

DATA COLLECTOR FOR WATER LEVELS

100% WATERPROOF, AIR PRESSURE COMPENSATED

The data collector DCX-22 AA measures and records ground water levels using KELLER's two sensor AA-technology (absolute-absolute). The submersible depth sensor measures the water level. Barometric pressure variations are measured and compensated with the built-in waterproof air pressure sensor which is mounted in the electronics housing at the top of the borehole. There are no ventilation tubes; this means the DCX-22AA data logger is very rugged and suitable for reliable applications in humid and wet environments. Even short periods of immersion and flooding will not cause a problem.

The electronics housing is mounted at the top of the borehole to give easy access for data downloading. The level sensor (diameter 22 mm) is connected via a sealed cable to the bottom of the electronics housing. Installation is quick and simple, using fixing devices in various sizes, suitable for cap lock units of different manufacturers and for well access points starting from 1" (caps starting at 2" include a hole to lower a dip meter). Thus enabling measuring stations to be set up at considerably lower costs compared to conventional systems.

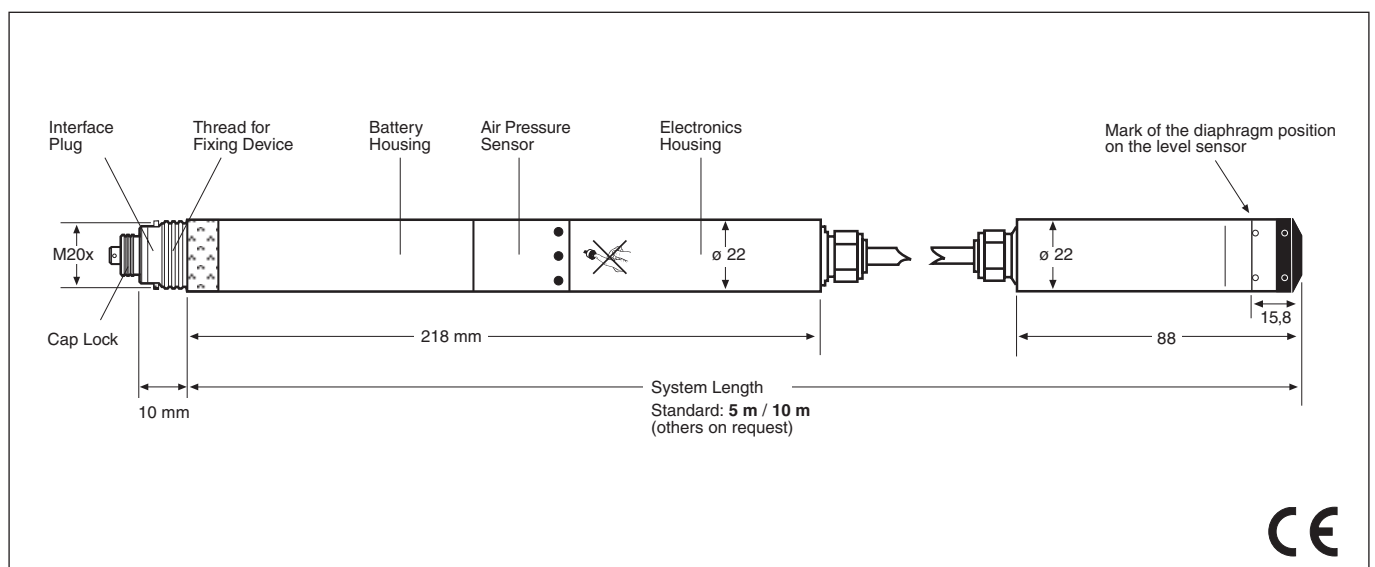
The electronics employ the latest microprocessor technology, which give high accuracy and resolution for the pressure and temperature signals from both the depth sensor and the barometric sensor. The measured values are mathematically compensated for all linearity and temperature errors of the pressure sensors.

The use of a non-volatile memory ensures high data security.

