

DCX-38VG

Autonomous Capacitive Data Collector for High Resolution Water Level Measurements

The DCX-38VG is an autonomous instrument for recording water level with a high resolution and full scale ranges as low as 0,5 mWC / 50 mbar. It features a rugged, gold-plated ceramic diaphragm for outstanding long-term stability and stainless steel housing with user serviceable battery for long service life.

The internal electronics of the DCX-38VG employ the latest microprocessor technology, resulting in high accuracy and resolution for pressure measurements. The use of non-volatile memory for data storage ensures high data security.

The DCX-38VG is based upon a relative pressure sensor and is designed for submersible deployment. Through the use of a vented cable, correction for atmospheric pressure variations is automatic. Therefore, the expense of deploying additional instruments for monitoring barometric pressure is avoided.

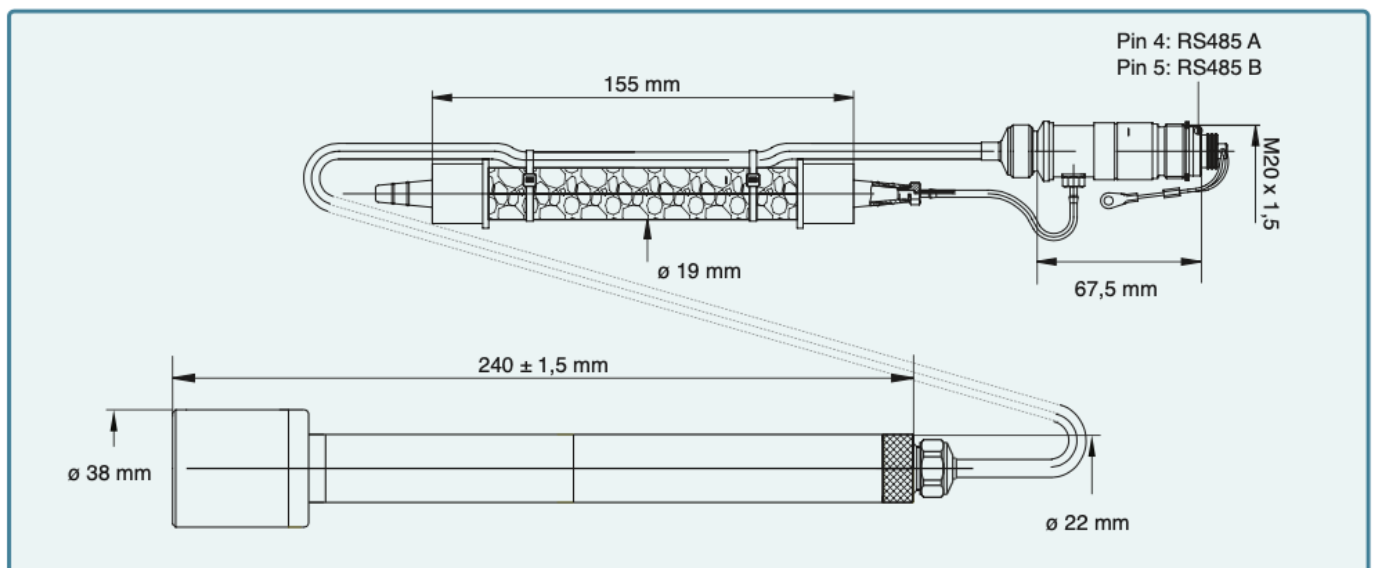
The reference pressure tube, integral to the waterproof cable, is protected from moisture intrusion through the use of an optional desiccant tube connected to the adapter nozzle, located in the data port.

The data collector can individually be adjusted to the user's needs and offers the following advantages:

- Recording of the pressure and temperature
- Simple and well structured configuration- and read-out software (Logger 4.x) for PC or PDA
- Combination of event-controlled recording and interval recording prevents unnecessary data being recorded (i.e. only measuring the pressure changes)
- Installation data (and comments) of the measuring station can be stored in the device

Configuration / Data Retrieval

For data readout, the serial interface is accessed via the data port located on one end of the cable, enabling on site data retrieval. Using either the K-104-A or K-103-A converter cable, the DCX-38VG connects easily to a laptop or PC via USB or serial port. Used in conjunction with Logger 4.x software, the DCX-38VG is configured and data retrieved either in the lab or the field.



Specifications

Pressure Ranges (PR)	0...50 mbar (0...0,5 mWC)	0...100 mbar (0...1 mWC)	0...300 mbar (0...3 mWC)
Overpressure	10 x Pressure Range	10 x Pressure Range	5 x Pressure Range

PR: Vented Gauge. Zero at atmospheric pressure

Comp. Temperature Range	-10...40 °C (icing not permitted)
Accuracy RT **	typ. 0,05 %FS max. 0,1 %FS
Total Error Band ***	0,2 %FS
Resolution	max. 0,002 %FS
Stability	FS ≥ 100 mbar: ± 0,1 %FS FS ≤ 100 mbar: ± 0,1 mbar
Temperature Measurement	Accuracy typ. ±0,5 °C
Operating Temperature	-20...60 °C (icing not permitted)
Shortest Measuring Interval	1 per second
Memory	114'000 measuring values @ storage interval ≤ 15 s, otherwise 56'000 meas. values (always with attributed time)
Supply	Lithium battery / 3,6V (Type AA)
Battery Life *	~10 years @ 1 measurement/hour
Interface	RS485 digital
Electrical Connection	Fischer Plug DEE 103A054
Vented Cable	Standard lengths: 5 m / 10 m (others on request)
Material	Diaphragm: Gold-plated Ceramic Housing: Stainless Steel (AISI 316L) O-Ring: Viton®
Options	Other material: e.g. Hastelloy or titanium

* External influences could reduce battery capacity

** Linearity + Repeatability + Hysteresis

*** Accuracy + temperature error

Software



PressureSuite Desktop

With the «PressureSuite Desktop» Windows software, data recorded using KELLER instruments with a recording function can be read and visualised. This data can be exported in CSV, JSON, Excel or Word format, as an image, or in other formats for further processing or documentation. The data loggers are easy to configure, thanks to the intuitive software interface. And, the various recording functions provide an optimum level of adaptability to suit the measuring task at hand. Additionally, installation site information and other parameters necessary for water level calculations can be saved directly in the measuring device.

PressureSuite Desktop has a free licence and is compatible with all products in the PressureSuite.

Configuration options

- Pressure and temperature channels, selectable
- Adjustable measurement interval (1 s...99 Tage)
- Averaging with selectable number of measurements
- Adjustment of pressure zero point
- Start measurements immediately or at a set time
- Water level calculation
- Data storage: linear or ring-type memory

Recording modes

- Continuous interval measurement
- Event-controlled recording
 - Recording starts when value is exceeded
 - Recording starts when value is undercut
 - Storage of measured values when a value changes
- Combination of continuous and event-controlled recordings possible