

# **Aqua-Meter Clamp with Wi-Fi**

SKU: AQMWIE01 Version: 1.1



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## **1. 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 many currently available materials on the market such as PEX, PEX AL, copper or PE. 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.

## 2. Measurement Principle





The water sensor clamp utilizes ultrasonic waves and the "differential time of flight (DTOF)" method to measure water flow. In this method, two ultrasonic transducers, called transducers, are employed to send signals in opposite directions through the pipe and water. The signal sent by the upstream transducer travels along the direction of water flow and is detected by the downstream transducer. The second signal sent by the downstream transducer noves against the direction of water flow, progresses more slowly, and meets the upstream transducer later. The difference in travel time between the two signals is directly proportional to the speed of the water in the pipe and thus the flow rate. To better understand this method, one can imagine it like swimming in the current of a river. By swimming upstream and downstream and comparing the time it takes to cover the same distance in each direction, one can estimate the speed of the water flow in the river. Similarly, in the case of the water sensor clamp, the movement of the transducers generates a wave that serves as a swimmer to estimate the speed of the water flow.

The test signal of the device has a frequency of 1 MHz and is of very low power, making it inaudible and harmless to humans and animals. Furthermore, the sound waves of this high frequency are strongly attenuated by the atmospheric pressure of the air and, in practice, cannot radiate beyond the pipe. Therefore, the water sensor clamp will not disturb people or other devices.

## 3. Design of the Sensor

The sensor consists of two main components:

- The sensor base (4), which is connected to the water pipe. It contains the temperature sensor and the two ultrasonic transducers (13). Their distance from each other can be adjusted using the handwheel (2/11) to accommodate the existing pipe thickness (5) and the material of the water pipe.
- The electronics capsule (3) with electronics, batteries, LED (1), button (1), etc. is placed on the sensor base and secured with a flap (6). Alternatively to batteries, the sensor can be powered via a USB-C power supply (7).

Two small intermediate adapters (14) are required to fix the base to the pipe, which



correspond exactly to the diameter of the water pipe. A selection for the important pipe diameters is included with the product. Furthermore, the sensor must be securely mounted to the water pipe using a cable tie or alternatively a hose clamp (not shown in the image).

During operation, the capsule is firmly connected to the base. For maintenance purposes or for battery replacement, it can be safely separated from the base. If the capsule is powered without the base, **a corresponding alarm message** will be issued, and no water consumption measurement is possible.



### **4. Connecting to the Wireless Network**

#### 4.1. Connecting to Wi-Fi

When the device is powered on, the LED should blink slowly in red and green, indicating the factory default state.

You can connect the device to a Wi-Fi network only in its factory default state. To reset the device to its factory settings, use the button sequence described in the "Button Operation" section. To enable Wi-Fi communication, you need to provide the following information:

- Wi-Fi Network Name (SSID): The name of the network to which the device should connect.
- Network Key (WPA2 Key): A password that secures the Wi-Fi connection. This is typically a combination of at least 8 characters (letters and numbers) found on the underside of the Wi-Fi router.
- Your Email Address (Aqua-Scope User ID): This ensures that you can access the device's data on the server, e.g., using the free Aqua-Scope App.

Setup Recommendations



We recommend placing the device close to the Wi-Fi router for initial connection. After successfully connecting, move the device to its final installation location and check if it reconnects to the Wi-Fi. If it does not, there might be insufficient Wi-Fi coverage at that location, requiring a Wi-Fi repeater. In networks with multiple repeaters (Wi-Fi mesh), it may take some time for the device to connect to the most suitable repeater.

### 4.2. Aqua-Scope App

Recommended for ease of use, especially if you have limited technical knowledge or plan to control the device using the Aqua-Scope App. The "Wireless Communication" section provides information on installing and using the app. When using the app, you must first create an Aqua-Scope User ID, which will automatically bind the device to your account and app.

#### **4.3. WPS Function of the Router**

Convenient method: Connects the device to Wi-Fi with just two button presses, though additional configuration steps are required for Aqua-Scope App use. Many modern routers have a WPS (Wi-Fi Protected Setup) function, enabling quick connections without entering the network name or password.

