
KAIROS

NOAH™ Leak Sensor



User Manual

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Important Safety Information

- Please read, follow and keep these instructions.
- Please heed all warnings.
- Please install in accordance with the manufacturer's instructions.
- Do not install near any apparatus that produces temperatures exceeding 356 °F
- Protect the cable and connectors by installing them out of the way of high traffic areas and avoiding locations where the cable may be pinched and severed.
- Only connect Kairos membranes designated for the NOAH™ product being installed.
- Do not place this apparatus on a bed, sofa, rug or similar surface.
- Do not place this apparatus on an unstable surface.
- Operating temperatures for this product should not exceed –4 °F to 131 °F
- Storage temperatures should not exceed –40 °F to 185 °F
- Do not submerge the device under water. It is designed to be IPX5 to withstand being sprayed by water.

United States FCC Compliance

This device complies with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against such interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy. If not installed and used in accordance with the instructions, it may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment OFF and ON, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient the device, being sure to keep it as far as possible from electrical motors, other wireless devices, and large sources of water or large metal objects.
- Increase the separation between the equipment and receiver.
- Consult an experienced radio technician for help.

Any unauthorized changes or modifications to the product will void the warranty.

Introduction

The NOAH™ Multifunction Leak Sensor and NOAH™ Membranes are designed to monitor the presence of leaks, temperature, and tampering for many years over long distances using a long-range, low-power radio technology known as LoRa. These sensors are primarily designed for use in:

- Smart Buildings / Facilities (Commercial Office Space, Warehouses)
- Commercial Real Estate (Apartments, Condominiums)
- Single Family Neighborhoods (HOAs)
- Single Family Homes
- Rental Properties

Features

- Real-time alerts set-up in the KAIROS user portal (kairowater.io)
- Configurable notifications for teams in the form of:
 - SMS/text messages
 - email notifications
 - in-app notifications
 - automated phone calls
- Visible and audible alerts from onboard LED and buzzer¹
- Up to ten years battery life under normal conditions²
- Replaceable CR18505 / ER18505 battery

Package Contents

NOAH™ units are delivered in cartons in quantities of 12 per tray x 5 layers of trays = 60 total devices per box. The Kairos Support team will work with the local client team to generate residential unit lists and in-unit applications to label all devices by property, building, unit and

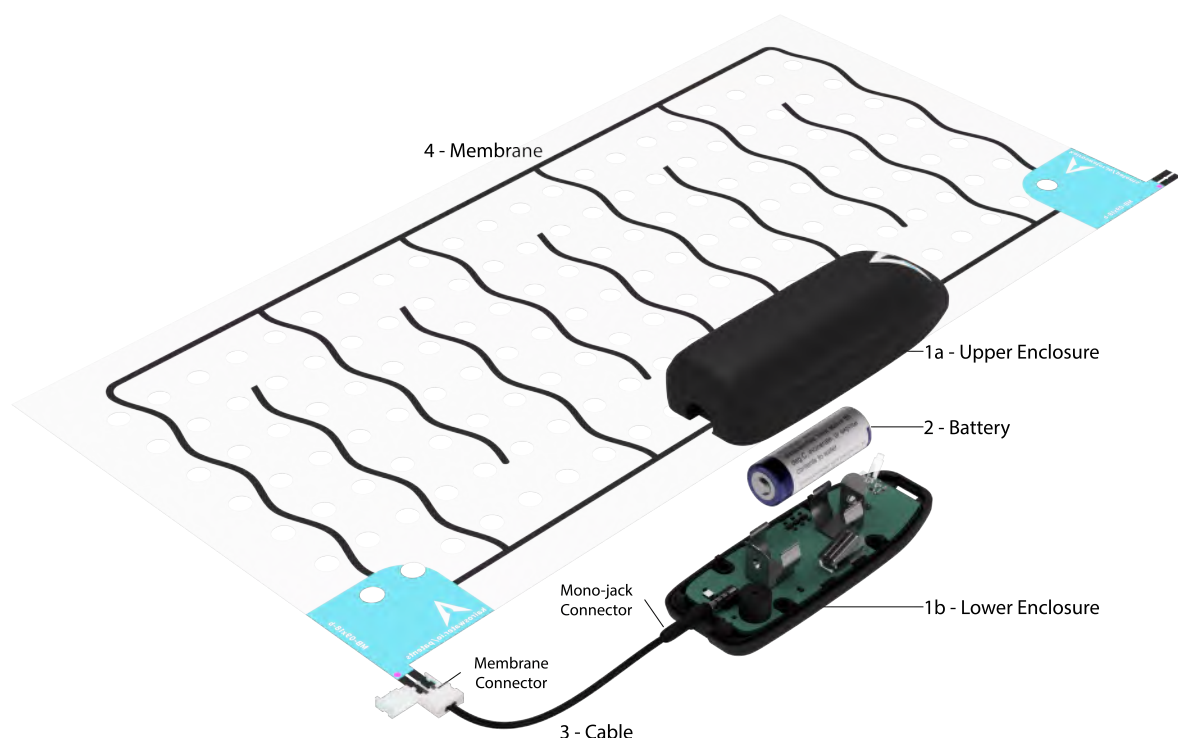
¹Audible and visible alerts are disabled by default but can be configured depending on the use case.

