Aqua-Scope Monitor

SKU: AQSLWE02
Version: 2.0.0

Product Description

The Aqua-Scope water monitor **detects water leaks** and records the total **water consumption** in the house as well as the **pressure and temperature** of the water. The device applies advanced signal processing and analyzes the sound waves, which move in the domestic water distribution pipes when water is taken or there are leaks. Water is a very good conductor of sound. A **single sensor is therefore sufficient, to monitor the whole house** or apartment. In addition, to the sensor other peripheral devices such as valve motors or flood sensors can be associated to extend the functionality of the overall system.

The device consists of two parts:

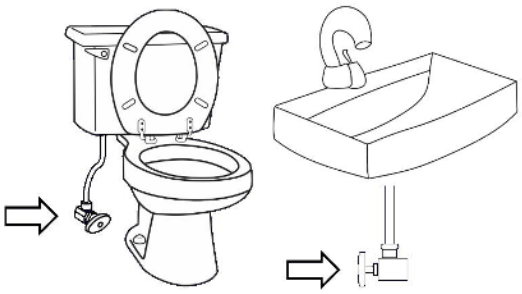
- Main housing for signal processing and radio communication with battery compartment.
- The external sensor head is connected to the water pipe. The stainless steel sensor head has a silicon sensor mounted in silicone oil for highly accurate and low-noise pressure measurements in a wide operating range. The measuring range for pressure is between 1 and 10 bar. The sensor values are converted into digital values directly in the measuring head to suppress interference from the connection to the main housing. In addition, the temperature of the liquid medium is measured directly at the stainless steel diaphragm and is therefore very precise.

The sensor can send an alarm message if freely definable threshold values are exceeded or notreached. The sensor's polling frequency can be set between 0.1 second and several minutes and defines the battery life. For a measuring interval of 1 second, a battery life of approx. 10 years is calculated.
The device communicates via LoRaWAN as a *Class A device* and can also be operated as a *Class C* device via configuration parameters.

The device is powered either via an external power supply with USB-C power supply unit or via an optional internal ER26500 battery (Bobbin Cell C).

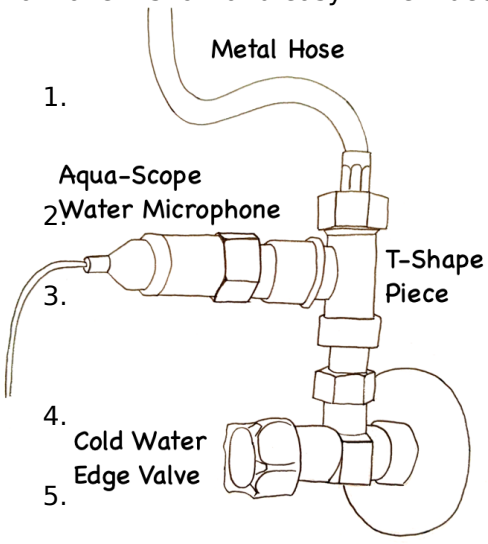
Both the sensor head (IP67) and the main housing (IP65) are waterproof and can be used outdoors or in particularly humid and/or dirty environments.

Installation



The Aqua-Scope Water Monitor watches the water pressure and water pressure waves (water noise) of the home water installation system. The Aqua-Scope sensor head must be connected to the pipe system at one single point in the home. Ideal connection points are edge valves located below sinks or beside toilets. Alter-natives are 1/4-inch revision openings on pressure reduction valves, shut off valves or other installation gear. It is recommended to find a place as low in the home as possible (ideally basement or first floor). Attention: If your water system has a Pressure Reducing Valve (PRV) installed the Aqua-Scope monitor must be installed after this PRV (between PRV and the individual outlets). If no PRV is present the device may be installed everywhere but precision of measure-ments is reduced. For details, please refer to Section ‘PRV impact’.

To make it short and easy – the video on aqua-scope.com/install explains the installation of the Aqua-Scope Sensor Head step by step:



1. In case there are two edge valves under the sink, please identify the cold-water supply. Just open hot water and check which valve warms up.
2. Close the faucet and close the edge valve by turning clockwise.
3. Remove the metal hose from the edge valve using the 19 mm wrench supplied. You may want to have a towel on hand to catch the water leaking from the end of the hose.
4. Mount the T-shaped connector on top of the edge valve and fasten it using the 19 mm wrench.
5. Connect the metal hose to the upper end of the connector and fasten it using the 19 mm wrench.
6. Screw the Aqua-Scope pressure sensor head into the side opening of the connector and fasten it by hand. There is no need to make it super-tide.
7. Re-Open the edge valve by turning the knob anti-clockwise.
8. Please check all three connections for some seconds that there are no leaks.
9. Attach the Aqua-Scope to a suitable location using double-side tape and plug the sensor head into the water-proof screwable terminal of the main device. Attach the wired flood sensor to the small round terminal if desired.
10. Power the device using the USB C Power Plug. Please use the power supply provided within the scope of delivery. This power supply has very low distortion factor required for precise measurements of pressure.