The modular design of the DCX-22 AA offers the user the two options for collecting the data. Standard design requires the user to visit the location, connect via data-cable and download data. The optional GSM-1 unit allows the transmission of data, and instructions (re-programming) to the data-collector from / to a remote location. The data can be sent to any mobile phone as a short message (SMS).

OPTIONS

GSM-1 Data transmission module (see separate datasheet GSM-1)





KELLER

SPECIFICATIONS

Measuring-/ Pressure Ranges 800...1800 mbar abs. for ranges up to 5 mWC (System Length: 5 m)
800...2300 mbar abs. for ranges up to 10 mWC (System Length: 10 m)

Supply Lithium-Battery 3,6 V (Type AA)
Battery Life * 10 years @ 1 measurement/hour
Output RS 485 digital
Electrical Connection Fischer DEE 103A054

Pressure Sensor Specifications (for level sensor respectively air pressure sensor)
Linearity typ. 0,02 %FS
Comp. Temperature Range -10...40 °C
Error Band ** typ. 0,05 %FS *** max. 0,1 %FS
Resolution max. 0,0025 %FS
Long Term Stability typ. 0,5 mbar

Temperature Measurement Accuracy typ. $\pm 0,5$ °C
Shortest Measuring Range 1x per second
Memory 57'000 measuring values @ storage interval ≤ 15 s, otherwise 28'000 measuring values (always with attributed time)
Material Stainless steel 316L (DIN 1.4435)
O-Ring: Viton®
Weight: Housing / Probe ≈ 335 g / ≈ 200 g (without cable)
Tolerance System Length ± 2 cm

* exterior influences could reduce battery life

** Linearity + Temperature Error

*** optional max. 0,05 %FS

LOGGER 4.x

The Logger 4.x-Software is delivered along with the interface cable K103A (RS232) or K104A (USB). The software is compatible with Windows ($\geq$ Windows 95) and allows to configure and read out our KELLER data loggers (DCX and Leo Record).

The measuring values may be graphically displayed, exported, air pressure compensated or converted into other units.
The Online-function shows the actual values of the instrument. The Logger includes the Reader and Writer.

Writer

The Writer enables the configuration and start of the Logger.

General functions:

- Online display of measuring channels
- Record status indication
- Editing of installation data
- Ring buffer or normal
- Readjustment of the zero

Recording parameter:

- Pressure- and temperature channels selectable

Start methods:

- Time start
- When exceeding or dropping below a certain pressure (or temperature)
- Measuring interval for starting conditions selectable

Recording methods:

- Interval (1s...99 days) and event-controlled recording
- Recording at pressure change
- Turn on or turn off at pressure threshold
- Averaging over selectable number of measurements
- Combination of fixed interval and event recording possible

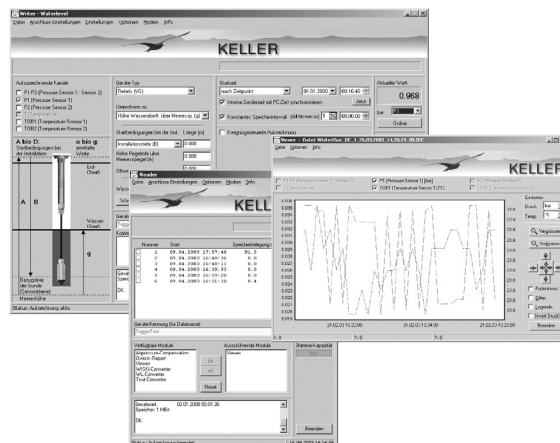
Reader

The Reader allows the data to be read out into a file. The measured data, which can be converted (exported) into various format, also contains the following information: Serial number, measuring range, sensor name, installation data, read-out data, units, measuring values with date and clock time, read-out date...

General functions:

- Reading of the recordings' directory with starting time and storage size in %
- Read-out of the individual recordings
- Graphical display of the data
- Record status indication
- Conversion of the data into a text file for Excel import
- Miscellaneous calculations possible

Special calculations or an export of the data into customer specific databases are possible (only on request).



Logger 4.x
also includes
the WindowsCE-
software for
PDA's.