



# Pressure Monitor LoRaWAN

SKU: PRELWE02

Version: 2.0.0



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## 1. Product Description

The Aqua-Scope pressure sensor detects water consumption, and leaks by analyzing pressure waves in the water supply. It continuously records the temperature, the water consumption, and water pressure. When leaks are detected or when pressure or temperature thresholds are exceeded or not reached, the user is alerted wirelessly. The device consists of two parts:

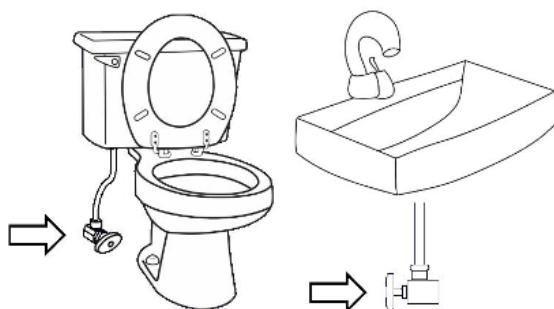
- The main housing for signal processing and wireless communication with a battery compartment.
- The external sensor head is connected to the water pipe. The stainless steel sensor head features a silicon sensor suspended in silicone oil for highly accurate and low-noise pressure measurements. The pressure measurement range is between 1 to 10 bar. The sensor head is installed somewhere in the building at a standardized 1/4-inch inspection opening or with a provided T-piece under any sink at the edge or corner valve.

The sensor can send an alarm message when predefined threshold values are exceeded or not reached. The polling frequency of the sensor is adjustable between 0.1 seconds and several minutes, defining the battery life. For a measurement interval of 1 second, a battery life of approximately 10 years is calculated.

The device can be powered either by an external power supply with a USB-C adapter or by an optional internal ER26500 battery (Bobbin Cell C). Both the sensor head and the main housing are waterproof, allowing them to be used outdoors or in particularly damp and/or dirty environments.

The device is controlled via LoRaWAN commands and operates as a LoRaWAN Class A/C device. The use of the device requires LoRaWAN network coverage. Otherwise, you need to install and operate your own LoRaWAN gateway.

## 2. Installation



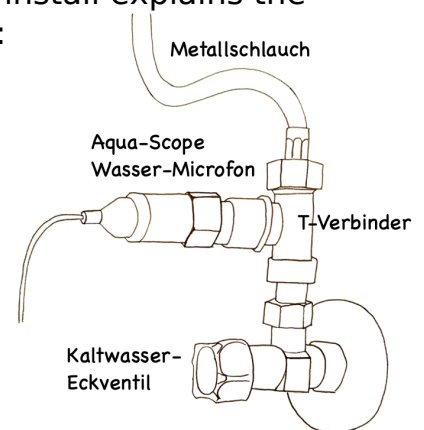
The Aqua-Scope sensor head must be connected



to a single point in the house's piping system. Ideal connection points are angle valves located under sinks or next to toilets. Other options include 1/4-inch access openings at the pressure reducer, shut-off valves, or other installation devices. It is recommended to choose the lowest possible point in the apartment (ideally in the basement or on the first floor).

**Attention!** If a pressure reducing valve (PRV) is installed, the Aqua-Scope monitoring device must be installed between the pressure reducer and the individual outlets. If no PRV is present, the device can be installed anywhere, but the accuracy of the measurements will be lower. Details can be found in the section "Impact of Pressure Reducer."

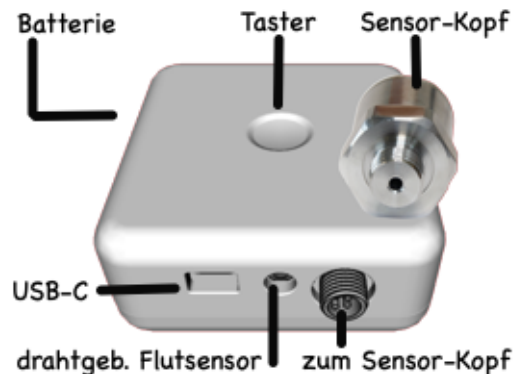
To keep it short and simple, the video at [aqua-scope.com/install](http://aqua-scope.com/install) explains the installation of the Aqua-Scope water monitor step by step:



