

Pressure sensor with data logger SDL for piezometer

The pressure sensor with data logger SDL for piezometers is a compact system for automatic detection of water levels. Its design and shape allow it to be installed directly in a 2" (or larger) pipe.



Pressure sensor for piezometer

Measurements of the pore water pressure or the filling level

The level is measured with a piezoresistive sensor that is lowered into a borehole and connected to a data logger.

- Type: piezoresistive (vibrating wire on request)
- Measuring ranges 1, 3, 10, 30 bar (absolute), relative or other ranges on request
- Linearity +/- 0,2 %
- Temperature compensation in the range -10...+80°C
- Accuracy of temperature measurement +/- 1°C other ranges on request

An absolute pressure sensor is used as standard, for an atmospheric pressure compensated measurement there is the option of using either an additional atmospheric pressure sensor or a relative pressure sensor with capillary.

Data logger (SDL)

The SDL Piezo is an efficient, decentralised acquisition system specifically designed for use in piezometers. Its autonomy and energy-saving operation make it a cost-effective solution for monitoring geotechnical and hydrogeological projects. The sampling rate is freely selectable.

The logging module (SDL-M) and the radio transmission (SDL-R) are housed in a solid, cylindrical and waterproof (IP69) stainless steel housing with a diameter of 49 mm and a length of 40 mm, which can be inserted directly into the 2" housing at the drill head. With the compact installation, the logger is protected in the borehole. The SDL Piezo is available in several variants:

- **SDL-M:** Autonomous data acquisition with continuous data backup when cabling is not possible or no radio link is available. The autonomous memory interface of the SDL-M can store up to 1'000'000 measurements. The data is transferred to a PC via a USB cable.
- **SDL-G:** The optimal solution for most monitoring tasks, e.g. for excavation pits, landslide areas, aquifers or rivers. The autonomous interface saves the measurement data at regular intervals and transfers it to the WebDAVIS server. When a configured alarm threshold is exceeded, an e-mail or SMS alert is sent (alarm message with time specification, sensor reference, measured value, alarm threshold and further project information).
- **SDL-R:** The interface with radio connection is used when a cable connection is too expensive or impossible, for example in tunnels. The SDL-R is easy to install, energy efficient and has a large autonomy even with frequent data access.

Power supply

Power is supplied by a lithium battery (or alkaline batteries if desired); the minimum autonomy is 48 months with a measurement interval of 1 hour and daily data transmission.

Data storage

Loss-free acquisition of 1'000'000 measured values including a time reference (for 4 channels).

Configuration

With the "SDL-Tool" software, the loggers are configured easily and securely either with a direct connection to the PC or remotely via the WebDAVIS server.