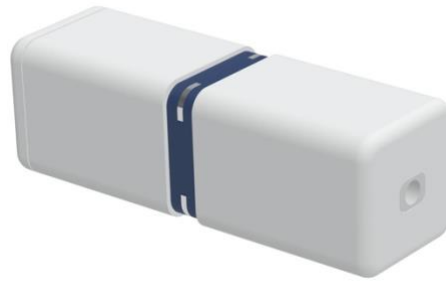




Water Contact Sensor

SKU: WWDZWE01



Quick-Start

This is a secure wireless Z-Wave Water Contact Sensor for Europe. **When in factory reset connect two of the pins in the ring (using a wire or water or two wet fingers) for two seconds. Short beeps and yellow LED help counting. After two beeps remove water/finger/wire.** Complete the adding (inclusion) by following the instructions for the gateway. This device supports Z-Wave Smart Start. Please scan the QR Code on the device label before adding if your gateway supporting Smart Start. Connect the water ins for 5 seconds to enter smart start inclusion mode.

Important safety information

Please read this manual carefully. Failure to follow the recommendations in this manual may be dangerous or may violate the law. The manufacturer, importer, distributor and seller shall not be liable for any loss or damage resulting from failure to comply with the instructions in this manual or any other material. Use this equipment only for its intended purpose. Follow the disposal instructions. Do not dispose of electronic equipment or batteries in a fire or near open heat sources.

What is Z-Wave?

Z-Wave is the international wireless protocol for communication in the Smart Home. This device is suited for use in the region mentioned in the Quick-Start section.



Z-Wave ensures a reliable communication by reconfirming every message (two-way communication) and every mains-powered node can act as a repeater for other nodes (meshed network) in case the receiver is not in direct wireless range of the transmitter.

This device and every other certified Z-Wave device can be used together with any other certified Z-Wave device regardless of brand and origin as long as both are suited for the same frequency range.

This device supports secure Z-Wave communication. It will communicate with other Z-Wave devices secure as long as the other device provides the same or a higher level of security. Otherwise it will automatically turn into a lower level of security to maintain backward compatibility.

Product Description

The Water Contact Sensor is placed on critical positions within the home and will detect even smallest drops of water thanks to the capillary effect (water is soaked into the colored sensor channel). Detected water results in an alarm sent to a central gateway using Z-Wave wireless protocol.

The unique feature of this device is the central sensor ring with 4 metal water probes on four corners. This ensures the detection **works in all possible orientations** of the device.

An external second water detection probe can be connected to the main device and it will act as second sensor differing from the primary sensor probe inside the ring. The internal temperature sensor will report freezing condition to protect water installation from further damaging.

Prepare for Installation / Reset

In order to include (add) a Z-Wave device to a network it must be in factory default state. If state is not known you can ensure this by performing an exclusion operation as described below in the manual.