1. If two angle valves are present under the sink, please identify the cold water supply. Simply open hot water and check which valve warms up.
2. Close the tap and shut off the angle valve by turning clockwise.
3. Remove the metal hose from the angle valve with the provided 19mm wrench. Have a towel ready to catch the water coming out of the end of the hose.
4. Attach the T-shaped connector to the top of the angle valve and secure it with the 19mm wrench.
5. Connect the metal hose to the top of the connector and secure it with the 19mm wrench.
6. Screw the Aqua-Scope pressure sensor head into the side opening of the connector and secure it by hand. It is not necessary to tighten it too much.
7. Open the angle valve again by turning the knob counterclockwise.
8. Check all three connections for leaks for a few seconds.
9. Attach the Aqua-Scope to a suitable location with double-sided tape and connect the sensor head to the main device. Insert the flood sensor into the audio jack if necessary.
10. Turn on the device using the USB-C power plug. Please use the included power supply. This power supply has a very low harmonic distortion, which is necessary for precise measurements. Alternatively, insert a battery.



## 3. Device Operation



### 3.1. Remote Access

The device is accessible via LoRaWAN commands. Please consult your LoRaWAN provider for details how to access the data. Please refer to the sections below for information on the payload and the payload decoding.

### 3.2. Measurement Values and Alarms

The device **measures the pressure and temperature of the water** in the pipe where the sensor is installed multiple times per second.

The following alarms are possible:

1. One of the wired or wireless flood sensors has detected water. This is typically triggered by a leak near the respective sensor.
2. The water pressure has risen above the threshold set in the app or through configuration parameter 6. The reason for this alarm could be malfunctions of a pressure reducer or backflow preventer to the hot water system.
3. The water pressure has fallen below the threshold set in the app or through configuration parameter 7. The reason for this could be a pipe break; however, the water may have simply been turned off.
4. The external sensor is not connected to the main device.
5. The external sensor is connected to the main device but not connected to a pressurized water line.
6. The water temperature has either fallen below the value set in the app or configuration parameter 11 or risen above the value in the app or configuration parameter 16.

The alarm is transmitted to the LoRaWAN network. If the condition that triggered the alarm has been resolved, the alarm will be automatically cleared. It is also possible to clear the alarm by double-clicking on the monitor's button, even if the alarm condition has not been resolved. The alarm will then remain locked until the



next power-on.

### 3.3. Sensor Data

The sensor measures water pressure, and water temperature, and sends the values every 15 minutes, along with operating time, battery consumption, and battery voltage, via LoRaWAN.

## 4. LED Indicator

The device features a tricolor LED (red/green/yellow) to signal different operational states. The LEDs only remain continuously lit when powered by an external source. In battery mode, the LEDs remain off after the startup sequence to conserve power.

- Yellow glowing or blinking in a sequence: Device is booting up
- Red/green blinking: The device is in the factory state or searching for a LoRaWAN network.
- Slowly breathing blue: Device is connected to the internet and in standby mode (only in external power mode).
- Flashing red: Alarm is active. The cause of the alarm was sent by LoRaWAN.

## 5. Button Operation

By pressing the button once, twice, or three times in quick succession, the following functions can be activated:

- Once:
  - In battery mode, the device is awakened, the green LED lights up, and additional commands can be entered.
  - In the wake-up state (external power, awakened from battery mode), pressing the button once sends a status message via WLAN.
- Twice: Existing alarms (LED blinking red) are cleared.
- Three times: Currently not assigned.

Note: In battery mode, the button must be held down for about 1 second (until the green LEDs light up) to wake up the device. Afterward, the second and third clicks can be performed as needed.

## 6. Battery Operation

The sensor can be operated with an external power supply, a battery, or both simultaneously. The status at the moment of powering on defines the device's operating mode. If mains voltage is present at the moment of powering on, the



device will remain in power mode until the next status report (default every 15 minutes), even if mains voltage fails and a battery is inserted. The battery then operates as a backup.

