



Aqua-Scope Water Monitor LoRaWAN

SKU: AQSLWE01

Version: 1.0.0



The Aqua-Scope Water Monitor records **all consumption of water** in the home and it **detects damaging water** leakages. To achieve this, the device applies advanced signal processing analyzing water pressure waves traveling inside the pipes of the house water system.

A **single sensor can monitor the whole home** or apartment and communicates measured values and alarms to a LoRaWAN network.

The current version of the Water Monitor is **approved for single-family homes with Pressure Reducing Valve (PRV)** installed. '**Clinical Trials**' are ongoing for installations in multi-apartment homes and water systems without PRV.

Scope of Delivery

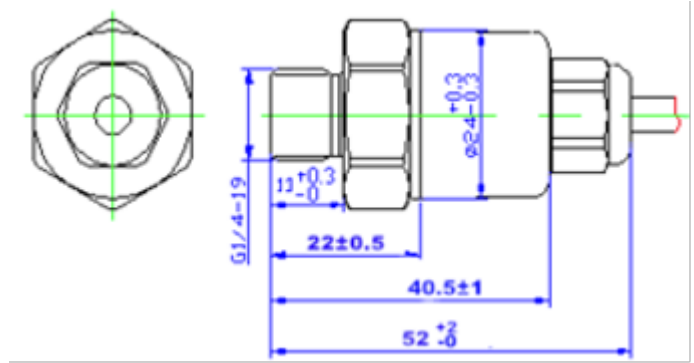
- Aqua-Scope Water Monitor main device
- Aqua-Scope water microphone with 80 cm cable and audio jack
- 3/8 Inch water pipe connector (T-shaped)
- One external water contact sensor with cable and audio jack
- USB power cable and power supply
- 19 mm wrench to unfasten and fasten the 3/8 Inch connections of the pipe connector
- Manual

Technical Data

- Power Supply: External USB Power Plug 5 V/ 1A
- Processor: ESP32-WROOM_32E (Xtensa Dual Core 32 Bit, 240 MHz, 520 KB RAM)
- Wireless Connection:
 - WIFI ESP Built-in 2.4 GHz 802.11 b/g/n, bitrate in 'n' mode up to 150Mbps
 - Lora: SX1261, EU868 MHz, SF 7-12, TX16 dBm, RX: - 147 dBm @ 300 bps, Class A

Data Sheet: Aqua-Scope Water Monitor LoRaWAN (AQLWE01)

- ADC: ADS112C04, 4 channel, 16 bit, 1000 sample/s
- Water Pressure Sensor:
 - Range : 0 ... 1000 kPa (10 bar)
 - Overload: 150 % of maximum pressure
 - Connection: G ¼ " female
 - Precision:
- External Sensor Pad
 - 4 sensing pins on both sides
 - Cable length: 150 cm
 - 3.5 mm water-proof jack
- Minimal Flow Speed:
 - With Pressure Reduction Valve (PRV):
 - Without Pressure Reduction Valve (PRV):
 - Pipe-Check:
- Dimensions (Main Device): Diameter = 66mm, Height = 20 mm
- Weight (Main Device): 50 gr
- Water Proof: Main Device: IP 20, Pressure Sensors: IP 65
- User Interface: 3 color LED, single touchless button
- Environmental Conditions:
 - Shipment and Storage: -65 °C ... 100 °C
 - Operation: - 10 °C ... 50 °C
 - Rel. Humidity: 0...90 %



Information related to Drinking Water Directive EU 98/83/EC

Certain parts of the device are exposed to drinking water and therefore subject to the European Drinking Water Directive. The used material CW509L which is in the list of approved materials of the German Environment Agency (UBA) in the version from May 14th, 2020 under section 2.1.3.1.