Autonomous Data Collector

DCX-16 (SG/VG)

SMALLEST DIAMETER – Ø 16 MM

The DCX-16 is an autonomous, battery-powered data collector in a stainless steel housing with a very small diameter of only 16 mm. The housing and the pressure sensor element are completely welded in, so sealing rings are eliminated at this point. In applications where a small probe diameter is an advantage, the logger can record the water level (pressure) and the tempe-rature over long periods.

As well as the battery compartment with its double seal, the small-diameter (16 mm) submersible sensor includes electronic circuitry featuring the latest microprocessor technology. It records the pressure and temperature of the medium with high measurement accuracy and resolu-tion, and it uses a mathematical model to correct any linearity or temperature errors made by the pressure sensor. High data reliability is guaranteed thanks to the use of a nonvolatile data memory.

The various configuration options allow the data logger to be adapted to the measuring point so that only specified events will be detected and stored. Event-controlled recording and log-interval recording can be set independently of one another. In addition, installation data and comments on the measuring point can be stored in the logger. Installation is fast and simple with fixing disks of various sizes which can be fitted as options: these match locking units (caps) from different manufacturers for levels of 1” or more (2” or more with light plummet aperture), so measuring points can be implemented at a fraction of the previous cost. Three versions of the data collector are available:

Version DCX-16

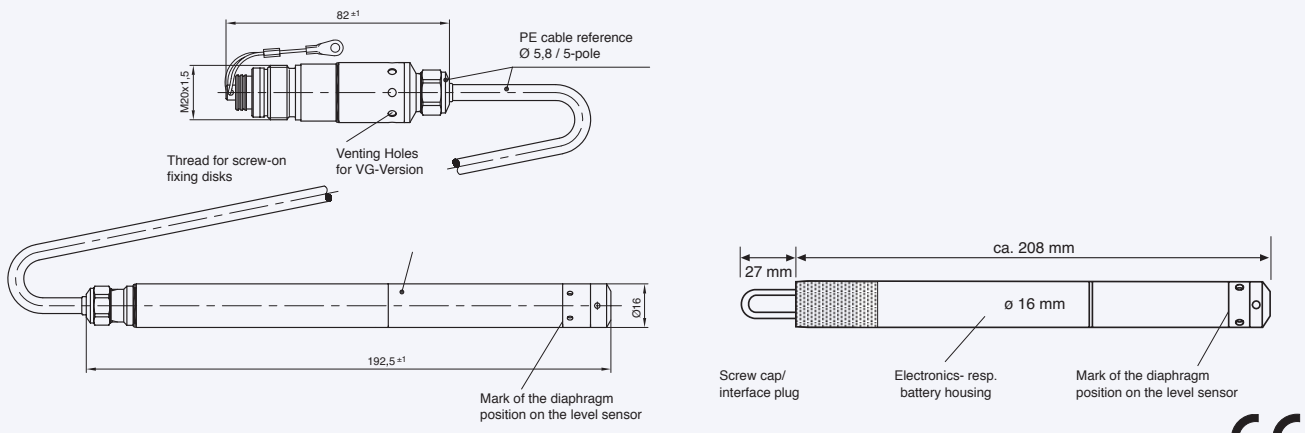
DCX-16

The sensor, electronics and battery are accommodated in one housing. To extract data, the data collector must be removed from the measuring point, and the watertight screw cap that allows access to the read-out plug/interface must be unscrewed. The DCX-16 operates with an absolute pressure sensor. In shallow water, when the influence of air pressure fluctuations has to be taken into account, a second logger (barometric logger, obtainable separately) positioned on the surface of the water must be used to record the air pressure progression. The com-puter software then calculates the differential pressure or the water level by subtracting the two measured data.

DCX-16 SG/VG

Instead of a watertight screwed closure, these versions have a cable output. The interface plug is fixed on the sounding tube above the surface of the water with the help of a screw-on fixing disk. This means that there is no need to remove the DCX-16 SG/VG from the sounding tube in order to read the data.
In the VG version (reference pressure measurement), the reference pressure-compensating capillary is routed in the same cable into the read-out plug housing; this also contains the reference aperture (protected by a Gore-Tex® diaphragm) which produces the pressure equalization.

Version DCX-16 VG



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Specifications

Pressure Ranges			10 mWC	20 mWC	50 mWC	100 mWC	
	DCX-16	PAA	0,8…2	0,8…3	0,8…6	0,8…11	bar abs.
	DCX-16 SG	PAA	0,8…2	0,8…3	0,8…6	0,8…11	bar abs.
	DCX-16 VG	PR	1	2	5	10	bar
Overpressure	2 x Pressure Range						
System length*			10 m	20 m	50 m	100 m	

PAA: Absolute. Zero at vacuum PR: Vented Gauge. Zero at atmospheric pressure **(other ranges on request)**
*The system length can be selected (optional); for lengths of 100 m or more, use an anchor clamp. Tolerance for system length: ≤ 10 m: ± 2 cm; > 10 m: ± 1% of system length

Supply	Lithium battery 3,6 V (Type AAA)
Battery Life *	4 years @ 1 measurement/hour
Output	RS 485 digital
Electrical Connection	Fischer DEE 103A054

Pressure Sensor Specifications

Comp. Temperature Range	-10…40 °C
Accuracy	typ. 0,05 %FS
Error Band *** (-10…40 °C)	0,1 %FS
Resolution	max. 0,0025 %FS
Long Term Stability	typ. 1 mbar
Temperature Compensation	-10…40 °C (others on request)

Temperature Measurement	Accuracy typ. ± 1 °C
Shortest Measuring Range	1x per second
Memory	2 MBit: 57'000 measuring values @ storage interval ≤ 15 s, otherwise 28'000 measuring values (always with attributed time)
Material	Stainless steel AISI 316L O-Ring: Viton®
Cable	PE cable
Probe Weight	≈ 150 g (without cable)
Options	Other pressure connections, larger data memory, different accuracy, other material: e.g. Hastelloy or Titanium

* exterior influences could reduce battery life ** Linearity + Temperature Error *** Includes Linearity + Repeatability + Hysteresis

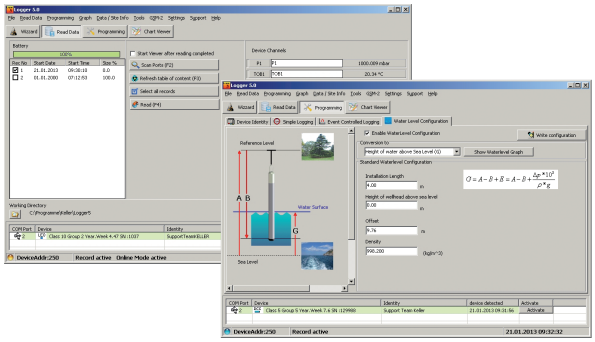
LOGGER 5

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.

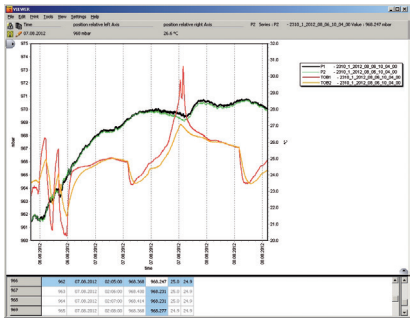
The software is included in the scope of delivery for the interface converter cables, or it can be downloaded free of charge at www.keller-druck.com.

• 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

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