If the sensor is started by inserting a battery, it will switch to battery mode. This means that some sensor functions are shut down to save power:

- The status LED remains dark.
- A local alarm is neither indicated acoustically nor by a red LED.
- The device responds only slowly to incoming commands (on average, about 10 seconds in power mode, up to one hour in battery mode).
- The device can no longer receive alarms from external wireless flood sensors.
- The sensor data is sent only hourly instead of every 15 minutes.
- If the device has LoRaWAN communication capability, it will attempt to join the LoRaWAN network only once (JOIN).

An estimate of battery life can be found in the app under "Devices". With a pressure reducer, the battery lasts about 8 to 10 years, without a pressure reducer in the water pipe, the lifespan is about 4 years.

## 7. Communication with LoRaWAN

### 7.1. Connecting to the LoRaWAN Network

This device must be registered with a LoRaWAN network operator covering the device's location. Registration requires the device's three keys (Dev EUI, Join EUI, Join Key).

The public Device EUI is printed directly on the device as a QR code and as a 16-character string. This information is also found on the device packaging.

The other two - private - keys can be obtained from your dealer or directly from Aqua-Scope via email. **To request these keys, submit the public Device EUI key and your email address on the website <https://aqua-scope.com/lora>.**

When batteries are inserted or a power supply is connected, the device will attempt to connect to the LoRaWAN network to which you have provided the three keys. During this process, the LEDs will blink. After approximately 25 seconds, this process, called "JOIN," will either be successful or aborted. If unsuccessful, the device will immediately enter sleep mode if operating on battery power.

If the sensor loses connection to the server for any reason, it will automatically restart the connection process. This process is known as "Rejoin" and will occur whenever the device attempts to send a message to the LoRaWAN network.



Pressing the button on the device will always trigger LoRaWAN communication, which, as explained above, also initiates a "Rejoin" if the connection to the LoRaWAN network is lost. Please note the duty-cycle regulation in LoRaWAN. Sending messages or initiating Rejoins too frequently may be ignored by the LoRaWAN network.

## 7.2. Using the Device in the TTN Network

The device can operate in any LoRaWAN network, including The Things Network (TTN). The device is already listed in the TTN device repository, and a valid payload decoder is activated during setup.

## 7.3. LoRaWAN Payload Commands (Payload Format)

LoRaWAN commands can be daisy chained into the payload up to the defined maximum payload size of 51 bytes. This means that for all commands sent to a defined number of bytes in the payload is required to avoid misinterpretation of command and/or command values in the receiver side. **All uplink and downlink commands use FPort=10.**

- **Uplink Command Hardware Version Report: 0x03 - HW - CAP\_MSB CAP\_LSB (4 Byte):** This command reports the hardware version and a bitmap of the capabilities of the device. It is sent unsolicited as the first command during boot-up and as a replying command to downlink command *Hardware Version Get*. HW is a single byte indicating the version of the hardware. The bitmap indicates the different capabilities of the device.
- **Uplink Command Configuration Report: 0x04 - IDX - VAL\_MSB - VAL\_LSB (4 Byte):** This command reports a configuration parameter of the device: IDX is the number of the configuration parameter. The 16 Bit VAL is the parameter itself. Configuration parameters are always 16 Bit values. The table below describes the configuration parameters and their values.
- **Uplink Command Sensor Report: 0x06 - ID - VAL\_MSB - VAL\_LSB (4 Byte):** This command reports sensor values. The ID indicates the sensor type and defines the format of the 16-Bit VAL. The sensor types of these devices are listed below.
- **Uplink Command Firmware Version Report: 0x0a - VER\_MSB VER\_2 VER\_3 VER\_LSB (5 Byte):** This command reports the 32-bit value of the current firmware. It is sent unsolicited as the first command during boot-up and as a replying command to downlink command 'Hardware Version Get'.
- **Uplink Command Alarm Report: 0x0b - STATE - TYPE - VAL\_MSB - VAL\_LSB (5 Byte):** This command reports start and end of alarms. The STATE-Byte indicates the status of the alarm (0x01 = active, 0x00 = inactive). The TYPE Byte indicates the type of alarm and defines the content of the 16 Bit VAL. Possible alarm IDs and the values reported are listed below.
- **Uplink Command Battery Report: 0x12 - VOLT - BAT\_MSB - BAT\_LSB**





**(4 Byte):** This command reports the status of the battery. VOLT is the measured voltage of the battery in 100 mV steps, the BAT value is the consumption of the current battery - as counted inside the system - in mAh.