²Normal conditions = constant 70 deg F, no alerts (tamperers, leaks, high/low temperatures), device remains on and with an RSSI under 100 dBm at the closest gateway the entire time

location within the unit so that Noah devices arrive staged and ready to be installed in residences and common spaces throughout the property.

Product Key

1. Enclosure (1 top, 1 bottom that snap together)
2. CR18505 / ER18505 battery
3. Connector cable
4. NOAH™ Membrane (available in a variety of high & low sensitivity formats)



Installation

Be sure you have an account set-up at portal.kairoswater.io and KAIROS' install team has already visited to install the LoRaWAN gateway network. You may schedule an installation visit by sending a message to [KAIROS Support - Schedule Install](#) with three upcoming weeks that you would be available to grant the KAIROS team access to the property.

Set-up your KAIROS Account

If you haven't received an email with your temporary password for accessing your KAIROS account, you may reach out to [KAIROS Support - Account Setup](#).

Set-up the NOAH™ Multifunction Leak Sensor

Once devices are shipped, KAIROS adds all devices to the client's account. At first they will show as "Not Installed"; however, as the NOAH™ units are turned on and placed in units, they will show as "Online".

Preparing the Installation Area

For the best sensitivity, the membranes should be installed over a flat surface, free of debris, deep gaps, or dirt/sand/dust. It is a good practice to sweep or vacuum the space onto which the membrane will be applied. In addition, for the "Tee" sensors and some water heater installations, it will be important to ensure the surfaces on which adhesive will be applied are cleaned before adhering the membrane to the surface.

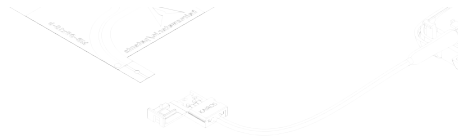
Installing Membranes

1. Ensure that the membrane you are preparing to install is appropriately sized for the area it will be monitoring. There are a variety of membrane formats available for installation. Choosing the correct one for the area you want to monitor is important. More on membrane selection in the Installing Membranes section.
2. Membranes should cover the maximum area under the monitored space without bending or buckling. Ideally, the membrane should not stick out in highly trafficked areas where they would be stepped on or kicked out of position.

TIP Some membranes come with extra tabs, if the cable is attached to one tab, and the other becomes unnecessary or interferes with the installation, you may cut it off so that the edge is flush with the bulk of the membrane.

3. Connect the membranes to the wireless modules using the supplied cable.
4. If the cable is not already attached to the membrane,

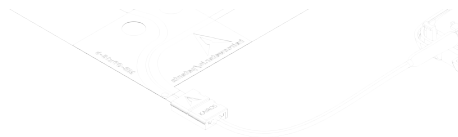
1. Slide one of the tabs sticking out from the membrane into the slot of the ribbon connector.