To connect: Press the WPS button on your router or follow its instructions to activate WPS mode. On the device (in factory default state), keep the central button pressed for 4 seconds (4 times beep). The LED will blink rapidly, indicating WPS mode is active. If the connection succeeds, the LED will stop blinking red/green, showing the device is connected to the Wi-Fi. After a successful connection, you can access the device's web interface by navigating to http://scope.local using a web browser on the same Wi-Fi network.

#### 4.4. Device Web Server

A robust method that works with all devices, even older or less common ones. In factory default mode, the device operates as an open Wi-Fi access point with the SSID 'Scope.' Connect your mobile device or PC to this SSID.



<u>A</u>	Nicht siche	192.168.4.1/#	₫☆		
WiFi Connection					
Select your Wifi-Network					
CPAP ~					
Ň	VIFI (WPA) P	assword			
Your Account Email cp@aqua-scope.com					
Advanced Settings					
		Save			

Open a web browser and navigate to http://scope.local or http://192.168.4.1. Enter the network name (SSID) and WPA2 key for your home Wi-Fi. If you plan to use the Aqua-Scope App, provide your Aqua-Scope User ID email address to bind the device to your account. You can configure advanced communication options (e.g., MQTT, JSON, Bluetooth, or local web server) under "Advanced Options." For more details, refer to the Aqua-Scope Developer's Manual. Save and activate the settings. If successful, the red/green blinking will stop.

#### 4.5. Bluetooth

(1) Connect with BLE Device		
Connect		
(2) Provide Wi-Fi Credentials		
SSID of Wi-Fi-Network		
WPA Password of Wi-Fi-Network		
Aqua-Scope Account Email		
(3) Write Data into Device		
Submit		

Another robust method, requiring a Bluetooth-enabled device. In factory default mode, the device's Bluetooth interface is active for initial setup. Use any serial Bluetooth application or a Bluetooth-enabled PC/Android device. Open https://ble.aqua-scope.com in the Chrome browser. Connect to the Bluetooth device named 'AQS-XXXXXX' (where XX is the device ID). Enter the SSID and WPA key using the form on the website. For more details, refer to the Aqua-Scope Developer's Manual.



### 5. Mounting of the device

The installation location and proper attachment of the sensor to the pipe have a decisive influence on the accuracy of the measurement. An unfavorable installation location or incorrect attachment of the sensor can, in extreme cases, result in the s ensor not providing any measurement results.

#### 5.1. Finding Suitable Installation Locations

(1) For accurate measurement, the water must be free from turbulence and air bubbles. Therefore, the device should **not be installed near pipe bends or other water installations** such as main shut-off valves, check valves, or pressure reducers. It must be ensured that there is a minimum distance of 20 cm on each side of the pipe bends, etc., and that the installation point does not allow accumulation of small air bubbles, which occur whenever water flows quickly through the pipe. The figure below provides some hints for the best installation position.



Richtung des Wasserflusses

(2) The pipe at the installation site must be **smooth and free of rust**, so that there are no air pockets on the outside to disrupt the measurement process. For plastic pipes, cleaning the surface is sufficient, while for metallic pipes, it may be useful to polish them with fine sandpaper.

(3) Lastly, the installation site must be **reachable by radio**. A stable radio connection is easiest to test by integrating the sensor into the radio network even before the final installation. Details can be found in the section 'Connection to the Radio Network'.

#### Note

- Clean rust-free pipe
- Minimum 20 cm distance to bends and fittings



- No downstream Pipes
- Select adapter pieces according to pipe diameter

#### 5.2. Preparing Sensor for Installation

It is recommended to connect the sensor to the radio network at the location of installation, but before the final mounting on the water pipe. However, this is not a prerequisite for installation.

- 1. From the set of spacers, select the two parts corresponding to the pipe diameter and insert them next to the transducers (1 in the figure below) into the corresponding slots.
- 2. The transducers on the sensor base are adjustable using the small handwheel on the side, allowing them to be adapted to different pipe diameters and materials. The transducers can be extended up to 26 mm apart. Table 1 provides the necessary distance in millimeters for various pipe diameters and materials. If the pipe is sheathed (for example, PEX with aluminum sheath or copper with plastic sheath), then the base material from the table should be selected. The distance should be set with an accuracy of +/- 2 mm.



