



# USER GUIDE & FAQ

# HARDWARE

1. Water alarm controller
2. Master valve actuator
3. Stainless steel valve / Quick connect
4. Vacancy sensor
5. Wireless leak sensor
6. Wireless double leak sensor
7. Perimeter cable
8. Remote control
9. AC/DC power adapter
10. Flow sensor
11. Detection ruler



# VALVES & FITTINGS

## 3/4" and 1" FITTINGS



## MAIN VALVE (front view)



## MAIN VALVE (back view)



## SPECIFICATIONS

- Motorized valve for automatic shut-off
- Quick connect pin for easy installation and service
- Installation : indoor or outdoor (water resistant)
- Weekly self-test (to avoid calcium deposits)
- Manual button override (to open the valve)
- Possibility of adding other valves (up to 4 valves)
- Connectivity to a flowmeter (plumbing supervision) with a delay timer
- Connectivity to a water irrigation system
- Temperature detection
- 24-hour override delay (to fill up swimming pool)
- Available models in 3/4", 1", 1 1/4", 1 1/2", 2", 3", 4"

# SENSORS



Wireless sensor  
SINGLE (1 zone)



Wireless sensor  
DOUBLE (2 zones)



Detection  
ruler



Wired  
sensor



Flowmeter



Vacancy  
sensor

## Specifications

- Multiple detection (wireless sensors):
  - Water
  - Temperature
  - Tilt / displacement
  - Battery levels
  - Pre-alarm (false alert detection)
  - Vacancy / occupancy (for automatic shut-off)
- Wireless or wired
- Discreet and modern design
- 433 MHz or LORA wireless sensors
- Flow analysis (Flowmeter)
- Up to 700' feet range (no obstacles) with a 433 MHz, and up to 6 km range with LoRa sensors

# CONTROL PANEL

## LEGEND

- A PROGRAM:** for installers (do not use) ⚙️
- B RESET:** reset following a leak ↻
- C OPEN:** open the valve 🚰
- D CLOSE:** close the valve 🔒
- E OPEN:** indicates an open valve 🔒
- F CLOSE:** indicates a closed valve 🔒
- G ALARM INDICATOR** 🔔
- H LED:** flashes if operating in battery mode 🔌
- I KEYBOARD:** zone programming
- J ON / OFF:** rechargeable battery switch
- K AC / DC POWER SUPPLY** 12V 1 AMP
- L DISPLAY:** LED with 2 digits



Wi-Fi or LoRa controller available  
Model: AKW-CCL-01

## SPECIFICATIONS

- 2-digit screen
- Notifications sent using Wi-Fi or LORA (central Wi-Fi)
- Compatible with 433 MHz and/or LORA sensors
- Up to 99 zones and sensors
- Rechargeable batteries
- Pre-alarm (to validate false alarms)
- Backlit keyboard

# Codes and alerts

On the **CONTROL PANEL**, codes include 2 letters and 2 numbers.

For instance, **AL 42** indicates an alert (AL) in zone 42 (e.g. toilet, main bathroom).

Here is a quick recap on the codes :