1. Make sure the dull black strips are touching the silver contacts in the white connector.



1. Clamp the cover over the tab so that the dull black contacts on the membrane touch the contacts inside the ribbon connector.



5. Insert the small plug into one of the wireless module's ports.



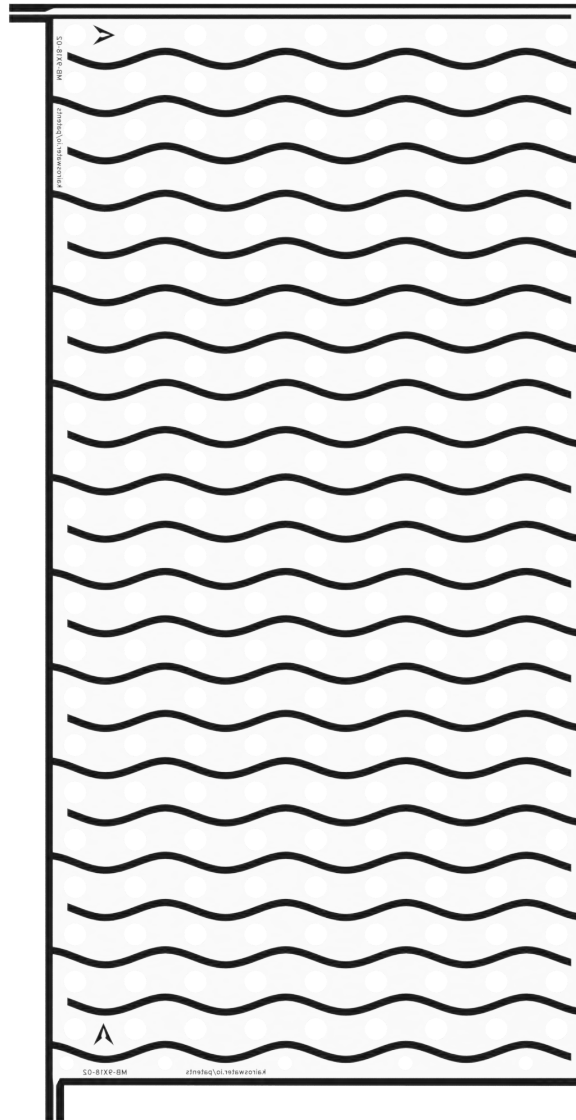
TIP In the spaces where the membranes will be slid under the thin gap for an appliance (dishwasher, refrigerator, washing machine, etc), the wireless module can be tucked under

the cabinet overhang using the 3M adhesive on its bottom. Cords can be tucked underneath and retained using the provided wire clips, or in a space under or next to the appliance.

