

Level meters H531, H531-G

Battery powered with possible internet connectivity



- **Basic types of sensors with measuring ranges 0..10 m or 0..25 m water level**
- **Stainless steel design of the sensor body**
- **Installation of the sensor by immersion behind a cable or by screwing into a 1/2"**
- **Battery operation and the possibility of power supply from an external source**
- **Binary output for pump control, solenoid valve or signaling**
- **Possibility of automatic transfer of measured data to the database on the Internet via GSM / GPRS network**
- **Datahosting on the manufacturer's website - graphs and tables of measured values accessible to the user via a web browser**
- **Quick setting and change of level meter parameters using 3 buttons and display**
- **Graphic display of measured values for a selected time period (1 hour, 10 weeks)**

Basic description

The battery-powered H531 level meter is designed for measuring and displaying the level in wells, boreholes, rainwater and sludge sumps and in rainwater retention tanks.

The H531-G level meter variant with a built-in GSM / GPRS communication module automatically transmits the measured level values to the database on the manufacturer's server. The data is accessible to the user via a web browser in the form of a graph and a table.

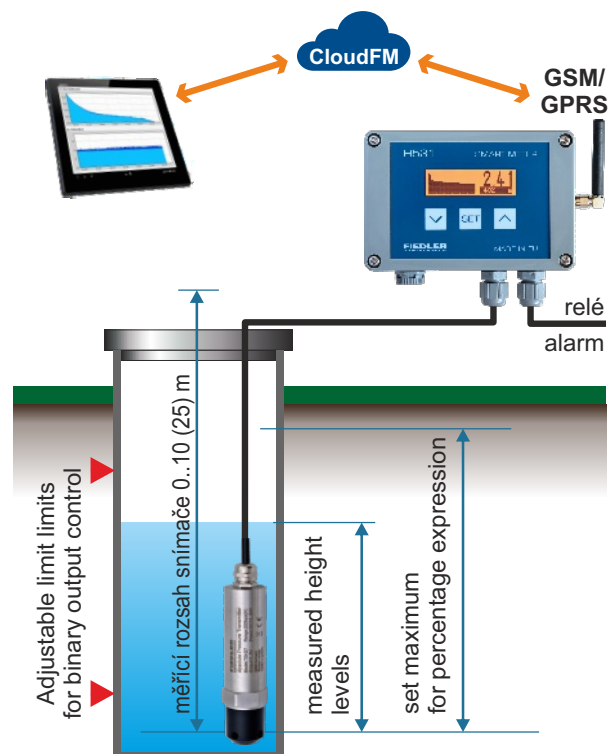
To display the measured values, the device is equipped with a graphic display, which informs the operator about the development of the level over time, while the time interval shown on the display is user-adjustable from units of hours to several weeks.

The transistor output signal of the level meter is intended for controlling an external relay according to user-set parameters (on and off level). The relay can control both the pump and the make-up solenoid valve or an audible or light signal.

The H531 level meter has its own Li supply battery, which is able to keep the level meter in operation for up to 5 years, depending on the set operating mode and the frequency of measurements. In addition, the level meter can also be permanently powered from an external voltage source in the range of 5 to 28 VDC and thus operate the H531 level meter with a permanently on display, including its backlight.

Examples of use

- Level measurement and maintenance in retention tanks
- Level measurement in wells and boreholes
- Monitoring the level of sludge sumps



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Complete product overview, demonstration approach to the data server and complete price list on www.fiedler.company

Submersible Level Transmitter TSH27

Measurement principle: The TSH27 sensor uses an absolute pressure sensor that measures the hydrostatic pressure of the water above the sensor together with the atmospheric air pressure. The voltage output signal of the sensor is converted to the height of the level in the evaluation unit H531, after subtracting the atmospheric air pressure measured by the unit. The use of the principle of absolute pressure measurement allows the connection of the sensor to the H531 level meter with a 3-core cable without the usual compensating capillary and thus significantly reduce the cost of the set.