Diamete r	20 mm	26 mm	33 mm	42 mm	56 mm
Steel	0 mm	5 mm	15 mm	20 mm	26 mm
Copper	0 mm	0 mm	5 mm	13 mm	20 mm
PEX	0 mm	0 mm	5 mm	20 mm	20 cm
PP	0 mm	0 mm	5 mm	15 mm	18 mm

Table 1: Transducer distances depending on the water pipe used

3. Remove the red protective film from the contact pads of the transducers. The buffer pads are very sticky and will hold the sensor in place without further fixation. Initially, press the pads only lightly so that they can be repositioned if necessary. If you damage one or both pads while removing them, replacement pads are included with the product.



4. Paying attention to the flow direction (large arrow on the device's nameplate), attach the sensor to the water pipe and loosely fix it with the cable tie.

#### Note

- Adjust transducer distance
- Do not press the contact pads too hard
- Observe the water flow direction

#### 5.3. Attaching the Sensor to the Pipe

The exact positioning of the sensor on the pipe is crucial for the device's functionality and accuracy. Please adhere to the following guidelines:

• **Parallel Alignment:** The sensor must be placed absolutely parallel to the pipe. Spacers are provided to help achieve this alignment.



• **Position of the Ultrasonic Transducers:** Attach the sensor to the side of the pipe. Avoid the top of the pipe, as air bubbles can accumulate there, and the bottom of the pipe, where sediment may collect.



- **Mounting Position of the Ultrasonic Sensor:** The sensor must maintain a specific distance from the pipe, completely filled by the contact buffers. Spacers are provided to help achieve this.
- **Optimal Contact Pressure:** The sensor's contact pressure must be optimal, which can be adjusted during installation. A positioning aid is available if needed.
- Securing the Sensor: Use the included cable tie to fasten the sensor securely. The cable tie must be as tight as possible. After securing the sensor, supply power to it. Once connected to the wireless network, the LED will blink either slowly red or slowly green:
  - Slow green (every 5 seconds): The device is operational.
  - Slow red: The positioning needs to be optimized.

#### 5.4. Positioning Aid

The sensor includes a built-in positioning aid that helps you:

- Find the optimal position on the pipe.
- Adjust the optimal contact pressure of the sensor.
- Set the optimal distance between the transducers.
- · Correct tilted or misaligned sensor placement.

#### Activating the Positioning Aid:

Press the button three times to activate the positioning aid. The sensor functions similarly to a car's parking assistance system: The LED will blink red and yellow with varying proportions, later switching to red and green. The sensor emits beeps that change in speed based on positioning accuracy.

#### Guidelines



- More green and faster beeping: Better positioning.
- No green: No functional position detected.

#### Adjustments

Modify the contact pressure or adjust the transducer distance and sensor position until the LED shows at least some green. End the process with a short press of the button. The sensor will perform a 30-second recalibration, during which the LED blinks yellow. If no acceptable position is found, the sensor will revert to blinking red, indicating it cannot yet measure water consumption. Repeating the Positioning Process: You can repeat the positioning process at any time. During operation, you can press and hold the button for three seconds to check and adjust the sensor's position.

### 5.5. Reasons for Positioning Aid Failures

- No water in the pipe or excessive air bubbles: Move the sensor to a location farther from bends or pipes that lead downward.
- No water pressure in the pipe: Ensure the pipe is under pressure.
- Contaminated pipe surface:
  - Remove rust using the included sandpaper.
  - Degrease the pipe if necessary.
  - Apply the included ultrasonic gel to improve the connection between the sensor and the pipe.
- **Insufficient contact pressure:** This is especially problematic with metal pipes (e.g., copper or iron). Consider using a pipe clamp instead of the provided cable tie for better results.

## 6. Operation and User Interface on the device

### 6.1. Operation States

The sensor can be in various operating states depending on its connection status to the network, the calibration of the measurement system, or a detected alarm. Each state is indicated by a specific LED blinking sequence.

(1) **Alternating red/yellow/green every 200 ms (fast)**: The sensor is booting after powering on or performing a reset and is searching for a network connection.

(2) **Alternating red/green every second (slow)**: The sensor does not yet have a configured network connection and is waiting for network setup.

(3) **Alternating red/green every 100 ms (fast)**: The sensor is in WPS mode for quick connection to a Wi-Fi network (if available).



If any of these three LED combinations are visible, the sensor is connected to the network. It is then either in normal operation mode, alarm mode, or not yet calibrated. It is not possible to calibrate the sensor on the water pipe while no network connection is established.

