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WIFI Water Leakage Monitor

SKU: AQSWIE02

Version: 1.1.0



1. Product Description

The Aqua-Scope water leak monitor detects water leaks and records the temperature and water pressure. In combination with an Aqua-Scope remotely controlled shut-off valve, the system regularly searches for microleaks and shuts off the water if necessary. The user is then alerted via radio, both during such incidents and when pressure anomalies are detected. An additional wired flood sensor can be connected directly to the device. Furthermore, up to 10 additional wireless sensors can be distributed and connected throughout the building to detect water leakage and report it to the monitor via radio. The device consists of two parts:

- **Main Unit (Monitor):** Detects water consumption and leaks by analyzing pressure waves; Records temperature, water consumption, and water pressure continuously; Wireless alerts for detected leaks or when pressure or



temperature thresholds are exceeded or not reached; Option to connect an additional wired flood sensor directly to the device.

- External Sensor Head: Connected to the water pipe, installed somewhere in the building at a 1/4-inch inspection opening, or with a provided T-piece under any sink at the angle valve.

Thanks to the excellent sound characteristics of water, a single sensor somewhere in the house is sufficient to detect water consumption and leaks throughout the entire building.

Control of the system is centralized through a mobile phone app using WiFi communication. Furthermore, data can be transmitted to an MQTT server or an HTTP 'webhook,' facilitating integration with modern Smart Home systems.

The sensor is powered either by an external power supply with a USB-C power supply or by an optional internal ER26500 battery (Bobbin Cell C). Both the sensor head (IP67) and the main housing (IP65) are waterproof and can be used outdoors or in particularly humid and/or dirty environments.

2. Scope of Delivery

- Water Monitor main device (without battery)
- Pressure sensor head with 80 cm cable
- 3/8 Inch water pipe connector (T-shaped)
- One external flood sensor with cable
- USB-C power cable and power supply
- 19 mm wrench to unfasten and fasten the 3/8 Inch connections of the pipe connector

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

The t-shaped part of the device is exposed to drinking water and therefore subject to the European Drinking Water Directive. The certified used material is called 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.

4. Technical Data

- Power Supply: External USB Power Plug 5 V/ 1A
- Battery: Bobbin Cell C ER26500, Lithium-Thionyl Chloride
- Processor: ESP32-WROOM_32E (Xtensa Dual Core 32 Bit, 240 MHz, 520 KB RAM)
- Wireless Connection:



- WLAN IEEE 802.11b/g/n (2.4 GHz WIFI)
 - Aqua-Scope Cloud Protokoll
 - MQTT Client
 - JSON Webservice Client
- Bluetooth 5 (LE)
 - UART Profile
- Pressure Sensor Head:
 - Range : 0 ... 1000 kPa (10 bar)
 - Overload: 150 Percent of maximum pressure
 - Connection: G ¼ " female
 - Communication: I2C
 - Precision: < 1 Percent dynamically
 - Built-in High-Precision Temperature Sensor
- Dimensions (Main): 91 mm x 91 mm x 30 mm
- Weight (Main Device): 105 gr
- Weight (Sensor Head): 140 gr
- Protection: Main Device: IP 65, Sensor Head: IP 67
- User Interface: 4 colored LED, single touchless button
- Environmental Conditions:
 - Shipment and Storage: -65 °C ... 125 °C
 - Operation: - 20 °C ... 50 °C
 - Rel. Humidity: 0...90 %