Reset to Factory Default State

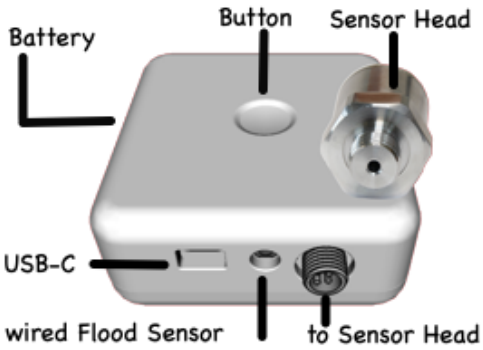
The factory default state is indicated by the LEDs blinking green/red. Please push the button after the initial buzzer beep (but not earlier!) and keep it pushed for 5 seconds. After 5 seconds you hear a low-

frequency sound. Now release the button! This reset sequence will delete all settings including network access credentials.

Pairing with the LoRaWAN Network

Please register the device with its three keys with your LoRaWAN server before commissioning. You will find the Device EUI printed on the device. Enter this key plus your registered email address on https://aqua-scope.com/lora to obtain the missing keys. The email address is the account email from Aqua-Scope Shop purchases or the data is provided by your Point of Sale.

Functions and Usage



As soon as the unit is connected to a radio network, an automatic calibration begins. Use water normally during this time. After 24 hours at the latest, this calibration is finished. It is detected whether a pressure reducer is present, and which standard pressures are present in the water system. You can restart the calibration from the app if necessary (configuration menu).

Every 15 minutes (when mains powered) or every hour (when battery operated) the device reports the following sensor values:

- Temperature of the water right at the sensor head.
- Pressure of the water.
- Consumption of the last 15 min/1 hour.

The sensor values can be accessed in the Aqua-Scope App or they are reported into your network of choice.
The main function of the device is analyzing the water distribution system for different kind of anomalies and report them as alarm. The following alarm types are reported:

- External wired flood sensor detects water.
- Water flow time exceeds threshold (default threshold time is 15 minute but it can be changed in the app or by configuration parameter.
- Water pressure too high (the threshold is automatically detected during calibration).
- Too heavy water flow, typical for disengaging fittings or broken pipes.
- Dripping faucet (only detected when PRV is present).
- Water about to freeze (threshold of 4 °C can be changed in Aqua-Scope App).
- Jamming Toilet Flap.

- General unusual Water Flow pattern indicating a leak.

Beside the water-related alarms the device also reports certain device-related conditions as alarm:

- No external sensor head connected
- Head present but no contact to water
- Battery Low
- Mains Power lost
- Bad communication network quality

All these alarm conditions are monitored continuously. Alarms are indicated on the device with red LED and buzzer sound (both can be disabled in the app) and they are reported into the Aqua-Scope Cloud and shown in the Aqua-Scop App. If the alarm condition disappears the alarm is reversed but will remain in green color in the app for information. Swiping them in the apps home page finally deleted them. Further alarm reactions such as email, push notification or even a Voice call can be defined in the Aqua-Scope App.

Pipe-Check

Detecting micro leaks in the pipe system needs a special measurement sequence. This sequence takes about 240 seconds and in this time there must be ‘silence’ in the water system. Hence, it recommended to perform this so-called Pipe-Check at night. Events such as water flow or preparation of warm water will terminate this process.

During the sequence the water needs to be shut-off. Therefore, it is recommended to add a retrofittable motor to perform the task automatically at night You can define the time and the weekdays by setting a timer in the app (Configuration -> Timers) with Pipe-Check as action. If no retrofittable motor is connected to the monitor, you can still turn off the water manually before manually starting the process in the app. When the Pipe-Check indicates a microleak there is no need to panic. In most cases this will be a dripping faucet. If the result of a Pipe-Check continues to show a microleak for several days, then its time to search for the reason. The alarm message will give some guidance.

Not all water related alarms will result in shutting off the water. You can define the desired reaction on different alarm types in the app under Configuration -> Reactions on Alarm.