- **ALERT (AL)**
- **LOW BATTERY (Lb)**
- **COMMUNICATION FAILURE (CF)**
- **DISPLACEMENT / TILT (IL)**



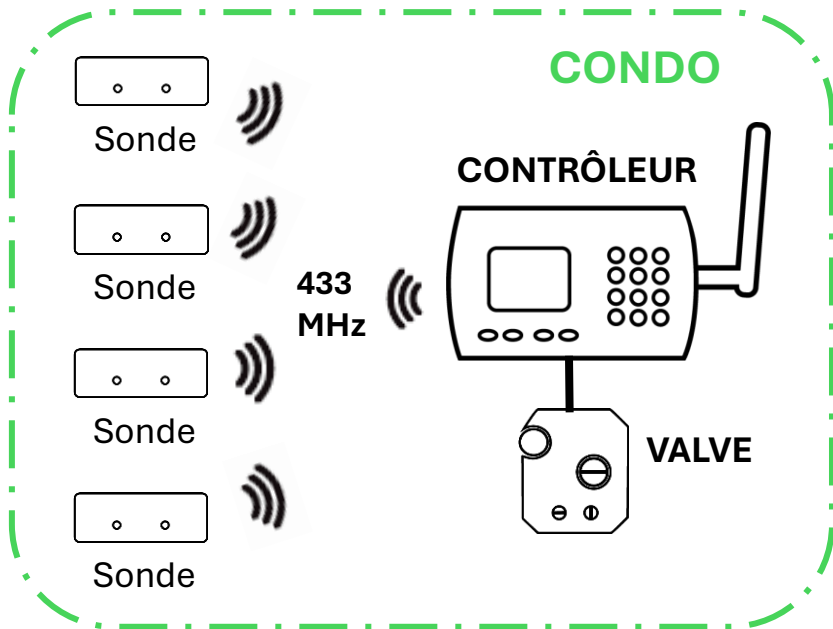
On the **APPLICATION**, we also find:

- Valve – OPEN
- Valve – CLOSE
- Valve – partially CLOSED (TROUBLE)
- Valve – partially OPENED (TROUBLE)
- Valve – low temperature
- Sonde – battery level
- Controller – Power status (plugged or unplugged)
- Communication (notification) – ACTIVE or not

# Communications (multi-unit)

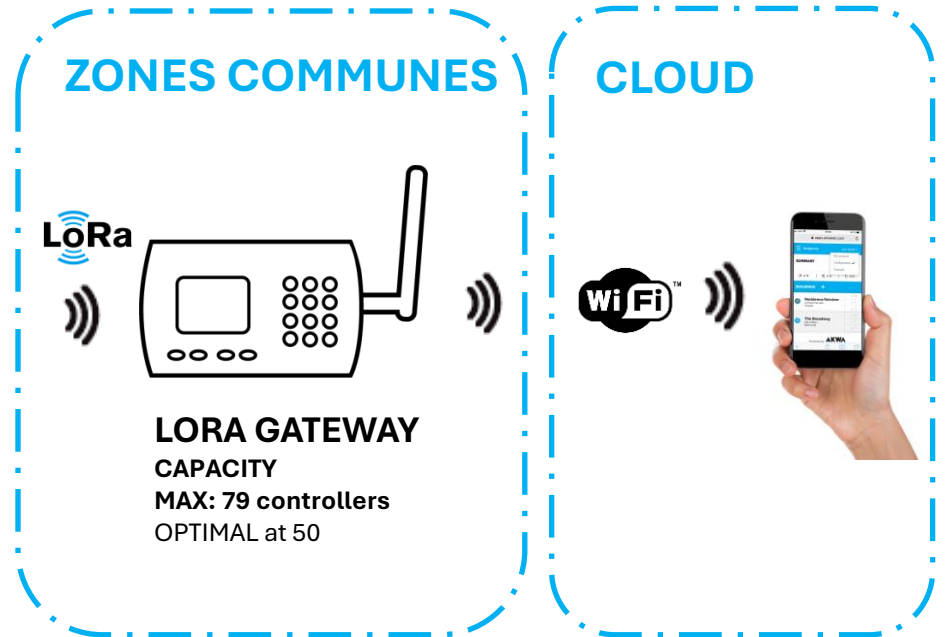
## STEP 1:

### PROTECTION (RELIABILITY)



## STEP 2:

### NOTIFICATION (VISIBILITY)



#### PRIVATE network

Independent networks (100% controlled by building)

