

# Hydro Logger H1

## Small telemetry station - GSM Datalogger



- Inputs for connecting water meters and flow meters with pulse output
- Current inputs for pressure and level sensors in reservoirs and pumping stations
- Binary inputs (flooding, pump operation)
- GSM / GPRS data transfers to the server
- Integrated SMS alert system
- Operation from own battery up to 5 years, input for external power supply 12 VDC
- Parameters configurable via the Internet
- Robust metal housing with IP67 protection
- Low operating costs due to the possibility of long-term rental of a cheap SIM card

### Basic description

Hydro Logger H1 is suitable for data collection from sensors with pulse or current output. Battery power allows long-term use of the device even in buildings without mains power. The capacity of a lithium battery designed for several years of operation can be saved by connecting an external 8 to 24 V DC power supply.

The measured and archived values are transferred to the database to the server via the GSM / GPRS network at regular intervals. After reaching the preset limit values on the measuring channels, the transmission of data and warning SMS is activated immediately.

Hydro Logger H1 allows connection and power supply of up to three pressure or level sensors with 4-20 mA output signal. The voltage and current for powering these sensors are monitored and recorded in separate diagnostic channels as well as the temperature or humidity inside the device, the remaining battery capacity and more.

The graphic display shows the measured quantities (instantaneous flow and flowed volumes, pressure, level, temperature, humidity, voltage, ...), allows basic parameterization of the device and facilitates, for example, the installation of a GSM antenna in the field.

H1 has a robust mechanical design with high IP67 protection, which is necessary for devices located in a permanently humid environment of water works facilities.

### Examples of use

- Remote meter readings. Monitoring of instantaneous and minimum night flows, including balances.
- Continuous monitoring of flows, pressures and levels in measuring shafts and reservoirs.
- Construction of a network of rain gauge and limnographic stations with the possibility of sending warning SMS

### Datahosting

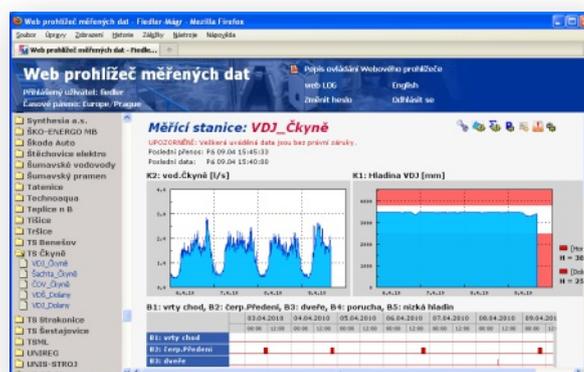
Hydroo Logger H1 uses data hosting set up on the manufacturer's server. The user does not have to set up his own server or ensure its operation and maintenance.

Authorized users can access the data stored on the server at any time via a standard web browser. In addition to graphical and tabular visualization, the server also enables statistical calculations of balance flows, search for limit values, data exports in several formats, automatic sending of e-mails based on exceeding preset limit values on measuring channels and some other functions.

A frequently used function of the server is the processing and subsequent printing of overview reports on elapsed volumes for individual months and measuring stations.

#### Long-term SIM rental

Together with the H1 station, the supplier can also order the delivery of an inserted SIM card with a low monthly fee, which also includes a free volume of 1 MB of transferred data. This volume is sufficient for the monthly operation of the station in the vast majority of applications.



## Software H1

### Measuring channels

Each recording channel can be assigned its specific name, number of decimal places for measurement and archiving, units, measuring method and other parameters.

The archiving interval can be set separately for each channel. The datalogger supports the transition to more frequent recording of selected quantities after exceeding the set limits (limit alarm) or after a quick change of value (gradient alarm).

In addition to the measuring channels, the H1 also contains diagnostic channels that record the battery voltage, the remaining battery capacity, the amount of external supply voltage, the amount of current drawn by the connected sensors and the temperature and humidity inside the datalogger.

### Basic program functions

- Calculation of instantaneous flow from pulses from the water meter.
- Monitoring of daily and total flow volumes.
- Computational functions over measuring channels (sum, moving sum or average, difference, trend, correction by 2nd order polynomial) with output to a separate channel and to SMS.
- Limit and gradient alarms for each channel.

### Inputs for connecting sensors and probe

**PV1-PV2:** 2 fast inputs with integrated pulse counters designed for water meter sensors (OPTO, REED)

**PV3-PV4:** 2 Pulse-binary inputs intended for sensors of the REED type or as inputs of binary states (pump operations and faults, sump flooding, object security).

**Av1- Av3:** 3 current inputs: analog signal 0-20 mA, 4-20 mA, 1-5 mA, 0-5 mA, 0-1 mA.

**Alternatively 2 voltage inputs:** 0 to 2.0V

**RS-485:** serial network interface for connection of separate measuring probes under the FINET protocol (eg ultrasonic level sensor Us1200).

**HYDRO LOGGER H1** is also equipped with a combined sensor, which is used to monitor the temperature and humidity of the air inside the device (autodetection of tightness).

### PC/laptop connection:

Together with the H1 device, it is also possible to order a KP232 / M8 communication cable and a USB / RS232 converter for local parameterization and reading of measured data to a connected PC (notebook) under the MOST program.



### Data transfers to the server

- Transmission of measured data to the server at the set time.
- Switch to more frequent transmissions after evaluation of the alarm condition.
- The controlled power supply of the GPRS module enables many years of operation without battery replacement - more than 4000 data sessions or SMS.
- Parameterization via the server, including saving changes in settings.
- Adjusting the station time according to the server.
- FW datalogger upgrade via server.

### System of warning and informative SMS:

- Telephone directory for 10 recipients, grouping into groups.
- 14 adjustable warning SMS messages (any text, automatic input of the current value, various trigger conditions, including their duration).
- 8 preset SMS messages.
- Possibility of compiling the content of an informative SMS message (current values, max., Min., Various balances, SIM credit, ...). Informative SMS sent in daily, weekly or monthly interval.

### Technical parameters

**Recording channels:** 8 analog, 4 binary, 1 text, 8 control (sensor current, temperature, humidity, ..)

**AD converter resolution:** 16 bits, 0-3 des. places

**Sensor power supply:** programmable voltage 6 to 16V

**Archiving interval:** adjustable from 1 minute to 1 day separately for each recording channel

**Data memory capacity:** 2MB Flash, 300,000 values

**Supported quantities:** flow, level, pressure, temp., ..

**Real time correction:** automatic from the server

**Power battery:** 3.6V / 13Ah lithium battery

**External supply voltage:** 8-15 V DC

**Number of data sessions or SMS messages:** 4,000

**Operating time:** depending on the number and type of connected sensors, measurement frequency and number of data sessions up to 5 years without battery replacement

**GSM / GPRS module:** GPRS Class 12, slots: 4Rx/4Tx

**GSM antenna:** magnetic 1dB, SMA connector

**Working temperature range:** -20 to +50 ° C

**Material and protection:** Al alloy, Ip67

**Dimensions:** 160 x 105 x 60 mm

**Weight:** 1.1 kg including stainless steel holder and battery