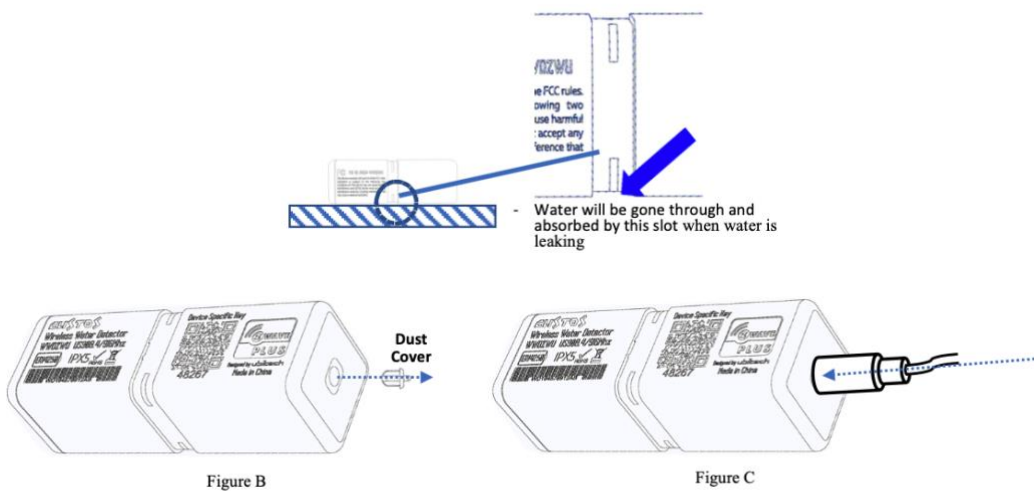
Reset to factory default



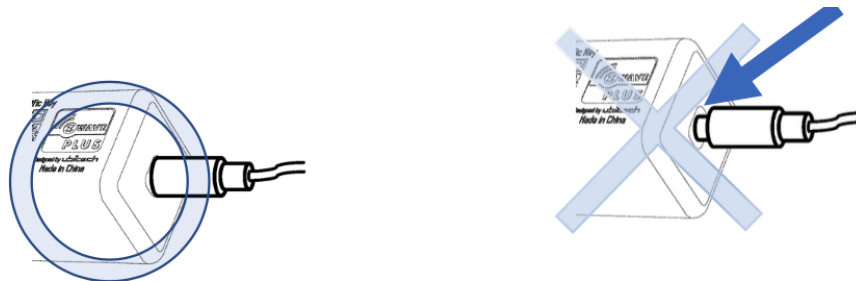
This device also allows to be reset without any involvement of a Z-Wave controller. This procedure should only be used when the Z-Wave Controller is inoperable: The device is controlled by motion. Just shake the device until you hear a beep and the green LED lights up. Shake it for 5 beeps in total. Then stop shaking and the device is reset to factory default.

Installation

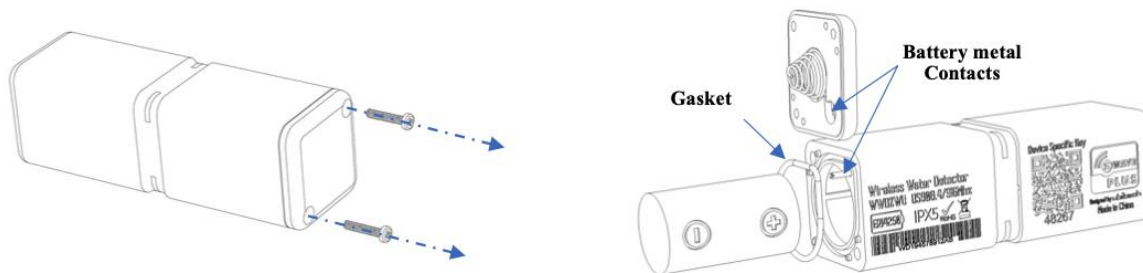
The device can be installed on any place inside or outside the home. It will work in any position (except upright) since it has 4 sensing pins. The sensing pins are positioned in a way that even minimal water will be soaked under the device and generate an alert.



There is an optional remote sensing pin connected by cable to the main device. Remove the protection rubber and plug in the cable if you want to use this function. **Make sure the jack is fully inserted into the opening.**



The built-in battery shall last 7 years or longer but even this long time comes to an end. To replace the battery open the compartment by removing the two screws as shown in the picture below. Make sure the rubber gasket is in place when closing the battery compartment.



Inclusion / Adding

On factory default the device does not belong to any Z-Wave network. The device needs to be added to an existing wireless network to communicate with the devices of this network.



When in factory reset connect two of the pins in the ring (using a wire or water or two wet fingers) for two seconds. Short beeps and yellow LED help counting. After two beeps release connection. This process only works when the device is in factory reset state.

When using Smart start just scan the QR code on your device. Wakeup the device by connecting two of the pins for 5 seconds.

Exclusion / Removing

Devices can also be removed from a network. Both processes are initiated by the primary controller of the Z-Wave network. This controller is turned into inclusion respective exclusion mode. **Removing works only when the device is included in a network and active. Shake the device until you hear 3 beeps and the green LED blinks. Now stop shaking.**

Communication to a Sleeping device (Wakeup)

This device is battery operated and turned into deep sleep state most of the time to save battery lifetime. Communication with the device is limited. In order to communicate with the device, a static controller C is needed in the network. This controller will maintain a mailbox for the battery-operated devices and store commands that can't be received during deep sleep state.

