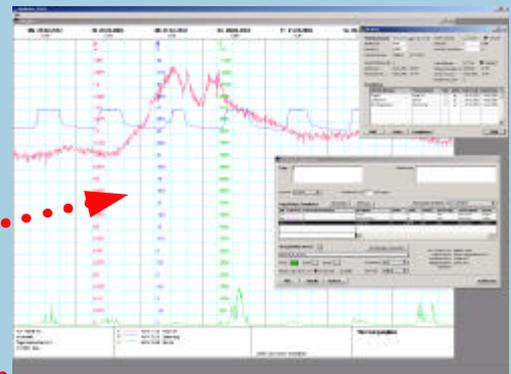


Datalogger for hydrometry and meteorology

- immediate availability of data and optimum data redundancy
- e.g. level, temperature, precipitation, pH value, air humidity, flow etc.
- discharge calculations based on internal tables or mathematical funcs
- alarm alert by GSM mobile phone (SMS), fax and text message on PC
- open system-architecture
- dependable and secure
- automatic data utilization thanks to consistent data-format





The Telelog TL-1 is a net- or solar powered data logger; its measuring networks can be build up to continually register and monitor any measuring values you like. The data interrogation can be made through the modem from different users at any time.

In case of an exceed limit, alert messages are automatically being sent through mobile phone (SMS), fax or data telegram to any receiving persons you like.

The Telelog TL-1 is based on a 16 MHz multitasking microprocessor system. This allows all functions to be carried out side by side, i. e. no function is disrupting or influencing the other.

Thanks to stable software base and integrated control-algorithms an extremely high availability of data is guaranteed. The strong build-up and pluggable connections allow a fast and economic installation, as well as a trouble free operation.

Usually the data are polled comfortably out of the office by modem (PSTN, ISDN, GSM, satellite). Alternatively the data can also be polled on site with a PocketPC or Notebook-computer.

Alarm

32 limits can be set and messages can be sent through alarm channels to any fax machines or SMS (short messaging-service) to GSM mobile phones.

Measurements

All analogous probes (level, temperature etc.) with current- or voltage-output, as well as precipitation-meter with tipping bucket (Option), can be connected to the Telelog TL-1. All inputs are galvanic isolated to reach the highest possible disruption stability.

For all measurements there is an integration time of 4 seconds. Momentary values base on that 4 sec-value. When measuring average-values, the whole interval-time is being mathematically integrated.

Time exact registration

The battery buffered quartz-watch with a 100 year calendar makes up the time base of the Telelog TL-1.

Time-synchronous measurement

All measurement intervals begin to fixed times, i.e. all measurements start out at the same time at all stations. This is the only way the comparison of the data can be guaranteed.

Memory

Everything is continually being memorized in the circular memory: main data and measurement data. If the memory happens to be full, the oldest data will be eliminated. Taking three measurements (level, temperature and precipitation) in 10 minute intervals the intern memory space lasts for about 6 weeks.

High data-security

To every measurement value time and date are being memorized; data gaps are immediately recognizable and do not

have any far-reaching effects. Also supply interruptions, alarm messages and other incidents are immediately being registered with date and time. This results to a complete reproduction of recording, exceed-limits, alarms etc.

Parameterization/Calibration

Parameterization takes place through software on a PC/MAC. The level-offset can also be adjusted through the front-keys and the service switch. A coincidental change is not possible.

Passwords

To avoid any unauthorized changes of the parameterization, or unauthorized interrogation of data, they are all protected by passwords. For every user (10 maximum) a password and authorization-level can be installed. This process is the same in all our products with data-interface.

Modem-Connections

To insure a dependable modem connection, the modem is being newly initialized after every connection and at least once a day.

Limits/alarms

There are 32 limit values that are freely setttable. Each measuring value can be controlled through different limit-values, and they will set off one of 16 alarm channels. The alarm channels are also freely setttable by the user (with the proper authorization-level).

Event driven inputs

In addition there are three inputs for event control existing in the Telelog TL-1 whose functions are freely setttable and are used for net-monitoring, control of entry, pump activity and so on.

Event driven outputs

Four outputs to control external devices. The functions are setttable and are used to alert by alarm horn or to start pumps, samplers etc.

Connections

All connections are equipped with waterproof plugs. The lining and the plug-types are identical to all the loggers made by us.

Power supply

The power supply is usually taken from the 230V-net and an external DC-Adapter or with SO-option through a solar module.

Technical specifications

Analogue

- Number of Inputs: 4..8 + internal supply
- Accuracy: 0.025%
- Resolution: 16 bit (1uA)
- Measuring range: 0..20mA or 0..1V
- Shunt: approx. 70 Ohm (electronically)
- Probe-Supply: Same as TL-1 (internally)
- Measuring time: 4sec. / True RMS over interval
- Connection: waterproof 7pin or 5pin round-connector (gold)
- Upgrad up to 64 Inputs
- 8 tables or functions for discharge or other computations

Precipitation (Option)

- Input for Reed-contact (Tipping bucket)
- Number of inputs: 1
- Maximum Value: 65535 impulse/interval
- Contact tension: approx. 5V
- Contact current: approx. 100uA
- Connection: 5pin round-connector (gold)

Event driven inputs (digital inputs)

- Input for switch (mechanical or electronic)
- Number of Inputs: 3 + 1
- supply: externally 5..24V galvanic isolated or internal supply
- Current: approx. 1mA
- Connection: 12pin round-connector (gold)

Event driven outputs (digital outputs)

- Open-Collector-Outputs (Relays etc.)
- Number of outputs: 4
- supply: externally 5..24V galvanic isolated or internal supply
- Current: max. 200 mA
- Connection: 12pin round-connector (gold)

Software

- User-Accounts: 10
- Measuring-channels: 32
- Limits: 32
- Alarm-channels: 16
- Timers: 2
- Functions / Tables for free computations: 8

Device

- Supply: 7..30V DC / 2.6W @ 12V, 4 Ch.
- Operating temperature: -5°C..+55°C
- Dew waterproof
- 2xRS-232: 1200..57600 Baud w. Handshk.
- Display: 2 lines with 16 chars
- Memory: 512 kByte internal
- Housing: Alu-coated ABS, IP65
- Size: 260 x 230 x 130 (W x H x D)

Options

- 1 or 2 Input (RS-485/232) for MS-2x / KS-3 / InputBox IB-8
- SO for solar-power (automatic sleep)
- RG for precipitation

Fieldlog™, Telelog™, MultiSonde MS-2x™ are protected trademarks of
KERN ELEKTRONIK AG

KERN ELEKTRONIK AG

Messtechnik und Elektronik
Kammistrasse 11
CH - 3800 Interlaken
Tel 033 / 823 74 04 Fax 033 / 823 74 05

<http://www.kern-elektronik.ch>
email: info@kern-elektronik.ch

October 2005