(4) **Red blinking for one second (slow)**: The sensor has not been successfully calibrated. It will therefore only transmit temperature values but no consumption data. Calibration is required. In this state, no alarms are activated.

(5) **Alternating red/green with varying lengths of green and red phases**: Feedback during calibration and positioning of the system.

(6) Yellow blinking every second (slow): Calibration after positioning.

After successful calibration and with an established network connection, there are two possible operating states. If the sensor has not yet been calibrated but is successfully mounted on a water pipe and receives a clean test signal, the calibration phase is skipped, and the sensor automatically switches to normal operating mode.

(7) **Green light every 5 seconds**: The sensor is calibrated and operating normally. Temperature and consumption data are transmitted regularly, and all alarms are active. During water flow the green LED will blink fast.

(8) **Red light every 5 seconds**: The sensor is calibrated and operating normally, but an alarm is active. The reason for the alarm is transmitted over the network. Once the cause of the alarm disappears, the alarm will be cleared. The alarm can also be manually cleared using the local button, even if the alarm cause is still present. The corresponding alarm cause will then remain deactivated until the next boot (power-on or reboot).

#	State	Start	End
1.	Boot	After power-on or reset	Automatically
			transitions to (2), (4), or
			(7) based on network
			availability or
			calibration status
2.	Network Search	Automatically from (1)	Successful connection
			to the network
3.	WPS	During (2), single-click	Single-click returns to
			(2)
4.	Uncalibrated	Network successfully	Triple-click transitions
		connected	to (5)
5.	Positioning	Triple-click in (4)	Single-click transitions
			to (6)
6.	Calibration	Single-click in (5)	Ends automatically after
			30 seconds
6.	Calibration	Single-click in (5)	Ends automatically after 30 seconds



7.	Normal	End of (6), (1), or (2) or	Transitions to Alarm
		successful installation	
8.	Alarm	Alarm	Double-click clears the
			alarm

### 6.2. LED Signals

- Short red: Alarm active
- Long red: Normal but not calibrated
- Short yellow: -
- Long yellow: Calibration
- Short green: Normal
- Fast green: Water flow
- Fast red/green: WPS active
- Slow red/green: Searching for network
- Variable red/green with beep: Positioning
- Red/yellow/green alternating: Booting

### 6.3. Button Operations

- Single-click: During positioning: stop positioning. During normal operation: send status message to the network.
- Double-click: Clear alarm.
- Triple-click: Start positioning plus calibration.
- Hold for 3 seconds: Start positioning without calibration.
- 10x clicks: Reset to factory settings.

#### 6.4. Beeper Signals

- Three short beeps: OK.
- Approximately 3 seconds long: Error.
- Varying lengths: Positioning of the sensor.

## 7. Wireless Usage

#### 7.1. Wireless Access

When the device is connected to the local Wi-Fi, its functions can be used through various communication methods (even parallel):

1. **Mobile Phone App**: You may not find the Aqua-Scope app in the app store of your mobile phone. We use what's known as a PWA (Progressive Web App). For more information, see Progressive Web App on Wikipedia. To access it, open the system browser (Chrome on Android or Safari on iOS) and go to https://app.aqua-scope.com. This will allow you to use almost all of the app's functions in your regular browser.

- On Android, you will shortly be prompted to install the app as a native app on your device. Please confirm this prompt, and a native app will be installed on your screen.
- On iOS, a shortcut to the website must be added to the home screen. To do this, select the icon marked in Image 1 in Safari to open the shortcut dialog. Then select the "Add to Home Screen" option (Image 2). A standard app icon will now appear on your home screen (Image 3). You may need to log out and log back in within the app so that iOS prompts you to allow push notifications (Image 4).



- 2. **MQTT Server**: If configured accordingly, the sensor's status information will be sent to the specified MQTT server. The MQTT service must be enabled, and your own MQTT server/port/login credentials must be entered into the device. Further details can be found in the Aqua-Scope Developers Manual.
- 3. **Own Web Service**: Most smart home gateways allow the receipt and display of sensor data through plugins. More information can be found in the Aqua-Scope Developers Manual.

