

Pressure sensor with Data-Logger SDL for piezometer

The pressure sensor with Data-logger SDL for piezometer is a self-contained and compact system for automatic data acquisition of water levels. Its design and shape allow it to be positioned directly in a 2" drill head.



Pressure sensor for piezometer

Interstitial pressure or level measurements

The level measurement is performed by a piezoresistive sensor lowered into a borehole and connected to a memory acquisition interface.

- Type piézo-resistive (vibrating wire on request)
- Ranges 1, 3, 10, 30 bar (absolute PA), other ranges and relative type on request
- Linearity +/- 0,2 %EM
- Temperature compensated sensors -10...+80°C
- Temperature accuracy +/- 1°C other ranges on request

It is an absolute sensor, for an atmospheric pressure compensated measurement, possibility of adding either an atmospheric pressure sensor or a relative sensor with capillary integrated into the cable.

Data Logger (SDL)

The SDL-piezo is an efficient decentralized acquisition system developed specifically for the implementation of piezometers. Its autonomy and low energy consumption mode of operation make it an inexpensive solution for monitoring geotechnical and hydrogeological projects. The SDL signal can be visualized, converted and saved for a single measurement, interval freely set.

The acquisition module (SDL-M) and radio transmission (SDL-R) or the GPRS transmitter (SDL-G) are integrated into a solid and waterproof cylindrical (IP69) stainless steel casing with a diameter of 49 mm and 40 mm length, placed directly in the drilling head in the casing 2". The logger is then protected in the borehole, is not coming out, allowing a compact installation. The SDL-piezo exists in several ways:

- **SDL-M** Autonomous data acquisition with continuous backup, even when cabling is not possible or the radio link is unavailable. The SDL-M autonomous memory interface can store up to 1,000,000 measurements. The data is transmitted via USB cable to a PC.
- **SDL-G** The optimal solution for the majority of surveillance services: unstable walls, landslide zones, structures, aquifers, and rivers. The autonomous interface saves data at regular intervals and transmits it to the WebDAVIS server. An email or SMS alert is sent if a preconfigured alarm threshold is exceeded (alarm message with a time reference, sensor reference, measurement value, alarm threshold, project information).
- **SDL-R**. The interface with radio link is installed when the wiring is too expensive or impossible, for example for tunnels pierced with explosive. The SDL-R is simple to install and use, it is energy efficient and runs for a long time, even with frequent data access.

Power supply

Power is supplied by lithium battery, in series (or alkaline batteries if wanted); minimum autonomy of 48 months for a measurement interval of 1 hour with daily data transmission.

Saving data

Lossless acquisition for 1'000'000 measurement values including a time reference (for 4 channels).

Configuration

The SDL-Tool is a PC application that allows simple and secure configuration of memory interfaces in direct connection with the PC or remotely via the WebDAVIS server. In all cases, the SDL confirms that the new configuration parameters are taken into account and saved.

- **SDL-Tool**, easy-to-use PC application (Windows XP / Windows 7).
- Transmission of the configuration via USB cable or via the WebDAVIS server (Configuration is taken into account the next time the SDL is connected).