gamma Spectrometry. 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 MS2E	CM-700D Spectrophotometer	Geoscan V Linescan Imaging	optional: Natural Gamma Spectrometry
Manufacturer	Geotek Ltd.	Geotek Ltd.	Bartington Instruments	Bartington Instruments	Konica Minolta Measuring Instruments (Konica)	Geotek Ltd.	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 MS2E	CM-700D Spectrophotometer	Geoscan V Linescan Imaging Camera specifications: Pixel Sensors: 1x 5K CCD Visible or Ultraviolet light source ADC resolution: 14 bits per colour channel correlated double sampling with exposure control max pixel rate: 3.2M pixels/sec max scan rate: 200 lines /sec down core resolution: up to 10 microns camera control: auto focus, aperture and lighting data transmission: gigabyte ethernet interface Canon lens mount	three 3"x3" NaI(Tl) detectors with photomultiplier tube and Multi-Channel Analyser (MCA) detector housings: 6" diameter lead shields interface and electronics supplied in integrated 19" rack unit
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Data logging, storage and archiving

Logged parameters

Gamma Density, P-wave Velocity, Magnetic Susceptibility (Loop), Magnetic Susceptibility (Point), Colour Spectrophotometry, Geoscan V Linescan Imaging, optional: Natural Gamma Spectrometry

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/spectrophotometer/>
- <http://sensing.konicaminolta.asia/products/cm-700d-spectrophotometer/>
- <http://www.geotek.co.uk/products/geoscan/>
- <http://www.geotek.co.uk/products/natgam/>