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 mean that for all commands sent to 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 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 this devices are listed below.
- **Uplink Command Device Status Report: 0x07 - STATE - VAL1_MSB - VAL1_LSB - VAL2_MSB - VAL2_LSB (6 Byte)**: This command reports every single water flow event and the result of a Pipe-Check. STATE contains the status of the operation and defines the meaning of the two 16-bit values.
  - 0x00 Idle, YY/ZZ == 0x00
  - 0x01 Water Flow Ongoing, YY/ZZ == 0x00
  - 0x02 Pipe-Check - ok, YY/ZZ == 0x00
  - 0x03 Pipe-Check - alarm, YY = pressure diff/mbar, ZZ = elevation/cm
  - 0x04 Pipe-Check - aborted due to normal water take, YY/ZZ == 0x00
  - 0x05 Pipe-Check - aborted due to water heats up, YY/ZZ == 0x00
  - 0x06 Pipe-Check - aborted due to blocking valve, YY/ZZ == 0x00
  - 0x07 Pipe-Check - not started, water currently flowing, YY/ZZ == 0x00
  - 0x08 Pipe-Check - has started, YY/ZZ == 0x00
  - 0x09 Valve Closed, YY/ZZ == 0x00
  - 0x0e Water Flow Stop Event, YY flow time/sec, ZZ consumption in ml
  - 0x0f Water Flow Start Event, YY/ZZ == 0x00
- **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 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
- **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

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 0x011 0x0D 0x48 => Pressure 0x0D48 = 3400 = 3.4 Bar.*
- 0x11: Water Consumption: VAL is water consumption in liters since last report

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.
- 3 (0x03): Too Long Water Flow. VAL is the time in s.
- 4 (0x04): Heavy Flow - Pipe Break ? VAL is actual water pressure.
- 5 (0x05): Jamming Toilet Flap. VAL is 0x00.
- 6 (0x06): Water Overpressure. VAL is actual water pressure.
- 7 (0x07): Tripping Alarm. VAL is actual water pressure.
- 10 (0x0a): Strange Flow Alarm. 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.

LoRaWAN Special Commands

The Command 0x01 0x03 (2 Byte) starts the Pipe-Check process.

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) : LORAWAN communication
- 0x0004 (Bit 02) : Wifi communication
- 0x0008 (Bit 03) : Serial communication
- 0x0020 (Bit 05) : Buzzer active
- 0x0040 (Bit 06) : LED active
- 0x0400 (Bit 10) : n.n.
- 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 * ms from 2 -32 ms (val 1 - 16).
When High-Frequency Bit set to 0: 4 MSB defines interval as 125 ms power of x, ranging from x = 1 = 125 ms to x = 14 = 2048 sec = 34 min , x=15 is not allowed.

Parameter 3 (0x03): LoRa Register (Default: 0x0ffd = dec 4093)

The bitmap defines which commands are accepted on the LORAWAN communication channel. Please note that disabling bit 4 will essentially lock this function against further changes from the LORAWAN channel. Changes via Wifi are still possible. Bit = 1 means function enabled, bit = 0 disables function

- 0x0001 (Bit 00) : CLASS C (default = Class A)
- 0x0002 (Bit 01) : Alarm Reporting
- 0x0004 (Bit 02) : Alarm Clearing
- 0x0008 (Bit 03) : Heartbeat Reporting
- 0x0010 (Bit 04) : Config Parameter Changes
- 0x0080 (Bit 07) : Water Consumption Report
- 0x0100 (Bit 08) : Temperature Report
- 0x0400 (Bit 10) : Pipe-Check
- 0x0800 (Bit 11) : Pressure
- 0x1000 (Bit 12) : Periodic Config Parameter Reporting
- 0x2000 (Bit 13) : n.n.
- 0x4000 (Bit 14) : Frequency msb, 0x00 = EU, 0x01 = US, 0x02 = nn., 0x03 = nn.
- 0x8000 (Bit 15) : Frequency lsb

Parameter 5 (0x05): Water Standard Pressure (Default: 0x0dac = dec 3500)

This parameter is for information only. The pressure value is automatically set at initial calibration and may change from time to time as a result of ongoing calibration. The value is provided in mBar.

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 9 (0x09): Jamming Toilet (Default: 0x00c8 = dec 200)

This parameter defines the max time in seconds for 10 consecutive small water consumption event typical for jamming toilet flap. The default value of 200 means that the 11th event with a given 200 seconds time interval will cause a jamming alarm sent as uplink message. If your home has heavy water usage in general you may want to increase this value to avoid false alarms but keep in mind that the system will be less sensitive to find possible malfunctions.