This device will wakeup regularly and announce the wakeup state by sending out a so-called Wakeup Notification. The controller can then empty the mailbox. Therefore, the device needs to be configured with the desired wakeup interval and the node ID of the controller. If the device was included by a static controller this controller will usually perform all necessary configurations. The wakeup interval is a tradeoff between maximal battery lifetime and the desired responses of the device. To wakeup the device please perform the following action: Just shake the device a few times.

Usage

The device has the following built-in sensors that send values to the Gateway when connected.

- Temperature Sensor Value
- Temperature Overheat Alarm (0x04-0x02, heat detected)
- Water Leak Alarm (0x05- 0x02 leak detected)

Water leaks alarms are caused either by the internal sensor pins on by the colored ring or the optionally attached sensor pad.

Association - one device controls other devices

Z-Wave devices control other Z-Wave devices. The relationship between one device controlling another device is called association. In order to control a different device, the controlling device needs to maintain a list of devices that will receive controlling commands. These lists are called association groups and they are always related to certain events (e.g. button pressed, sensor triggers, ...). In case of the event, all devices stored in the respective association group will receive the same wireless command wireless command, typically a 'Basic Set' Command.

Association Groups:

Number	Max Nodes	Description
1	5	Lifeline. All alarms that shall be sent to the gateway
2	5	Switch Devices when Built-In Leak Sensor alerts
3	5	Switch Devices when Remote Leak Sensor Pad alerts
4	5	Switch Devices when temperature raise above threshold
5	5	Switch Devices when temperature falls below threshold

Configuration Parameters

Z-Wave products are supposed to work out of the box after inclusion, however certain configuration can adapt the function better to user needs or unlock further enhanced features. IMPORTANT: Controllers may only allow configuring signed values. In order to

set values in the range 128 ... 255 the value sent in the application shall be the desired value minus 256. For example: To set a parameter to 200 it may be needed to set a value of 200 minus 256 = minus 56. In case of a 2 byte value the same logic applies: Values greater than 32768 may be needed to be given as negative values too.

Parameter 16: Sensor Functions

This parameter defines which sensor function of the device is active
Size: 1 byte, Default Value: 0x0f (15)

Value	Description
Bit 0	Built-In Detection Probe
Bit 1	Remote Water Detection Probe
Bit 2	Overhead Detection
Bit 3	Freeze Detection

Parameter 17: Water Leak Cancelation Command Behavior

Defines when a BASIC command Value to send to cancel water alarm
Size: 1 byte, Default Value: 1

Value	Description
0	Send BASIC SET command when Water Alarm canceled either Built-In OR on Remote Probe
1	Send BASIC SET command when Water Alarm canceled on Built-In AND on Remote Probe

Parameter 48: Temperature Sensor Report

Defines if and how a temperature value is reported.
Size: 1 byte, Default Value: 2

Value	Description
0	Disabled
1	Report in Celsius
2	Report in Fahrenheit

Parameter 49: Temperature Sensor Report Threshold

Defines the change in temperature value to cause unsolicited sending of an report.
Size: 2 byte, Default Value: 0004

Value	Description
0x00-0xff	Value in Celsius (example: 0x02 = 2 °C)
0x100-0x1ff	Value in Fahrenheit (example: 0x102 = 2 °F)

Parameter 50: Temperature Sensor Report Offset

Defines a temperature offset for the reported temperature. This parameter can be used to compensate for certain temperature deviations.
Size: 2 byte, Default Value: 0

Value	Description
0x00-0xff	Positive Deviation in Celsius (e.g. 0x02 = +2 °C)
0x1000-0x10ff	Negative Deviation in Celsius (e.g. 0x02 = -2 °C)
0x0100-0x01ff	Positive Deviation in Fahrenheit (e.g. 0x02 = +2 °F)
0x1100-0x11ff	Negative Deviation in Fahrenheit (e.g. 0x02 = -2 °F)

