



# Aqua-Meter Clamp with Wi-Fi

SKU: AQMWIE01

Version: 1.0



## Product Description

The water sensor clamp measures the flow and temperature in a water pipe using a "Time of Flight" measurement method and transmits the data wirelessly. By analyzing the flow internally, water leaks and other anomalies are detected, and the owner is alerted.

The device is clamped onto the outside of the water pipe without interrupting the water supply. Its flexible design and innovative software allow it to be used on water pipes between 16 and 50 mm, with all currently available materials on the market such as PEX, PEX AL, copper, PE, or steel. It meets all requirements of the European Community's Measuring Instruments Directive (MID). With only 60 mm of space required above the water pipe and a length of 110 mm, the device is very flat and short, making it easy to install.

The device can be powered either via USB-C or two AA alkaline cells. Whenever an external power source is available, it is used independently of the inserted batteries.



The system communicates via Wi-Fi and is controlled by an app on a mobile phone. Additionally, data can be sent to an MQTT server or an HTTP 'webhook' to be integrated into a smart home system.

## Scope of Delivery

- Measuring clamp main device (without batteries)
- USB-C power cable and power adapter
- Additional contact pads
- Cable ties for installation
- Ultrasound gel
- Pipe clamp for installation
- Two adapters each for different pipe diameters

## Technical Data - Part 1

- Identification:
  - SKU: AQMWIE01
  - EAN: 4251295783 - 444
- Power Supply:
  - Alternative of parallel: ext. power supply or battery
  - Power Supply: 5V/2A USB-C
  - Battery: 2 \* AA, replaceable
- Communication:
  - WLAN IEEE 802.11b/g/n (2.4 GHz WIFI)
    - Aqua-Scope Cloud Protokol
    - MQTT Client
    - JSON Webservice Client
  - LoRaWAN
    - Frequency EU868 or as configured
    - Class A
    - LoRaWAN 1.0.3
  - Bluetooth 5 (LE): UART Profile
- Local Usage:
  - one Button
  - 3 Colored LEDs (red/green/yellow)
- Sensing Technology:
  - Approach: differential "Time-of-Flight"
  - Frequency of Signal: 1 MHz Ultrasonic
  - Strength of Signal: -7.5 ... 30 dB (calibrated)
- Supported Pipe Diameters/Materials
  - Diameter Plastics: 15 ... 50 mm
  - Diameter Metall: 15 ... 32 mm
  - Pipe Materials: PEX, PEX AL, Steel, Copper, PP, PE
- Sensitivity of the Sensor:
  - Minimal sensitivity: 0.1 l/m - 3 l/m (user-defined)



- Drip Detection: from 0.1 l/m (depends on calibration, shown in App)
- Breaking Pipe Detection: > 30 l/m (user-defined)
- Dimensions/Weight:
  - 110mm x 60mm x 40mm
  - Weight: 310 gr. (without Batteries)
  - Protection: IP 44
  - Storage/Transport: 0 ... 40 C, 10 ... 90 % RH

## **Technical Data - Part 2 (MID/OIML-R49)**

- Pressure: PN10 (Pipe dependent)
- Temperature: 0.1°C ... 70°C (T70)
- Overload flow rate (Q4): 3 125 l/h
- Electrostatic Class: E1 (residential, commercial, light industrial)
- Climate Class: 5°C ... 30°C in condensating/damp environment
- Environmental Class: B (MID), fixed installation with minimal vibrations