

Focus-Information

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SDL – Solexperts Data Logger

Autonomous data logger for geotechnical engineering and hydrogeology

SDL-M

The Solexperts Data Logger connects to a PC via USB cable. When connected you can view real-time measurements, modify the logger configuration and download data.

The SDL provides storage for up to 40.000 readings with options for additional memory. Alarms may be set to activate switches (lights, horn, etc).



SDL-G

The Solexperts Data Logger connects via GPRS. This is the optimal solution for a wide range of monitoring needs.

Data are transferred via GPRS to our WebDAVIS server so data are available from a secure web page. Alarms can immediately send email and sms via GPRS as well as activate switches.



SDL-R

The Solexperts Data Logger connects via radio for applications where cabling is costly or impossible: Examples include loggers installed in inaccessible areas. Data are easily retrieved via the radio connection. The logger's power-saving mode ensures the battery life even after repeated data downloads.



SDL - operation

The SDL has been developed as a field grade general purpose data collection system. It is in a rugged, splash-proof housing for real world conditions.



SDL - The versatile logger

The Solexperts Data Logger (SDL) is a versatile, compact data acquisition unit with alarms and several connection options. Its autonomy, energy-efficient operation and low cost make it a good tool for monitoring a wide range of projects. The basic SDL can monitor 16 sensors with options for up to a maximum of 50. Measurements are converted to appropriate engineering units. The data collection rate is adjustable. The SDL-G logger with the GSM/GPRS option provides data transfer at regular intervals, alarms that can immediately send sms and email when tripped the logger's configuration can be modified from the office. The data and alarms can be viewed on the Internet via WebDAVIS. With the radio option (model SDL-R) data are transmitted to a PC with a wireless adapter. Several radio loggers can be read by a single «master». The SDL-M connects to a PC via an easy to use USB cable. All loggers have 2 independent alarm switches. The monitoring capabilities of the logger can be extended by interfaces (SBI) which connect to the logger via cables (SBI-A) or radio (SBI-R). The data is stored directly in SDL. This allows small decentralized data collection systems to be very easily assembled or expanded. The SDL-Tool is a PC application that enables simple and secure configuration of the data logger, the viewing of real-time measurements and data downloads. The logger can be connected directly to the PC by USB cable or remotely by GPRS (over the Internet via the WebDAVIS server).

General technical data and functions

Housing:

Water tight plastic case [mm]:
220 x 120 x 90, IP66 with pressure compensation element.

Power supply:

Lithium-battery or optional alkaline batteries; autonomous for at least 48 months with a measurement interval of one hour one data transfer daily. Options for external power by solar panels, external batteries or line power (220V).

Data acquisition:

Solexperts Data Logger base unit with analog 16-bit resolution inputs: 8 differential or 16 single-ended.

- 0 – 2.5V voltage signal (0 – 5 V, 0 – 10 V)
- 0 – 20 mA current signal (active and passive)
- Pt1000 temperature
- Potentiometer (resistive)
- Digital inputs for pressure, tilt, e.g.

Additional signal inputs available on request / Separate lightning protection on each channel.

Alarms:

- Up to 2 alarm limits per channel (one for warning, one for alarm)
- Up to 8 alarm definitions (each with its own sensors, actions, etc)
- Up to 8 recipients for SMS and / or e-mail
- Alarm message with time stamp, sensor name, measured value, alarm limit, etc.
- 2 individually activated alarm switches

Interfaces:

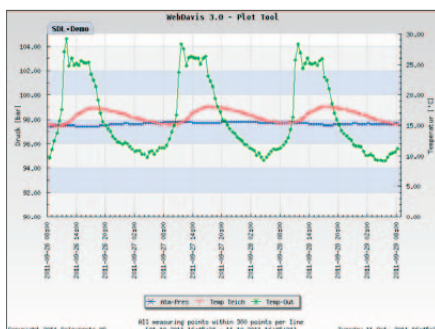
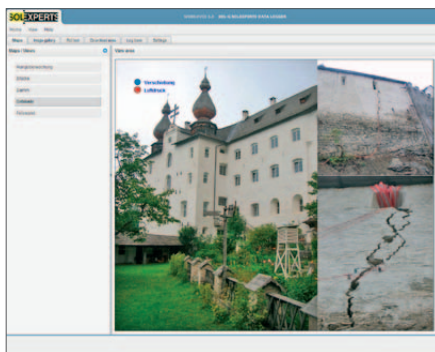
- USB 2.0 for local communications and data transmission via cable connection to PC / laptop
- Solexperts data bus (RS485) for connection to other Solexperts bus interface (SBI)
- GPRS modem (Quad band) for connection to the Internet via cellular network (data transmission and alarms, remote configuration via WebDAVIS server)
- Radio (wireless) up to a distance of approximately 200 m
- Radio (wireless) network of several slave to master

Data Storage:

- Non-volatile memory for 40'000 measurements with time stamp (for 8 channels)
- Memory expandable to 160'000 readings (for 8 channels)

Configuration:

