DATA COLLECTOR FOR WATER LEVELS

DCX-22 AA

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 re-solution 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 ARC-1 unit allows the transmission of data, and instructions (re-program-ming) to the data-collector from / to a remote location. The data can be sent to any mobile phone as a short message (SMS).

OPTIONS

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

Level Sensor   *Electronics Housing*

Integrated air pressure sensor with diaphragm protection
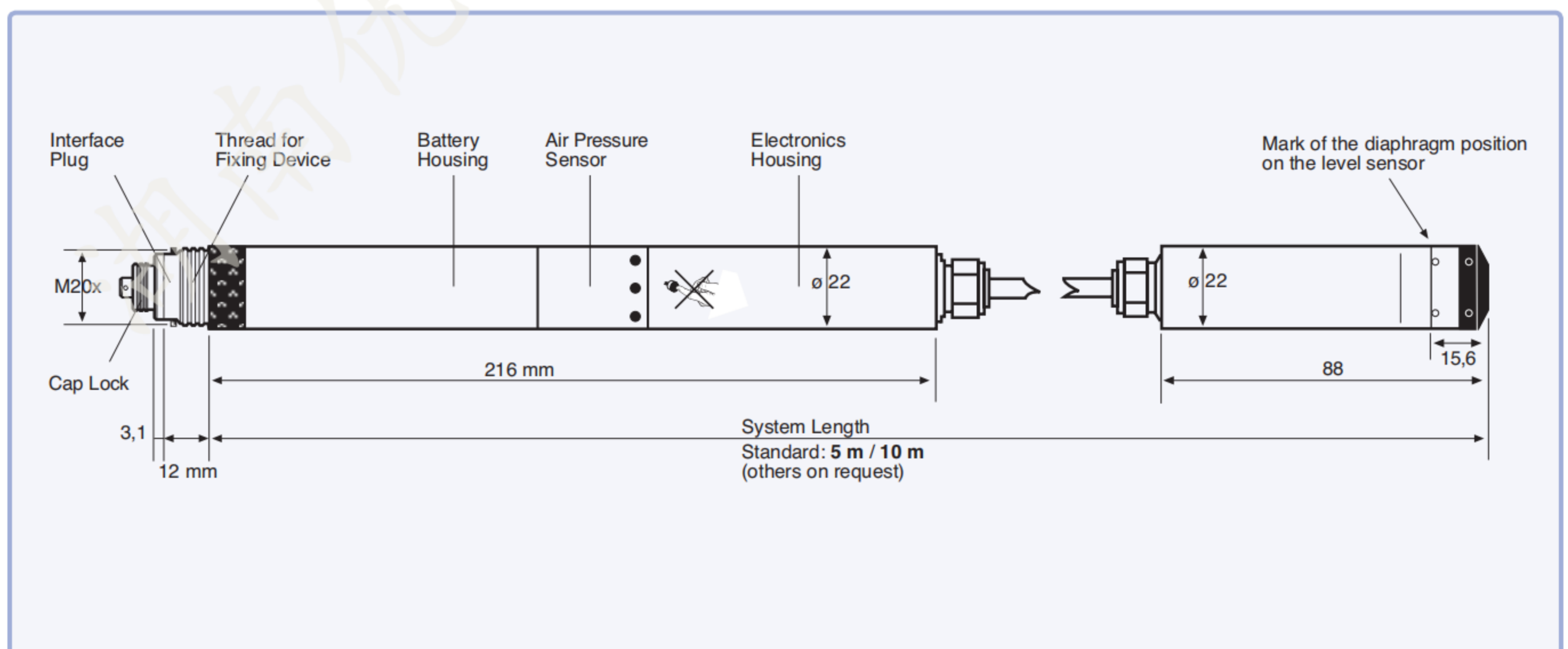
SPECIFICATIONS

| 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)	Temperature Measurement	Accuracy typ. ±0,5 °C
Battery Life *	10 years @ 1 measurement/hour	Shortest Measuring Range	1x per second
Output	RS 485 digital	Memory	57'000 measuring values @ storage
Electrical Connection	Fischer DEE 103A054		interval ≤ 15 s, otherwise 28'000 measuring
			values (always with attributed time)
<u>Pressure Sensor Specifications</u> (for level sensor respectively air pressure sensor)		Material	Stainless steel 316L (DIN 1.4435)
Linearity	typ. 0,02 %FS		O-Ring: Viton®
Comp. Temperature Range	-10…40 °C (icing not permitted)	Weight: Housing / Probe	≈ 335 g / ≈ 200 g (without cable)
Error Band **	typ. 0,05 %FS *** max. 0,1 %FS	Tolerance System Length	± 2 cm
Resolution	max. 0,0025 %FS		
Long Term Stability	typ. 0,5 mbar		

* exterior influences could reduce battery life   ** Linearity + Temperature Error   *** optional max. 0,05 %FS

LOGGER 5

The Logger 5 software makes it possible to configure and read autonomous KELLER data loggers. This software assists users during measurements in the field, with processing the data and also with forwarding it to partners or end customers.

Measurement data can be displayed in graphic form, exported, compensated for air pressure or converted into different units. The online function displays the current device values.

The software is included in the scope of delivery for the interface converter cables, or it can be downloaded free of charge at www.keller-druck.com.

• Supports Windows operating systems

Overview of functions: Logger 5

- Pressure and temperature channels, selectable
- Adjustable measurement interval (1s…99 days)
- Averaging with selectable number of measurements
- Recording modes:
  • continuous interval measurement
  • event-controlled recording:
    · recording starts when value is exceeded
    · recording starts when value is undercut
    · recording starts when value changes
    → combination of continuous and event-controlled
       recording is possible
- Adjustment of pressure zero point
- Start measurements immediately or at a set time
- Data storage: linear or ring-type memory
- Battery status display
- Online display of measuring channels
- Management of notifications and images for stations

Processing and forwarding measurement data

- Graphic display of measurement data
- Simple export of measurement data and graphics
  (supports Microsoft Office and these file formats:
  CSV-1, CSV-2, XML, Hydras, TNO, Wiski, BNA)
- Generation of measurement reports
- Station information stored in SQ Lite database