

PRESS RELEASE

Data logger measures level, conductivity and temperature

With the new CTD (conductivity, temperature, depth) versions of the high-precision DCX level data loggers for depths of up to 200 m, KELLER AG offers a highly integrated, complete pressure measurement solution for water management. This data logger for long-term monitoring stores over 50'000 time-stamped level measurements, as well as the associated conductivity and temperature readings in each case. The multi-purpose probes have a diameter of 22 mm, making them suitable for all sounding tubes with a nominal diameter of 1" or greater.

Conductivity crucial as standard process value

Water conductivity is a measure of purity, making it an important standard process measurement in the water and sewerage sector as well as in the beverage and pharmaceutical industries. Changes in conductivity are a clear indicator of contamination, for example with particles or salts (chlorides, nitrates, etc.). Typical values lie between ≈ 50 mS/cm (salt water) and $\approx 0,5$ mS/cm (drinking water). KELLER supplies conductivity probes combined with level probes based on pressure sensors. These integrated measuring systems are ideal for checking the ingress of seawater, slurry or fertilizer into groundwater, rivers and lakes, or for performing observation tasks relating to building projects or localized water pollution. The Series DCX-22 CTD level probes with integrated data logger are available with a robust 316L stainless steel housing or other materials, if necessary, for enhanced chemical compatibility.

Level measurement: a core competency

KELLER AG für Druckmesstechnik has long been a leading supplier of maintenance-free, battery-operated level probes with remote data logger for observations at depths of up to 200 m and optional GSM module for remote access. With level measuring tolerances of $\pm 0,02$ %FS, Keller's extensive portfolio ranges from data loggers with conventional relative pressure sensors to

KELLER

AG für Druckmesstechnik
St. Gallerstr. 119
8404 Winterthur
(Switzerland)

Phone +41-(0)52 235 25 25
Fax +41-(0)52 235 25 00

E-Mail info@keller-druck.com
Web www.keller-druck.com



KELLER

AG für Druckmesstechnik
St. Gallerstr. 119
8404 Winterthur
(Switzerland)

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level probes featuring two isolated absolute pressure sensors that compensate for ambient pressure deviations electrically or using software. All Series DCX-22 products are now available as CTD level probes with integrated conductivity and temperature sensor. At a rate of one measurement per hour, the integrated lithium battery has a life of up to 8 years.

Conductivity probe with six electrodes

In line with Swiss quality standards for pressure sensors, the DCX-22 level measuring probes are equipped with high-precision conductivity sensors. The robust platinum electrodes have redundant seals to achieve reliable water and pressure tightness. And the alternating supply field is adjusted to the conductivity of the fluid medium. For measuring conductivity, the four measuring ranges of 0...200 $\mu\text{S}/\text{cm}$, 0...2 mS/cm, 0...20 mS/cm and 0...200 mS/cm, with a measuring accuracy of $\pm 1\%$, can be used. Since water conductivity is highly temperature-dependent, a Pt1000 sensor measures the temperature of the medium directly between the electrodes to a degree of accuracy of 0,1 °C, ensuring that the measured conductivity is accurately standardized to the reference temperature of + 25 °C.

Measuring software for long-term monitoring

Keller's Logger 5.1 software is compatible with Windows XP or higher and is included, free of charge. This sophisticated software enables configuration of logger instruments and data download. Recorder values can be displayed in tabular or graphical form and easily sent to end users or authorities. A particularly notable feature is the ability to graphically display air-pressure-compensated level curves at the same time as conductivity and temperature curves.



DCX-22 AA CTD and DCX-22 CTD