- **Downlink Command System Command: 0x01 - CMD (2 Byte):** This command sends a system command to the devices. CMD defines the type of command:
  - CMD = 0x01: System restart
  - CMD = 0x02: System Reset - back to factory default
  - CMD = 0x03: Enter a While loop, can only be terminated by local power off/ob
- **Downlink Command Hardware Version Get: 0x03 - (1 Byte):** This command calls for a Hardware Version Report sent upstream
- **Downlink Command Configuration Set: 0x04 - IDX - VAL\_MSB - VAL\_LSB (4 Byte):** This command allows setting configuration parameters of the device: IDX is the number of the configuration parameter. The 16 Bit VAL is the parameter itself. Configuration parameters are always 16 Bit Values. The table below describes the configuration parameters and its values.
- **Downlink Command Sensor Get: 0x06 - ID (2 Byte):** This command requests the report of sensor values. The ID indicates the sensor type. The sensor types of the devices are listed below.
- **Downlink Command Alarm Clear: 0x0b - TYPE (2 Byte):** This command clears an alarm. TYPE is the type of alarm to be cleared. Type = 0 clears all active alarms. For other types of alarms to be cleared please refer to the uplink command 0x0b.
- **Downlink Command Configuration Get: 0x14 - IDX (2 Byte):** This command allows reading the configuration value IDX. The device will respond with an upstream command Configuration Report

## 7.4. LoRaWAN Sensor Types

The following sensor types are supported by the Aqua-Scope Monitor.

- 0x01: Temperature: VAL is temperature in 1/10 Degree Celsius, (2-complement). *Example: 0x06 0x01 0x00 0xCD => Temperature 0x00CD = 205 = 20.5 C., 0x06 0x01 0xFF 0xEA => Temperature 0xFFEA = -20 = -2 C*
- 0x03: Uptime: VAL is the number of hours after last boot
- 0x10: Water Pressure: VAL is unsigned water pressure in mBar. *Example: 0x10 0x01 0x0D 0x48 => Pressure 0x0D48 = 3400 = 3.4 Bar.*

## 7.5. LoRaWAN Alarm Types

The following alarmtypes are supported by the Aqua-Scope Monitor.

- 1 (0x01): Flood Sensor Tripped. VAL is 0x01 or 0x00.





- 2 (0x02): Freeze/Frost Danger. VAL is actual temperature.
- 4 (0x04): Water Underpressure. VAL is actual water pressure.
- 6 (0x06): Water Overpressure. VAL is actual water pressure.
- 12 (0x0c): Battery Low. VAL is 0x01 or 0x00.
- 13 (0x0d): Lost Mains Power. VAL is 0x01 or 0x00.
- 14 (0x0e): Sensor Head not connected to main device. VAL is 0x01 or 0x00.
- 15 (0x0f): Sensor Head not in contact with water. VAL is 0x01 or 0x00.

## 7.6. LoRaWAN Configuration Parameters

All Configuration Parameters are 2 Byte values that can be set and read out using LoRaWAN 'Configuration Get' and 'Configuration Set' commands. Here is an overview of the configuration parameters currently used:

### **Parameter 1 (0x01): System Register (Default: 0x5bfe = dec 23550)**

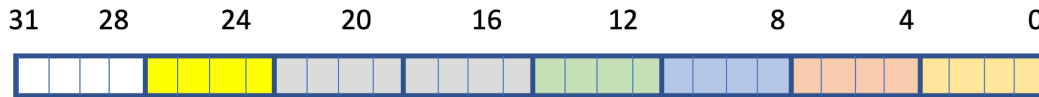
The bitmap defines the general behavior of the device. Bit = 1 means function enabled, bit = 0 means function disabled.