#### 7.2. Sensor Data and Notifications

The Aqua-Scope app displays:

- the history of the temperature (measured directly next to the transducers),
- the consumption within an interval (15 minutes for mains operation and 60 minutes for battery operation),
- the current status values of the battery during battery operation,

Furthermore, a whole series of alarm messages are displayed directly in the app, via email, and/or push notification. In the app, under "Configuration->Alarm Messages," you can set whether and how a particular alarm should be displayed and reported. In mains operation, alarms are also indicated directly on the device by red blinking of the LED and a sound.

An alarm can also be cleared directly on the device by pressing the button, even if the alarm condition has not disappeared. Otherwise, the alarm will be automatically reset when the alarm condition or the fault to be alarmed no longer occurs. Reset alarms are displayed in the app in the event history.

### 7.3. Alarm Messages and Their Causes

If a condition for an alarm occurs, the alarm is indicated locally on the device by red blinking and is transmitted via radio and displayed in the app. If the conditions for the alarm disappear, it is automatically cleared. An alarm can also be cleared directly on the device by pressing a button. The cleared alarm will not be triggered again for at least one hour, even if the alarm condition would require it. This prevents the alarm from being triggered again.

- Long water extraction: Water flows for a very long time. The threshold is set to 15 minutes at the factory and can be adjusted in the app under 'Configuration'. The alarm will be automatically cleared when water consumption stops.
- **Too intensive water extraction**: This usually indicates a pipe burst. The water flow is constantly higher than the threshold allows over a period of one minute. The threshold is set to 28 liters/minute at the factory and can be adjusted in the app under 'Configuration'. If the intensity of the extraction falls below the threshold or stops, this alarm will be automatically cleared.
- No water flow: If no water is needed for an extended period (threshold is 30 days), the water should be turned off, and the pipes should be drained or regularly used (e.g., flush the toilet) so that the pipes are not damaged by standing water. The alarm will be cleared if either water extraction is detected again or no water is recognized in the pipe.
- **Temperature outside the allowable range**: The alarm is triggered if the water temperature moves outside an allowable range. The factory setting assumes 5 to 40 degrees Celsius. The threshold values can be adjusted in the app.
- **Negative water extraction**: Due to modern installation, such as legally required backflow preventers, it is virtually impossible for water to flow back into the supply line. If this happens, a plumber must investigate. The alarm is triggered if water flows in the wrong direction constantly for 30 seconds. The alarm will be cleared if no or normal water flow is detected.
- **Battery low**: The battery is running low and needs to be replaced. This message is also displayed if there is no battery installed at the start of the



device. Unlike other alarm types, this alarm is NOT locally indicated by a red LED.

- **No water in the pipe**: This is quite possible when the water is turned off, e.g., during repair work. The sensor can no longer work then. Permanent air bubbles in the pipe are also conceivable. Please observe the installation conditions.
- **Sticking toilet**: A sticking toilet will not cause damage but will waste water unnecessarily. A sticking toilet creates a very characteristic consumption pattern and can therefore be easily detected. The problem is usually solved by pressing the toilet flush button. The alarm will also end when no sticking is detected anymore.
- **Dripping faucet**: Any water extraction above the measurement inaccuracy and below a normal water extraction is detected as a dripping faucet. If the water flows minimally over a period of at least one hour, an alarm will be triggered. The cause of such an alarm could also be a small leak in a water pipe (micro-leakage). Therefore, the issue should be investigated and rectified.
- **Tampering attempt on the device**: This alarm is always triggered when the electronics capsule is removed from the base part. Please note that changing the batteries will **always** trigger a corresponding tampering alarm.

## 8. Power Supply and Battery Operation

The device can be powered either via a USB-C power adapter (included in the package) or with two standard AA batteries. No batteries are pre-installed upon delivery.



To use the device with batteries, the battery compartment must be opened:

- 1. Disconnect the device from the power supply.
- 2. Detach the electronic module from the sensor base.
- 3. Loosen all four screws and remove the cover from the electronic module.

After inserting two AA batteries (1.5V Alkaline), reattach the cover and secure it with the four screws. At this point, the red LED will blink to indicate an alarm, as the electronic module has been removed from the sensor base. The alarm will be automatically cleared once the electronic module is reattached to the sensor base.

Whenever an external power source is available, it will be used regardless of whether batteries are installed.

To minimize power consumption in battery mode, the following adjustments are made:

- The LED remains off during normal operation.
- In case of an alarm, the LED and buzzer will activate only briefly and at longer intervals.
- Individual water consumption events are not reported.
- The total water consumption is transmitted only once per hour.
- The minimum detection threshold for dripping faucets is slightly increased.