The measuring range of the TSH22 sensor is 0 to 10 m (TSH27-10) or 0 to 25 m (TSH27-25). The basic length of the connecting PUR cable with which the sensor is equipped also corresponds to the measuring range.

Alternative level sensors: Using switches and jumpers, an alternative type of level sensor can be selected: probes with 4-20 mA current output and ceramic membrane for heavily polluted water (LMK809) or sensor with RS485 digital output under MODBUS RTU protocol (type TSH22).

TSH27 sensor installation

It is enough to simply lower the sensor over the cable into the measured object (wells, wells, ...) to such a position that even at the assumed minimum level it is still immersed and the measuring range of the sensor 10 m (25 m) at the maximum level height is not exceeded.

If necessary, the connecting cable can be extended. However, due to the reliability of operation, we recommend placing the H531 unit close to the measurement in order to prevent overvoltage induction in the connecting cable or compensation of different earth potentials during storms.

Technical parameters

TSH27 level sensors (absolute strain gauge, air pressure compensation in H531)

Measuring range of the sensor: 0..10 m v.s. (sensor TSH27-10) or 0..25 m (sensor TSH27-25)

Measurement accuracy: typ. 1% of measuring range

Sensor connection cable: PUR cable; length 10 m or 25 m (TSH27-10) and 30 m (TSH27-25)

Sensor material: stainless steel, polyurethane cable insulation

Dimensions and weight: diameter 27 mm, 1/2" mounting thread, height 70 mm, 350 g without cable

Level meter H531 (evaluation and display unit with air pressure measurement)

Display: backlit LCD display, graphical display of up to 72 measured values

Keyboard: 3 capacitive fingerboards for manual parameter setting

Analog input: voltage 0-5 V or current 4-20 mA (selection via jumpers)

Digital input: RS485 (master) for connecting an alternative TSH22 level sensor

Output voltage for sensor: 12 V / max. 40 mA

Measurement frequency: 5 measurements / sec, adjustable in battery mode: 1 min, 10 min and 60 min

Transistor output: open NPN collector, $U_{max} = 28$ V DC, $I_{max} = 300$ mA

Communication module (H531-G): working band 2G (GPRS), global chip SIM, credit 1 MB / month

Supply voltage / current: 5..28 V DC, current consumption type up to 0.1 A (for 12V)

Dimensions and protection: 120 x 80 x 55 mm, 2 cable glands for connecting Unap and relays, IP66

Parameters of level meter H531

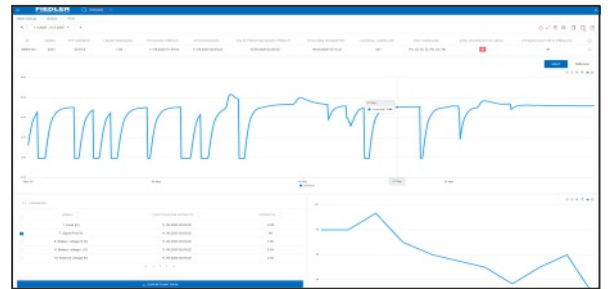
Using the 3 buttons located below the display of the device, the parameters of the level meter can be set by the user. These are divided into 5 groups from the basic display settings to the parameters of the GSM module.

The operating modes of the device include the basic battery mode, in which the display of the device is switched on only for a short time after pressing one of the buttons, and the mode of external power supply with the display permanently switched on.

The self-diagnostic functions of the level meter allow to display the status of the power supply battery, the presence and size of the external power supply, the number of performed data sessions with the server and some other variables on the device display.

Remote data access

The H531-G level meter with a built-in GSM / GPRS communication module uses a cloud data hosting service on the manufacturer's server. The user with an Internet connection thus has the possibility to remotely control the measured level and monitor its long-term time course.



The operating costs of data hosting, including the costs of data transmissions in the GSM network, are included in the purchase price of the level meter for the first 5 years of operation. Then it is possible to purchase the continuation of these services in the form of a data package for a price from EUR 12 / year .