- 0x0001 (Bit 00) : Main Processor in Sleep Mode
- 0x0002 (Bit 01) : Power Status (Sleep/Main) is locked regardless of power state
- 0x0004 (Bit 02) : WIFI enabled (second bit beside COM register)
- 0x0020 (Bit 05) : Buzzer active
- 0x0040 (Bit 06) : LED active
- 0x0800 (Bit 11) : high frequency (1) versus low frequency(0)
- 0x1000 (Bit 12) : base operation interval msb
- 0x2000 (Bit 13) : base operation interval
- 0x4000 (Bit 14) : base operation interval
- 0x8000 (Bit 15) : base operation interval lsb

When High-Frequency Bit set to 1: 4 MSB defines interval in  $2 * \text{ms}$  from  $2^{-32}$  ms (val 1 - 16).

When High-Frequency Bit set to 0: 4 MSB defines interval as  $125 \text{ ms}$  power of  $x$ , ranging from  $x = 1 = 125 \text{ ms}$  to  $x = 14 = 2048 \text{ sec} = 34 \text{ min}$ ,  $x=15$  is not allowed.

### **Parameter 3 (0x03): LoRaWAN Register (Default: 0x0ffd = dec 4093)**



Bit 0...3: LoRaWAN MAC Control Bits

Bit 4...7: No of JOIN Retries

Bit 8...11: Interval for Confirmed Packets

Bit 12...15: LoRaWAN TX Power

Bit 16...23: LoRa Application Control Bits

Bit 24...27: LoRaWAN Frequency

The bitmap defines which commands are accepted on the LoRaWAN communication channel. Bit = 1 means function enabled, bit = 0 disables function

- 0x0001 (Bit 00) : CLASS C (default = Class A)
- 0x0002 (Bit 01) : ADR enabled, (default = off)
- 0x0004 (Bit 02) : Duty Cycle Control enabled, (default = off)
- 0x0008 (Bit 03) : not used
- 0x00f0 (Bit 04-07): No of Join retries, (default is 3)
- 0x0f00 (Bit 08-11): Interval for confirmed packets, (default = 10)
- 0xf000 (Bit 12-15): LoRaWAN TX Power (0 = 0 dB, 7 = 14 dB, >11 = 22 dB), (default = 14 db)

The upper 16 Bit of the register are not accessible via LoRaWAN but from serial console or WIFI only (whatever is available):

- 0x00ff0000 (Bit 16-24): Application Control Bits
  - 0x00010000 (Bit 16): Alarm Reporting and Clearing
  - 0x00020000 (Bit 17): Consumption Report
  - 0x00040000 (Bit 18): Sensor Value Report
  - 0x00080000 (Bit 19): Config Parameter Change
  - 0x00100000 (Bit 20): Pipe-Check
  - 0x00200000 (Bit 21): Periodic Config Reporting
  - 0x00400000 (Bit 22): Fixed Payload
  - 0x00800000 (Bit 23): not used
- 0xff000000 (Bit 25-31) : Frequency
  - 0: EU868
  - 1: US915
  - 2: AS923
  - 3: AU915
  - 4: CN779
  - 5: IN865
  - 6: KR920
  - 7: RU864

**Parameter 6 (0x06): Over-Pressure Alarmthreshold (Default: 0x1f40 = dec 8000)**

An overpressure alarm is sent as an uplink message when the current pressure exceeds this threshold. The threshold value is automatically set 24 hours after initial setup during calibration and may change from time to time as a result of ongoing calibration. The value is accepted in mBar.

**Parameter 7 (0x07): Under-Pressure Alarm threshold (Default: 0x07d0 = dec 2000)**

A heavy flow alarm is sent as an uplink message when the current pressure falls below this threshold for a certain time. The threshold value is automatically set 24 hours after initial setup during calibration and may change from time to time as a result of ongoing calibration. The value is accepted in mBar.