All other functions of the device, such as leakage detection and drip detection, continue to operate as usual.

## 9. 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

## 10. 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

### 11. 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

### **12. Support and Contact**

Should you encounter any problem, please give us the opportunity to address it before returning this product. Please check our website www.aqua-scope.com and particularly the support section for answers and help. You can also send a message to info@aqua-scope.com.

While the information in this manual has been compiled with great care, it may not be deemed an assurance of product characteristics. Aqua-Scope shall be liable only to the degree specified in the terms of sale and delivery. The reproduction and



distribution of the documentation and software supplied with this product and the use of its contents is subject to written authorization from Aqua-Scope. We reserve the right to make any alterations that arise as the result of technical development.

- Phone: +372 (0) 6248002
- eMail: info@aqua-scope.com
- Web: www.aqua-scope.com

## **13. Declaration of Conformity**

CG Aqua-Scope Technology OÜ, Sakala 7-2, 10141 Tallinn, Republic of Estonia, declares that this radio emitting device works on the following frequences:

**Български** С настоящото Aqua-Scope Technology ОÜ декларира, че този тип радиосъоръжение AQMWIE01 е в съответств ие с Директива 2014/53/ЕС. Цялостният текст на ЕС декларацията за съответствие може да се намери н а следния интернет адрес: www.aqua-scope.com/ce.

**Čeština** Tímto Aqua-Scope Technology OÜ prohlašuje, že typ rádiového zařízení AQMWIE01 je v souladu se směrnicí 2014/53/EU. Úplné znění EU prohlášení o shodě je k dispozici na této internetové adrese: www.aqua-scope.com/ce.

**Dansk** Hermed erklærer Aqua-Scope Technology OÜ, at radioudstyrstypen AQMWIE01 er i overensstemmelse med direktiv 2014/53/EU. EUoverensstemmelseserklæringens fulde tekst kan findes p følgende internetadresse: www.aqua-scope.com/ce.

**Deutsch** Hiermit erklärt Aqua-Scope Technology OÜ, dass der Funkanlagentyp AQMWIE01 der Richtlinie 2014/53/EU entspricht. Der vollständige Text der EU-Konformitätserklärung ist unter der folgenden Internetadresse verfügbar: www.aqua-scope.com/ce.

**Eesti** Käesolevaga deklareerib Aqua-Scope Technology OÜ, et kesolev raadioseadme tp AQMWIE01 vastab direktiivi 2014/53/EL nuetele. ELi vastavusdeklaratsiooni tielik tekst on kttesaadav jrgmisel internetiaadressil: www.aqua-scope.com/ce

**English** Hereby, Aqua-Scope Technology OÜ declares that the radio equipment type AQMWIE01 is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: www.aqua-scope.com/ce

**Español** Por la presente, Aqua-Scope Technology OÜ declara que el tipo de equipo radioeléctrico AQMWIE01 es conforme con la Directiva 2014/53/UE. El texto completo de la declaracin UE de conformidad está disponible en la direccin Internet siguiente: www.aqua-scope.com/ce

**Ελληνικά** Με την παρούσα ο/η Aqua-Scope Technology ΟÜ, δηλώνει ότι ο ραδιοεξοπλισμός AQMWIE01 πληροί την οδηγία 2014/53/ΕΕ. Το πλήρες κείμενο της δήλωσης συμμόρ φωσης ΕΕ διατίθεται στην ακόλουθη ιστοσελίδα στο διαδίκτυο: www.aqua-scope.com/ce

**Français** Le soussigné, Aqua-Scope Technology OÜ, déclare que l'équipement radioélectrique du type AQMWIE01 est conforme la directive 2014/53/UE. Le texte complet de la déclaration UE de conformité est disponible l'adresse internet suivante: www.aqua-scope.com/ce



**Hrvatski** Aqua-Scope Technology OÜ ovime izjavljuje da je radijska oprema tipa AQMWIE01 u skladu s Direktivom 2014/53/EU. Cjeloviti tekst EU izjave o sukladnosti dostupan je na sljedećoj internetskoj adresi: www.aqua-scope.com/ce