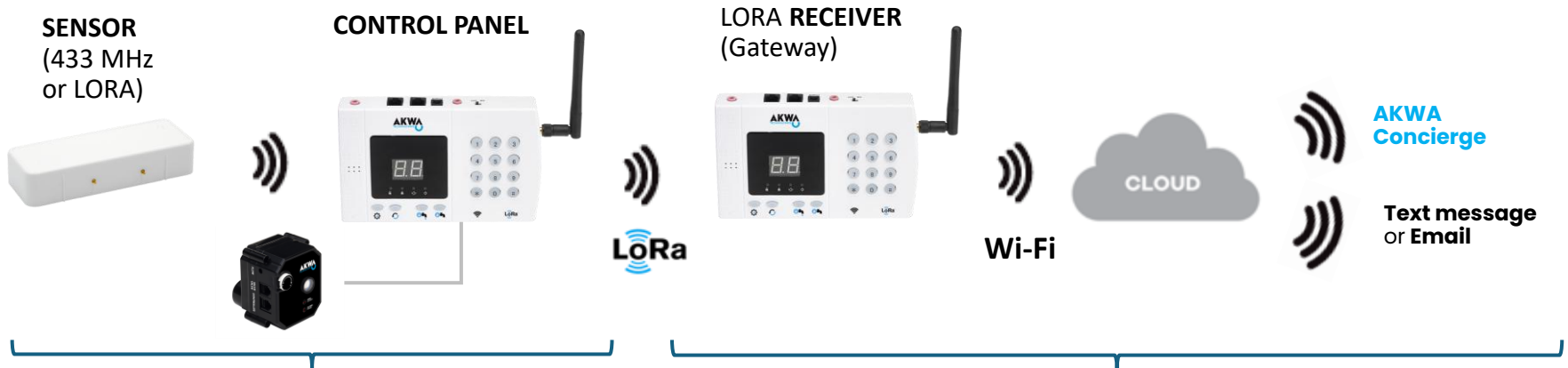
Condo : 433 MHz (secured, autonomous)

Common area : LoRa network (for multiplex buildings) connectedd to central Wi-Fi

#### PUBLIC network

Wi-Fi / Cloud / Internet

# Communications (continued)



## Step 1: Manage **RISKS**

- Monitoring of alarms, batteries, signal losses, water flow and system status
- To monitor leaks, step #1 must be 100% reliable, autonomous and independent of external networks (Wi-Fi or cellular)
- The real-time information displayed on the controller screen is always visible, and clients will also be able to receive technical support during any grid (internet, cellular, electricity) failure

## Step 2: **NOTIFY** users

- Once the controller has taken action (and posts the error code on the screen), the information is sent (via the LoRa receiver) to the Cloud and central platform and also your text / email / cellular phone
- A LoRa notification network connects unit controllers to a central Wi-Fi and receiver so only 1 Wi-Fi connection is required. This centrally managed private network is 100% controlled by building managers.
- LoRa technology is ideal in multiplex environments given there are many wireless transmission constraints (concrete, steel, electronics) and barriers.

# AKWA Concierge

# Concierge – Building status

**List of units**  
 You can monitor all the condominium's systems in real time, check if the system is operating as intended, check if the valves are closed, and make sure everything is under control.

Login date

Building location

Notifications

X 3

**Water alarm**  
 (example: x0 = no alarm, x2 = 2 alarms)

X 7

**Incidents**  
 (example: low battery, loss of signal)

X 0

**Notifications**  
 List of notifications received  
 (example: valve has been opened)

# Concierge – Condo status

The image displays three sequential screenshots of a mobile application interface for 'hydrosolution'.

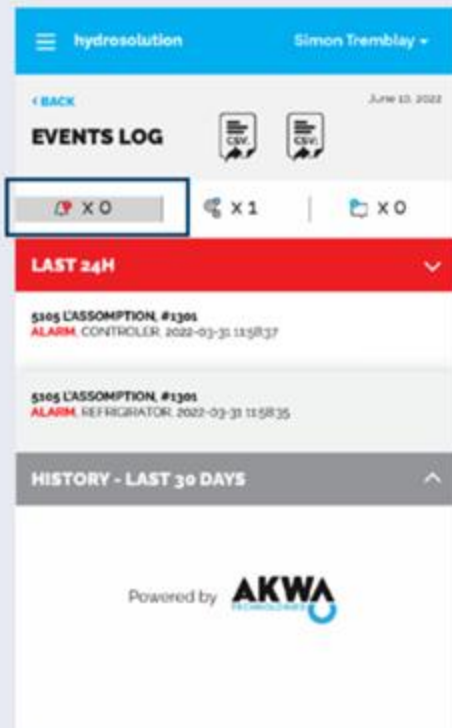
- Left Screenshot:** Shows the 'BUILDING STATUS' for '5105-5115 l'assomption'. It lists three units on 'FLOOR #13':
 