**Parameter 19 (0x13): Alarm Enable/Disable (Default: 0xd806 = dec 55302)**

The bitmap defines which alarm type is active and will cause an alarm status command 0x0b. Bit = 1 means function enabled, bit = 0 disables the function. The different alarm types are shown in the section 'LoRaWAN Alarm Types'.

**Parameter 29 (0x1d): Reporting Interval (Default: 0x0384 = dec 900)**

This parameter defines the interval in seconds the device automatically reports sensor values and heartbeat as an uplink message.

## 8. 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

## 9. 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.

## 10. 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:
  - LoRaWAN
    - Frequency EU868
    - Class A or Class, depends on battery status
    - LoRaWAN 1.0.3
  - Bluetooth 5 (LE)
    - UART Profile
- Pressure Sensor Head:
  - Range : 0 ... 1000 kPa (10 bar)
  - Overload: 150 Percent of maximum pressure
  - Connection: G 1/4 " 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 %

## 11. 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](http://www.aqua-scope.com) and particularly the support section for answers and help. You can also send a message to [info@aqua-scope.com](mailto: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](mailto:info@aqua-scope.com)
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## 12. Declaration of Conformity



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

**Български** С настоящото Aqua-Scope Technology OÜ декларира, че този тип радиосъоръжение PRELWE02 е в съответствие с Директива 2014/53/ЕС. Цялостният текст на ЕС декларацията за съответствие може да се намери на следния интернет адрес: [www.aqua-scope.com/ce](http://www.aqua-scope.com/ce).

**Čeština** Tímto Aqua-Scope Technology OÜ prohlašuje, že typ rádiového zařízení PRELWE02 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](http://www.aqua-scope.com/ce).

**Dansk** Hermed erklærer Aqua-Scope Technology OÜ, at radioudstyrstypen PRELWE02 er i overensstemmelse med direktiv 2014/53/EU. EUoverensstemmelseserklæringens fulde tekst kan findes på følgende internetadresse: [www.aqua-scope.com/ce](http://www.aqua-scope.com/ce).

**Deutsch** Hiermit erklärt Aqua-Scope Technology OÜ, dass der Funkanlagentyp PRELWE02 der Richtlinie 2014/53/EU entspricht. Der vollständige Text der EU-Konformitätserklärung ist unter der folgenden Internetadresse verfügbar: [www.aqua-scope.com/ce](http://www.aqua-scope.com/ce).

**Eesti** Käesolevaga deklareerib Aqua-Scope Technology OÜ, et kesolev raadioseadme tüüp PRELWE02 vastab direktiivi 2014/53/EL nõuetele. ELi vastavusdeklaratsiooni terviklik tekst on kättesaadav järgmisel internetiaadressil: [www.aqua-scope.com/ce](http://www.aqua-scope.com/ce)

**English** Hereby, Aqua-Scope Technology OÜ declares that the radio equipment type PRELWE02 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](http://www.aqua-scope.com/ce)

**Español** Por la presente, Aqua-Scope Technology OÜ declara que el tipo de equipo radioeléctrico PRELWE02 es conforme con la Directiva 2014/53/UE. El texto completo de la declaración UE de conformidad está disponible en la dirección Internet siguiente: [www.aqua-scope.com/ce](http://www.aqua-scope.com/ce)

**Ελληνικά** Με την παρούσα ο/η Aqua-Scope Technology OÜ, δηλώνει ότι ο ραδιοεξοπλισμός PRELWE02 πληροί την οδηγία 2014/53/ΕΕ. Το πλήρες κείμενο της δήλωσης συμμόρφωσης ΕΕ διατίθεται στην ακόλουθη ιστοσελίδα στο διαδίκτυο: [www.aqua-scope.com/ce](http://www.aqua-scope.com/ce)

**Français** Le soussigné, Aqua-Scope Technology OÜ, déclare que l'équipement radioélectrique du type PRELWE02 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](http://www.aqua-scope.com/ce)

**Hrvatski** Aqua-Scope Technology OÜ ovime izjavljuje da je radijska oprema tipa PRELWE02 u skladu s Direktivom 2014/53/EU. Cjeloviti tekst EU izjave o sukladnosti dostupan je na sljedećoj internetskoj adresi: [www.aqua-scope.com/ce](http://www.aqua-scope.com/ce)