**Italiano** II fabbricante, Aqua-Scope Technology OÜ, dichiara che il tipo di apparecchiatura radio AQMWIE01 conforme alla direttiva 2014/53/UE. Il testo completo della dichiarazione di conformit UE disponibile al seguente indirizzo Internet: www.aqua-scope.com/ce

**Latviešu** Ar šo Aqua-Scope Technology OÜ deklarē, ka radioiekārta AQMWIE01 atbilst Direktīvai 2014/53/ES. Pilns ES atbilstības deklarācijas teksts ir pieejams šādā interneta v ietnē: www.aqua-scope.com/ce Lietuvių Aš, Aqua-Scope Technology OÜ, patvirtinu, kad radijo įrenginių tipas AQMWIE01 attiinka Direktyvą 2014/53/ES. Visas ES attikties deklaracijos tekstas prieinamas šiuo internet adresu: www.aqua-scope.com/ce

**Magyar** Aqua-Scope Technology OÜ igazolja, hogy a AQMWIE01 típus rádiberendezés megfelel a 2014/53/EU irányelvnek. Az EUmegfelelőségi nyilatkozat teljes szövege elérhető a következő internetes címen: www.aqua-scope.com/ce

**Malti** B'dan, Aqua-Scope Technology OÜ, niddikjara li dan it-tip ta' tagħmir tar-radju AQMWIE01 huwa konformi madDirettiva 2014/53/UE. It-test kollu tad-dikjarazzjoni ta' konformit tal-UE huwa disponibbli f'dan l-indirizz talInternet li ġej: www.aqua-scope.com/ce

**Nederlands** Hierbij verklaar ik, Aqua-Scope Technology OÜ, dat het type radioapparatuur AQMWIE01 conform is met Richtlijn 2014/53/EU. De volledige tekst van de EUconformiteitsverklaring kan worden geraadpleegd op het volgende internetadres: www.aqua-scope.com/ce

**Polski** Aqua-Scope Technology OÜ niniejszym oświadcza, że typ urządzenia radiowego AQMWIE01 jest zgodny z dyrektywą 2014/53/UE. Pełny tekst deklaracji zgodnośc I UE jest dostępny pod następującym adre sem internetowym: www.aqua-scope.com/ce

**Português** O(a) abaixo assinado(a) Aqua-Scope Technology OÜ declara que o presente tipo de equipamento de rádio AQMWIE01 está em conformidade com a Diretiva 2014/53/UE. O texto integral da declarao de conformidade está disponível no seguinte endereo de Internet: www.aqua-scope.com/ce

**Română** Prin prezenta Aqua-Scope Technology OÜ declară că tipul de echipamente AQMWIE01 este în conformitate cu Directiva 2014/53/UE. Textul integral al declarației UE de conformitate este disponibil la următoarea adresă internet: www.aqua-scope.com/ce

**Slovensko** Aqua-Scope Technology OÜ potrjuje, da je tip radijske opreme AQMWIE01 skladen z irektivo 2014/53/EU. Celotno besedilo izjave EU o skladnosti je na voljo na naslednjem spletnem naslovu: www.aqua-scope.com/ce

**Slovensky** Aqua-Scope Technology OÜ týmto vyhlasuje, že rádiové zariadenie typu AQMWIE01 je v slade so smernicou 2014/53/EÚ. Úplné EÚ vyhlásenie o zhode je k dispozícii na tejto internetovej adrese: www.aqua-scope.com/ce

**Soumi** Aqua-Scope Technology OÜ vakuuttaa, että radiolaitetyyppi AQMWIE01 on direktiivin 2014/53/EU mukainen. EUvaatimustenmukaisuusvakuutuksen täysimittainen teksti on saatavilla seuraavassa internetosoitteessa: www.aqua-scope.com/ce

**Svenska** Härmed försäkrar Aqua-Scope Technology OÜ att denna typ av radioutrustning AQMWIE01 verensstmmer med direktiv 2014/53/EU. Den fullständiga texten till EUförsäkran om verensstämmelse finns på följande webbadress: www.aqua-scope.com/ce

## 14. Disposal Guidelines





Do not dispose of electrical appliances as unsorted municipal waste, use separate collection facilities. Contact your local government for information regarding the collection systems available. If electrical appliances are disposed of in landfills or dumps, hazardous substances can leak into the groundwater and get into the food chain, damaging health and well-being.