- The logger is configured with the SDL tool user-friendly PC application (Windows XP / Windows 7)
- Up to maximum 50 configurable channels (analog / digital inputs on the SDL, with extension SBI interface via radio or data bus)
- Transfer of configuration via USB cable or GPRS (via WebDAVIS server)



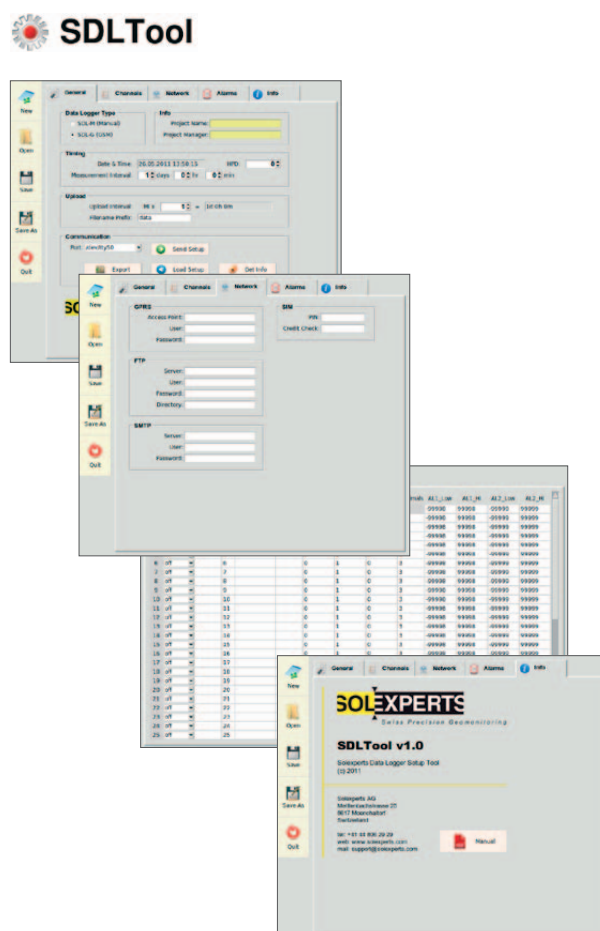
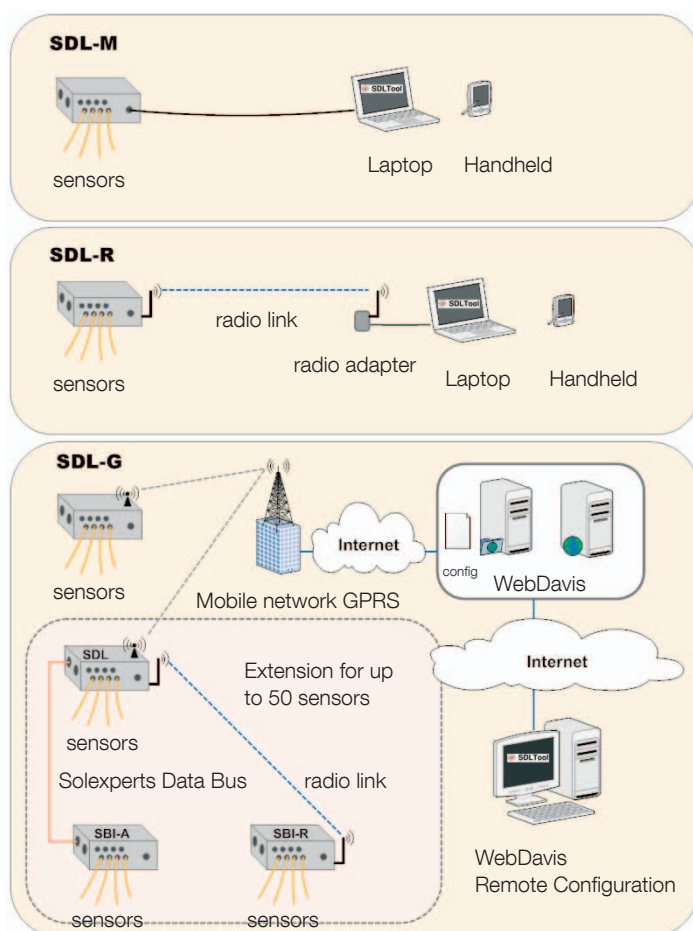
WebDAVIS - Web based Data Visualization

Turning data into information: Even a small data logger can collect thousands of data over time. Trying to get a handle on what the data mean can be difficult and time consuming. The Solexperts Data Logger is configured to convert the sensor signals into engineering units using the SDL-Tool program. The logger monitors and saves the sensor measurements and reviews the alarms at specified time intervals. The logger also transfers the data to the secure WebDAVIS server via GPRS.

The data from one or more SDL loggers are transferred as text files using FTP protocol and then automatically loaded into the WebDAVIS server for immediate viewing by project participants over the Internet on a secure password protected Web page. The Web page can be setup to display the measuring points on a layout of the project site. The measurement data can be displayed graphically and numerically and exported in graphic or text file (csv) formats. The data can be easily imported into MS Excel.