1303-5115	ALARM : WATER LEAK VALVE : CLOSED	11:05
1301-5105	STATUS : OK VALVE : OPEN	OK
1301-5115	STATUS : OK VALVE : OPEN	OK
- Middle Screenshot:** Shows the 'STATUS : CONDOMINIUM' for unit '1301-5105 ( 5105-5115 l'assomption )'. It includes a status bar with icons for:
  - Power supply (plugged icon)
  - Backup battery level (battery icon)
  - Main valve status (valve icon with 'OK' and 'VALVE : OPEN')
  - System communication (Wi-Fi icon)
- Right Screenshot:** A confirmation dialog titled 'Close valve' asking 'Are you sure you want to close valve?'. It includes a 3-minute delay warning and a 'NOTE' about alarm mode. Buttons for 'Yes' and 'Cancel' are visible.

Legend for icons:

- Power supply is normal
- Backup battery level
- Status of the main valve – closed or open
- System communication status

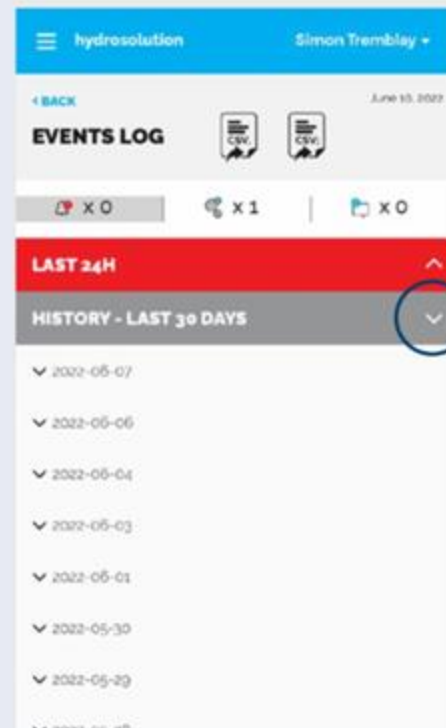
# Concierge – Events



1

## Events Past 24 hours

Click on the bell to see the events that have occurred in the past 24 hours. For instance, you can see information about a loss of signal - in which units the loss of signal occurred, the duration, and the sensors affected.



2

## History Past 30 days

Click on the arrow to see the events that have occurred in the past 30 days. For instance, there is no incident listed here. You can also view details about the notifications sent every day.

# Support, FAQ and maintenance

# FAQ

**Q1** What codes and **notifications** will we see on the controller?

**R1** The displayed message on the controller screen includes 2 letters and 2 numbers. For example, AL 42 would mean an alert (AL) at the master bathroom toilet (zone 42). Here is a summary list of possible codes :

**AL 42** = The sensor is electrically short-circuited (in contact with water), an alarm is triggered and the valve is closed

**cF 42** = Loss of signal

**Lb 42** = low battery to replace

**IL 42** = TILT alarm. The sensor has been moved from its original position.

**Lo 42** = low temperature (for the probe), between 2 and 5 degrees Celsius

Other notifications are possible, but much less frequent, including:

**LL** = low temperature (for the valve), between 2 and 5 degrees Celsius

**FL** = Flowmeter alert.

Depending on the programming, you will receive a notification only and/or the valve will automatically close if the water continues to flow after a predetermined delay (between 0 and 99 minutes).


**Trouble** = The valve does not close or open completely. Contact technical support.

**Q2** During plumbing work, how should we **turn off the water** ?

**R2** Close the manual valve (before the automatic valve) OR press the CLOSE  button on the AKWA controller.

# FAQ (continued)

**Q3** If the controller is in **alarm**, and the valve is closed, what do I do?


**R3** On the controller, press RESET . If the valve remains closed, unplug the power cable (item K, page 5) and slide the switch to the OFF position (item J, page 5). After 3 seconds, reconnect the black wire, and turn the switch ON.

