

Hydro Meter H11-G (-N)

Smart metering module for remote meter readings



- *Can be used with any pulse water meter, electricity meter, gas meter*
- *Backflow indication and indication of sensor disconnection from the meter*
- *Readings in the daily interval*
- *Emergency detection and recording*
- *Data transfers adjustable in intervals: daily, weekly, monthly*
- *GPRS (H11-G) or NB-IoT (H11-N)*
- *Local NFC communication (phone, tablet)*
- *Mechanically resistant design, high IP67 protection, non-corrosive materials, self-diagnostic functions*
- *Maintenance-free operation without battery replacement for the life of the water meter*

Basic description

Hydro Meter H11 is a GPRS or NB-IoT (NarrowBand) module for remote meter readings (water meters, electricity meters, gas meters), ie smart metering. It allows operators to have an overview of current consumption at individual consumption points and to monitor emergencies in real time.

Connectivity

Settings and readings can be made locally or remotely. You can communicate locally with the device contactlessly using a mobile phone or tablet. There is no need to connect with a communication cable, it is enough to attach a portable device equipped with NFC wireless communication technology.

Remote communication is realized by GPRS or NB-IoT technology (NarrowBand) and is performed automatically according to the settings of the module parameters or it can be initiated locally via the NFC interface. The device automatically logs on to the network of the operator with the strongest signal at the place of installation of the module, including foreign operators, while maintaining the same operating costs for the transmitted data *). This feature can be used to advantage, for example, in border areas or in the event of a failure of one of the available networks.

The device is without a classic SIM card. This has resulted in higher reliability and integration of the device, which can be quickly installed without the administration associated with procuring a suitable SIM card.

*) Valid only in the territory of the European Union. For conditions in other countries, you can find out n info@fiedler.company

Basic functions

You can monitor the status of the water meter counter and some emergencies such as:

- backflow detection
- exceeding the maximum flow value
- exceeding the daily set limit
- exceeding the night minimum
- separate consumption counters for tariffs
- detection of module removal from the sensor
- low battery detection
- battery disconnection detection

The current status of the water meter counter is read daily. The frequency of data transmissions can be configured at daily, weekly or monthly intervals. Extraordinary events are sent as a matter of priority - immediately after they are detected.

Follow-up services

By default, data from the device is published through a unified portal for data visualization and management operated by the device manufacturer. It is a graphical superstructure for administration and supervision, which is suitable for users of administration and maintenance of a smart metering network.

Optionally, a comprehensive data visualization service can be offered to the operator's end customers, which can be tailored to individual needs - such as daily, monthly and annual subscription reports, forecasts, emergency notifications via e-mail or SMS. The basic variant of data publication is the creation of web services for integration with the customer's information system.

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SMART METERING MODULE FOR REMOTE METER READINGS

Mechanical design

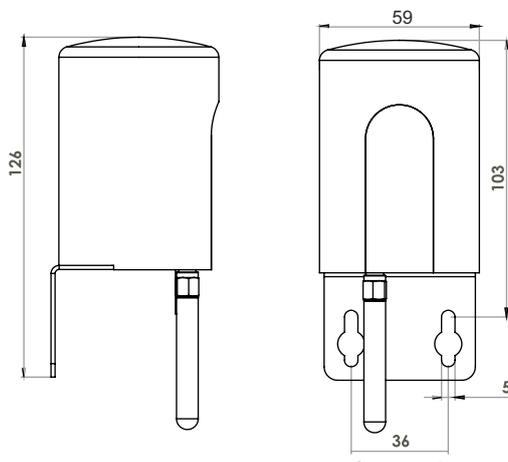
Hydro Meter H11 is designed with regard to compact dimensions and long-term durability when operating in extremely humid environments. The protection meets the IP67 standard. The body of the device is made of chemically stable plastic and the holder is made of stainless steel. The construction is made so that the device can work reliably and unattended for at least the life cycle of the water meter - ie. 6 years.

The H11 is powered by a high-capacity lithium battery, which under optimal conditions allows the implementation of thousands of data transmissions over the GSM network. The device is optimized for the weekly interval of transmission of daily counters.

A cable for connecting sensors with a length of 3 meters is part of the device. The free end of the cable is provided with sockets and is adapted for connection to the pulse sensor of the water meter. For larger orders, a fixed H11 connection with a suitable pulse sensor can already be ordered from the manufacturer.

Technické parametry

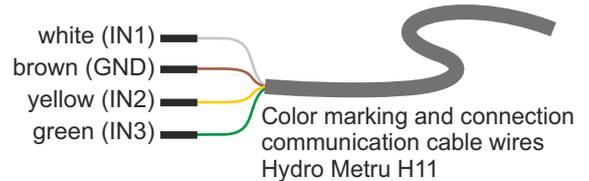
Common characteristics of inputs:	voltage-free contact or OC, $R_{max} < 1k$, $U = 3V3$, active level = L
Inputs IN1, In2:	max 100 p/sec (frequency > 25 p/sec shortens battery life *)
Input IN3:	alarm signaling with recording of start and end in the device memory
Water meter connection:	PUR cable 4x 0.15; length 3 m, without connector
Flow registration:	separate counter states for normal and return flow
Counter status storage:	adjustable in the interval 1 hour to 1 month (default 1x/day at 00:00*)
Counter size:	64 bits (> 1.8 * 10 ¹⁶ m ³), resolution 1 liter
Local communication type:	NFC - reading act. values, commands
Remote communication:	built-in GSM / GPRS module, adjustable frequency 1x day .. 1x month
Antenna:	external - included, SMA connector
Frequency bands -G / -N:	2G GPRS Class 12 & SMS; 850, 900, 1800, 1900 MHz/800 MHz/B20
Extraordinary transmissions:	possibility of GSM transmission after event detection*)
Self-diagnostics:	battery voltage, GSM field strength, total time of switching on the GSM
Power battery:	primary lithium battery 3.6 V / 13 Ah, connected cable with connector
Battery life:	up to 10 years depending on the freq. and volume of GSM transmis.
Dimensions:	diameter 59 mm, height 90 mm (without holder and GSM antenna)
Material:	TECAFORM (POM) and stainless steel (holder)
Weight:	350 g (including battery and GSM antenna)
Protection:	IP67



Installation

For the deployment of the H11 module at the site, it is assumed that the water meter will be equipped with a sensor with a pulse output. Hydro meter H11 is then wired to the sensor by four wires, which have functions depending on the selected type of sensor:

Wire IN1 (white) serves for pulse input and GND (brown) as common ground. Input IN2 (yellow) has a function of backflow detection or backflow pulse input, depending on the selected sensor type. Input IN3 (green) is used to signal a cable break or alarm in the pulse sensor. Color marking corresponds to common types of water meter pulse sensors (SENSUS, ITRON, ...)



*) battery life is inversely proportional to the frequency of data transfers per server and the number of transferred cases.