**Italiano** Il fabbricante, Aqua-Scope Technology OÜ, dichiara che il tipo di apparecchiatura radio PRELWE02 conforme alla direttiva 2014/53/UE. Il testo completo della dichiarazione di conformità UE disponibile al seguente indirizzo Internet: [www.aqua-scope.com/ce](http://www.aqua-scope.com/ce)

**Latviešu** Ar šo Aqua-Scope Technology OÜ deklarē, ka radioiekārta PRELWE02 atbilst Direktīvai 2014/53/ES. Pilns ES atbilstības deklarācijas teksts ir pieejams šādā interneta vietnē: [www.aqua-scope.com/ce](http://www.aqua-scope.com/ce)



scope.com/ce Lietuvių Aš, Aqua-Scope Technology OÜ, patvirtinu, kad radijo įrenginių tipas PRELWE02 atitinka Direktyvą 2014/53/ES. Visas ES atitikties deklaracijos tekstas prieinamas šiuo internet adresu: [www.aqua-scope.com/ce](http://www.aqua-scope.com/ce)

**Magyar** Aqua-Scope Technology OÜ igazolja, hogy a PRELWE02 típus rádiberendezés megfelel a 2014/53/EU irányelvnek. Az EUmegfelelőségi nyilatkozat teljes szövege elérhető a következő internetes címen: [www.aqua-scope.com/ce](http://www.aqua-scope.com/ce)

**Malti** B'dan, Aqua-Scope Technology OÜ, niddikjara li dan it-tip ta' tagħmir tar-radju PRELWE02 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](http://www.aqua-scope.com/ce)

**Nederlands** Hierbij verklaar ik, Aqua-Scope Technology OÜ, dat het type radioapparatuur PRELWE02 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](http://www.aqua-scope.com/ce)

**Polski** Aqua-Scope Technology OÜ niniejszym oświadczam, że typ urządzenia radiowego PRELWE02 jest zgodny z dyrektywą 2014/53/UE. Pełny tekst deklaracji zgodność I UE jest dostępny pod następującym adresem internetowym: [www.aqua-scope.com/ce](http://www.aqua-scope.com/ce)

**Português** O(a) abaixo assinado(a) Aqua-Scope Technology OÜ declara que o presente tipo de equipamento de rádio PRELWE02 está em conformidade com a Diretiva 2014/53/UE. O texto integral da declaração de conformidade está disponível no seguinte endereço de Internet: [www.aqua-scope.com/ce](http://www.aqua-scope.com/ce)

**Română** Prin prezenta Aqua-Scope Technology OÜ declară că tipul de echipamente PRELWE02 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](http://www.aqua-scope.com/ce)

**Slovensko** Aqua-Scope Technology OÜ potrjuje, da je tip radijske opreme PRELWE02 skladen z irektivo 2014/53/EU. Celotno besedilo izjave EU o skladnosti je na voljo na naslednjem spletnem naslovu: [www.aqua-scope.com/ce](http://www.aqua-scope.com/ce)

**Slovensky** Aqua-Scope Technology OÜ týmto vyhlasuje, že rádiové zariadenie typu PRELWE02 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](http://www.aqua-scope.com/ce)

**Soumi** Aqua-Scope Technology OÜ vakuuttaa, että radiolaitetyypin PRELWE02 on direktiivin 2014/53/EU mukainen. EUvaatimustenmukaisuusvakuutuksen täysimittainen teksti on saatavilla seuraavassa internetosoitteessa: [www.aqua-scope.com/ce](http://www.aqua-scope.com/ce)

**Svenska** Härmed försäkrar Aqua-Scope Technology OÜ att denna typ av radioutrustning PRELWE02 verensstämmer med direktiv 2014/53/EU. Den fullständiga texten till EUförsäkringen om verensstämmelse finns på följande webbadress: [www.aqua-scope.com/ce](http://www.aqua-scope.com/ce)

## 13. 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.