WebDAVIS incorporates other project data such as images, logbook, reports and plans are stored so you can get the complete picture of what is happening in the field. With WebDAVIS you get an overview of the project events and can focus on analysis of the data.

The SDL-family



Typical applications for the SDL

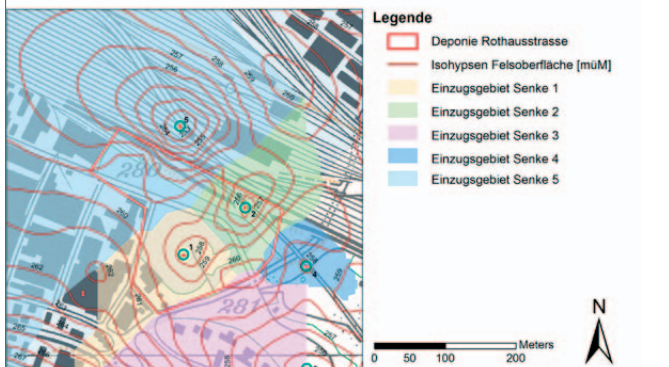
Monitoring with alarms for rock support:
Borehole extensometers, anchor load transducers



Monitoring of an unstable slope:
Inclinometer measuring chain, pore water pressure transducers



Groundwater Monitoring:
Hydrostatic pressure, air pressure, temperature, conductivity



Joint measurement at a bridge:
Joint extensometer, temperature



Contact

Please contact us for further information on the Solexperts Data Logger or for a quote - we are happy to help.

Our Services

We support you in your measurement tasks:

- Monitoring concept and consulting
- Configuration of SDL logger in the field and from the office via the Internet
- Installation and commissioning on site
- Transfer of data to Solexperts WebDAVIS server
- Data storage with daily backup
- Visualization of data on the Internet with WebDAVIS
- Final data backup after end of the project

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| No | Type | BusAddr | ID | Name | Units | Offset | Factor | Reference | Decimals |
|----|-------|---------|----|-----------|-------|--------|------------|-----------|----------|
| 0 | off | 100 | | | niv | 0 | 1 | 0 | 1 |
| 1 | Solus | 1 | 1 | Feuchte | %rel | -13033 | 0.00198010 | 1 | 1 |
| 2 | ADC | 2 | 2 | Atm-Press | kPa | -13240 | 0.00382440 | 1 | 1 |
| 3 | ADC | 3 | 3 | Temp-Out | deg_C | 10761 | 0.0296610 | 2 | 1 |
| 4 | ADC | 4 | 4 | Temp-Tech | deg_C | 10761 | 0.0296610 | 2 | 1 |
| 5 | off | 5 | | | 0 | 1 | 0 | 3 | 1 |
| 6 | off | 6 | | | 0 | 1 | 0 | 3 | 1 |
| 7 | off | 7 | | | 0 | 1 | 0 | 3 | 1 |
| 8 | off | 8 | | | 0 | 1 | 0 | 3 | 1 |
| 9 | off | 9 | | | 0 | 1 | 0 | 3 | 1 |
| 10 | off | 10 | | | 0 | 1 | 0 | 3 | 1 |
| 11 | off | 11 | | | 0 | 1 | 0 | 3 | 1 |
| 12 | off | 12 | | | 0 | 1 | 0 | 3 | 1 |
| 13 | off | 13 | | | 0 | 1 | 0 | 3 | 1 |
| 14 | off | 14 | | | 0 | 1 | 0 | 3 | 1 |
| 15 | off | 15 | | | 0 | 1 | 0 | 3 | 1 |
| 16 | off | 16 | | | 0 | 1 | 0 | 3 | 1 |
| 17 | off | 17 | | | 0 | 1 | 0 | 3 | 1 |
| 18 | off | 18 | | | 0 | 1 | 0 | 3 | 1 |
| 19 | off | 19 | | | 0 | 1 | 0 | 3 | 1 |
| 20 | off | 20 | | | 0 | 1 | 0 | 3 | 1 |
| 21 | off | 21 | | | 0 | 1 | 0 | 3 | 1 |
| 22 | off | 22 | | | 0 | 1 | 0 | 3 | 1 |
| 23 | off | 23 | | | 0 | 1 | 0 | 3 | 1 |
| 24 | off | 24 | | | 0 | 1 | 0 | 3 | 1 |

| | | | | | | | | | |
|---|--|----------|--|---------|--|--------|--|------|--|
| General | | Channels | | Network | | Alarms | | Info | |
| Data Logger Type SOL-48 (Manual) SOL-G (DSM) | | | | | Info Project Name: <input type="text"/> Project Manager: <input type="text"/> | | | | |
| Timing Date & Time: 26.05.2011 13:56:15 Measurement Interval: 15 days 00 hr 00 min | | | | | HFD: <input type="text"/> | | | | |
| Upload Upload Interval: 15 min 15 sec 10 min Filename Prefix: data | | | | | | | | | |
| Communication Port: rs485/50 | | | | | Send Setup Load Setup Get Info | | | | |
| Export Quit | | | | | | | | | |
| SOLExperts | | | | | | | | | |