Parameter 10 (0x0a): Max. Water Take Time (Default: 0x0384 = dec 900)

A Water Flow longer then this value (in seconds) will cause a Usage Alarm.

Parameter 11 (0x0b): Frost Warn Threshold (Default: 0x0028 = dec 40)

A frost alarm is sent as uplink message when the current temperature falls below the threshold. The threshold value is accepted in 1/10 degree Celsius. The default value is set to 4 degree Celsius.

Parameter 13 (0x0d): Pipe-Check Duration (Default: 0x0258 = dec 600)

This value defines how long (in seconds) a pipe check process shall take.

Parameter 14 (0x0e): Pipe-Check Abort Drop (Default: 0x00c8 = dec 200)

This value defines the maximum sudden loss in pressure during Pipe-Check to indicate water consumption. When hit, the Pipe-Check is aborted immediately and the valve is reopened. The value is provided in mBar.

Parameter 15 (0x0f): Pipe-Check Alarm Drop (Default: 0x001e = dec 30)

This value defines the maximum loss in pressure per minute during Pipe-Check in mBar. When hit, the Pipe-Check will continue for several more minutes to determine the elevation and the orifice size of the detected leak.

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.

LED-Signals

- All colors blinking: device boots up
- Yellow blinking: Devices tries to connect to network
- Red fast blinking (mains powered) or steady: Alarm
- green/red blinking: factory default
- 3 times green blinking plus buzzer: Device connected to network successfully and is ready to work
- Blue glowing (mains powered) or all LEDs off (battery operated): Device is operating

PRV Impact

An installed pressure reducing valve (PRV) is common in almost all contemporary European home water installations. Without PRV the Aqua-Scope Monitor is still applicable, but some functions are limited.

- No limitation: Pressure Monitor, Temperature Monitor, Flood-Alarm, Frost-Alarm, Overpressure-Alarm, Micro Leak Testing
- Not Working: Drip-Alarm
- Less Precise: Usage Alarm, Water Consumption Metering, Jamming-Alarm

Battery Operation

If the device is battery-operated all focus in on extending battery life. The battery life depends on several factors:

- Presence of a Pressure Reduction Valve: If a PRV is present the device will draw significantly less power and the battery life extends at least by a factor of 2.
- Interval of status reporting. In mains power mode the device will report its status every 20 seconds and receive commands from the app/Cloud. In battery mode the device wakes up every hour only. Hence, every command such as open/close of the valve or setting certain parameters will be executed with delay.
- All status data such as temperature of water, consumption etc. are only reported once per hour (in mains every 15 minutes)
- The stand-by animation of blue led glowing is turned off in battery mode.

You find an estimation of the battery lifetime in the app under ‘Devices’. With PRV the battery will last about 8…10 years, without PRV the lifetime is about 4 years.

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
- Manual

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 of materials of the German Environment Agency (UBA) in the version from May 14th, 2020 under section 2.1.3.1.

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:
  - 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
- Pressure Sensor Head:
  - Range : 0 ... 1000 kPa (10 bar)
  - Overload: 150 Percent of maximum pressure
  - Connection: G ¼ “ female
  - Communication: I2C
  - Precision:
  - 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 %
- Minimal Flow Speed:
  - With Pressure Reduction Valve:
  - Without Pressure Reduction Valve :
- Pipe-Check-Sensitivity:

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.

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- Web: www.aqua-scope.com

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 frequences:

Български С настоящото Aqua-Scope Technology OÜ декларира, че този тип радиосъоръжение AQSLWE02 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 AQSLWE02 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 AQSLWE02 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 AQSLWE02 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 AQSLWE02 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 AQSLWE02 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 AQSLWE02 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 OÜ, δηλώνει ότι ο ραδιοεξοπλισμός AQSLWE02 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 AQSLWE02 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 AQSLWE02 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 Il fabbricante, Aqua-Scope Technology OÜ, dichiara che il tipo di apparecchiatura radio AQSLWE02 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 AQSLWE02 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 AQSLWE02 atitinka Direktyvą 2014/53/ES. Visas ES atitikties deklaracijos tekstas prieinamas šiuo internet adresu: www.aqua-scope.com/ce

Magyar Aqua-Scope Technology OÜ igazolja, hogy a AQSLWE02 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 AQSLWE02 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 AQSLWE02 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 AQSLWE02 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 AQSLWE02 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 AQSLWE02 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 AQSLWE02 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 AQSLWE02 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 AQSLWE02 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 AQSLWE02 verensstmmer med direktiv 2014/53/EU. Den fullständiga texten till EUförsäkran om verensstämmelse finns på följande webbadress: www.aqua-scope.com/ce

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.