Parameter 51: Temperature Overheat Trigger

Sets the temperature to trigger and overheat alarm and
Size: 2 byte, Default Value: 40 / 104

Value	Description
0x00-0xff	Value in Celsius (example: 0x02 = 2 °C)

0x100-0x1ff	Value in Fahrenheit (example: 0x102 = 2 °F)
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Parameter 52: Temperature Overheat Reset Trigger Value

Sets the temperature to reset the overheat alarm and

Size: 2 byte, Default Value: 30 / 86

Value	Description
0x00-0xff	Value in Celsius (example: 0x02 = 2 °C)
0x100-0x1ff	Value in Fahrenheit (example: 0x102 = 2 °F)

Parameter 53: Freeze Trigger Value

Sets the temperature threshold to cause a freeze alarm

Size: 2 byte, Default Value: 0

Value	Description
0x00-0xff	Value in Celsius (example: 0x02 = 2 °C)
0x100-0x1ff	Value in Fahrenheit (example: 0x102 = 2 °F)

Parameter 54: Freeze Trigger Reset Value

Sets the temperature threshold to reset a freeze alarm

Size: 2 byte, Default Value: 2 / 86

Value	Description
0x00-0xff	Value in Celsius (example: 0x02 = 2 °C)
0x100-0x1ff	Value in Fahrenheit (example: 0x102 = 2 °F)

Parameter 64: Built-In Leak Detection Command Value

Defines what BASIC command Value to send into Association Group 3

Size: 1 byte, Default Value: 1

Value	Description
0	Disabled
1	Enabled Basic On (0xff)
2	Enabled, Basic Off (0x00)

Parameter 65: Built-In Leak Detection Reset Command Value

Defines what BASIC command Value to send into Association Group 3

Size: 1 byte, Default Value: 2

Value	Description
0	Disabled
1	Enabled Basic On (0xff)
2	Enabled, Basic Off (0x00)

Parameter 66: Remote Leak Detection Command Value

Defines what BASIC command Value to send into Association Group 3

Size: 1 byte, Default Value: 1

Value	Description
0	Disabled
1	Enabled Basic On (0xff)
2	Enabled, Basic Off (0x00)

Parameter 67: Remote Leak Detection Reset Command Value

Defines what BASIC command Value to send into Association Group 3

Size: 1 byte, Default Value: 2

Value	Description
0	Disabled
1	Enabled Basic On (0xff)
2	Enabled, Basic Off (0x00)

Parameter 68: Temperature Overhead Action Value

Defines what BASIC command Value to send into Association Group 4

Size: 1 byte, Default Value: 0

Value	Description
0	Disabled
1	Enabled Basic On (0xff)
2	Enabled, Basic Off (0x00)

Parameter 69: Temperature Overhead Action Reset Value

Defines what BASIC command Value to send into Association Group 4

Size: 1 byte, Default Value: 0

Value	Description
0	Disabled
1	Enabled Basic On (0xff)
2	Enabled, Basic Off (0x00)

Parameter 70: Freeze Association Action Command

Defines what BASIC command Value to send into Association Group 5

Size: 1 byte, Default Value: 0

Value	Description
0	Disabled
1	Enabled Basic On (0xff)
2	Enabled, Basic Off (0x00)

Parameter 71: Freeze Association Reset Command

Defines what BASIC command Value to send into Association Group 5

Size: 1 byte, Default Value: 0

Value	Description
0	Disabled
1	Enabled Basic On (0xff)
2	Enabled, Basic Off (0x00)

Parameter 80: Resent Water Leak Notification time

Defines the interval of resending water leak notification if the water is still present

Size: 1 byte, Default Value: 0

Value	Description
0	Disabled
1-30	1 ...30 minutes

Technical Data

Parameter	Value
Model No.	WWD-ZWE (EU)
Dimensions	21.6 x 21.6 x 67.5 mm
Weight	Sensor Unit: 52 g
Body Color	White
Waterproof and Dust proof	IP65 level / Outdoor deployment
Usage	For Indoor and Outdoor Water and Temperature sensing
Operation Temperature	14~122° F (-10 ~ +50°C)