**Q4** How long do the **batteries** found in the wireless sensors last?

**R4** If a sensor battery is low, an error code will be displayed on the the controller screen. For example, if the AAA battery (Lithium or Alkaline – Industrial Grade) in zone 42 is at fault, the **Lb 42** code will be displayed on the controller screen. For the AAA batteries, the estimated life cycle is 3 - 5 years, and they are changed only if the controller notifies you.

**Q5** Does the system detect the **temperature** ?

**R5** The temperature is detected by the sensor and the valve. For the valve, if the temperature drops between 2 and 5 degrees Celsius, it will be closed as a precaution. For the sensors, you will only get a notification.

**Q6** In the application, I have a  icon, and the date/time is not in 'real' time. What does that mean?

**R6** If the Wi-Fi (building or condo) has not communicated with the unit's controller for 96 hours (or more), the notification communication is no longer working. The water alarm system keeps working, but you will not longer receive emails, text messages, or real-time information on the app as the outbound link is down.


**Q7** How does the **flowmeter** work?

**R7** The flow meter is a turbine that detects abnormal flow over a period (0 to 99 minutes). By default, 15 minutes is proposed, and the flow meter is a complement to the sensors.

# FAQ (continued)

**Q8** I received a notification with **signal loss** and communication failure, what should I do?

**R8** There are 2 types of signal losses, namely:

- The **controller** has been disconnected  and is no longer communicating to the Cloud and platform.
- The **sensor** is no longer communicating, and the code (on the controller) indicates **CF 42** (if zone 42). Several scenarios could explain a Cf signal, namely: a signal blocked by a physical barrier (e.g. metal trash can) which causes interference, a battery that needs to be changed (defective or without charge), or a sensor that has disappeared (e.g. after renovations).

**Q9** A **red light is flashing** under the left number 8 on the screen. Is this normal?

**R9** The flashing LED light confirms that the controller is communicating externally (Wi-Fi or central receiver) and this is a normal status. This means that the controller can send email, text messages or info to the Cloud and your phone.

**Q10** I believe I have '**false alarms**' under my appliances. Why? How do I fix this?

**R10** Detection rulers are 12" or 20" long. Under a dishwasher, the ruler can detect plumbing leaks (at the back), or detect condensation from a leaky pipe. Having a larger surface and detection area, rulers are more sensitive. The ruler must be in a clean and dry environment, which is often difficult under appliances. If too sensitive, wrap the ruler with an insulator (e.g. paper towel) to reduce sensitivity to condensation or any contact with metal.

**Q11** We have an **AL 1** alarm and what could be the problem?

**A11** First, check if the 2 metal pins located at the end of the wired sensor (plugged into the main valve) are in contact with water. If the sensor is dry, make sure the gray cable is connected to the LINE 1 port (located to the left of item K, page 5). Once the sensor is dry and the cable is in LINE 1, follow the instructions in R3 (answer on page 11) of this FAQ.

# VALVE : MANUAL OVERRIDE

During a prolonged **power outage** , the valve closes automatically. In short, we want to avoid the 'worst' situation (no power AND no residents on site AND a water leak). In such cases, we are in prevention mode and the valve is closed. Typically, the valve will close within 2 to 4 hours (OR automatically if there is a power surge to protect the electronics). In such cases, if there is no alarm in effect, the valve can be opened manually if there is a power shortage.

## MANUAL opening procedure

1. On the motorized valve, pull up the round button about 1/8" (see yellow arrow). Once the button is raised, you are in manual mode.
2. After, open a faucet so you can hear the water flowing. Turn this knob continuously (right or left) for 30-45 seconds until the water flow returns to normal. If the red line (in the plastic sight glass) is horizontal and parallel to the plumbing pipe, you should have full water flow.
3. Once the water flow is restored, push the button back into its original position. This final step is required if the actuator is to operate normally once the power supply is restored.



Button to manually open the valve

MAIN VALVE



## CONTACT

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