Relative Humidity	8% ~ 80%
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Parameter	Value
Z-Wave Module	ZGM130S037HGN1
Z-Wave RF Distance	40m (Indoor) / 140m (Outdoor)
Region Frequency	EU: 868.42 & 869.85MHz
Water Leak Sensor	Dual Water Leak Sensor Probe
Temperature Sensor	Built-in MCP9700x, Range from -40°C to +125°C / (-40°F to +257°F)
Action Sensor	3 Axis Accelerometer Sensor
LED Indicator	3 colors LED. (Green, Yellow & Red)
Sound Indicator	Buzzer (Max. 85dB)
Power Supply	ER 15250 Battery 3.6 V, 1200 mAh

Parameter	Value
Wireless Technology	Z-Wave
Z-Wave Certification Type	Z-Wave Plus v2 Certification
Z-Wave SDK Version	v7.13.2
Z-Wave Library	Enhanced 232 Slave
Z-Wave Role Type	Sensor
Device Type	Notification
Generic Device Type	Sensor-Notification
Specific Device Type	Sensor-Notification
Security Class	Non-Security, S0, S2 Unauthenticated and S2 Authenticated
Firmware Update	Support: Firmware upgrade support via RF, "Over The Air (OTA)"

Support and Contact

Should you encounter any problem, please give us an 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

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Declaration of Conformity

Aqua-Scope Technology OÜ, Sakala 7-2, 10141 Tallinn, Republic of Estonia,
 The radio emitting device works on frequency 868...849 MHz with output power of 4 dBm. (2.5 mW)

Български С настоящото Aqua-Scope Technology OÜ декларира, че този тип радиосъоръжение BVSZWE 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 Čeština Tímto Aqua-Scope Technology OÜ prohlašuje, že typ rádiového zařízení BVSZWE je v souladu se směrnici 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 BVSZWE er i overensstemmelse med direktiv 2014/53/EU. EUoverensstemmelseserklæringens fulde tekst kan findes på følgende internetadresse: www.aqua-scope.com/ce Deutsch Hiermit erklährt Aqua-Scope Technology OÜ, dass der Funkanlagentyp BVSZWE der Richtlinie 2014/53/EU entspricht. Der vollständige Text der EUKonformitätserklärung ist unter der folgenden Internetadresse verfügbar: www.aqua-scope.com/ce Eesti Käesolevaga deklareerib Aqua-Scope Technology OÜ, et kesolev raadioseadme tüüp BVSZWE vastab direktiivi 2014/53/EL nõuetele. Eli vastavusdeklaratsiooni tielik tekst on kttasaadav jrgmisel internetiaadressil: www.aqua-scope.com/ce English Hereby, Aqua-Scope Technology OÜ declares that the radio equipment type BVSZWE 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 BVSZWE es conforme con la Directiva 2014/53/UE. El texto com pleto 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 BVSZWE πληροί την οδηγία 2014/53/ΕΕ. Το πλήρες κείμενο της δήλωσης συμμόρφωσης 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 BVSZWE 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 BVSZWE 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 BVSZWE conforme alla direttiva 2014/53/UE. Il testo completo della dichiarazione di conformità UE disponibile al seguente indirizzo Internet: www.aqua-scope.com/ce Latviešu Ar šo Aqua-Scope Technology OÜ deklarē, ka radioiekārta BVSZWE atbilst Direktīvai 2014/53/ES. Pilns ES atbilstības deklarācijas teksts ir pieejams šādā interneta vietnē: www.aqua-scope.com/ce Lietuvių Aš, Aqua-Scope Technology OÜ, patvirtinu, kad radijo įrenginių tipas BVSZWE 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 BVSZWE típus rádióberendezés megfelel a 2014/53/EU irányelvnek. Az EU megfelelőiségi 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-

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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.