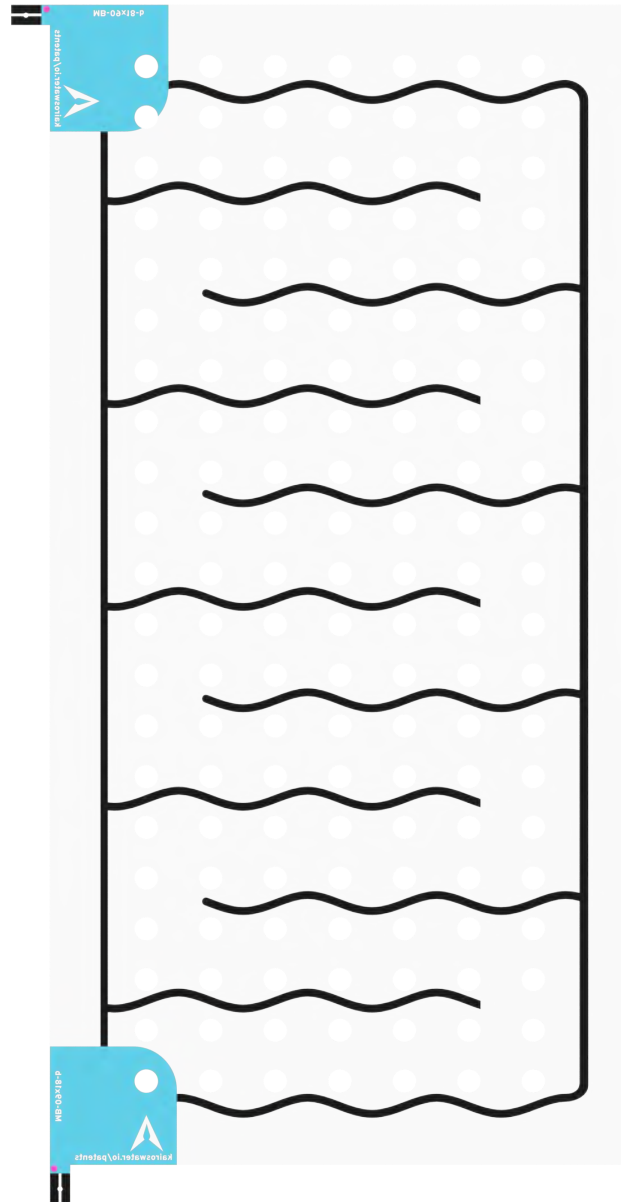
Once a membrane is placed into service, it is important for the installer to trigger a leak for 5-seconds after plugging in the membrane, the device will transition from “shipping” mode to “active” mode and join the local LoRaWAN. Kairos monitors when a device is shipped and awaiting installation and will track progress as the devices are installed to ensure a site is completely covered.

9”x18” Format

This format is recommended for Ice Machines and smaller coverage areas where the larger format will not fit. This format can be shortened by cutting it along the horizontal – as depicted below. The remaining halves can be connected to separate wireless modules or two ports on one wireless module.

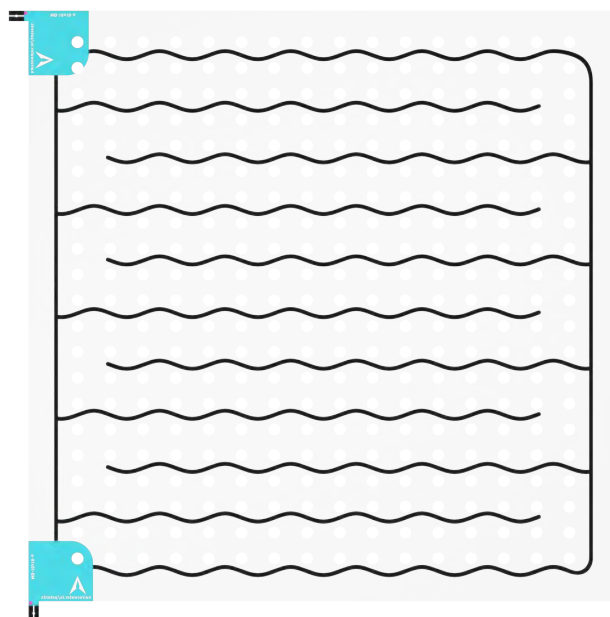


An alternative version is available which has reduced sensitivity for spaces or applications that do not require, and may adversely affect, the most sensitive membrane.



18"x18" Format

This format is recommended for Ice Machines and smaller coverage areas where the larger format will not fit. This format can be shortened by cutting it along the horizontal – as depicted below. The remaining halves can be connected to separate wireless modules or two ports on one wireless module.



NOTE The 18x18 format comes with the reduced sensitivity design utilized on the 9x18 alternative format.

20"x20" Format

This format is recommended for Clothes and Dish Washing Machines. As with the 9"x18" membrane, this format can be shortened by cutting it along the horizontal – as depicted below. The remaining halves can be connected to separate wireless modules or two ports on one wireless module.

20"x30" Format

This format is recommended for refrigerators and the largest areas. Once again, this format can be shortened by cutting it along the horizontal – as depicted below. The remaining halves can be connected to separate wireless modules or two ports on one wireless module.

6"x30" Format

This format is designed to fit under most PTAC units and wrap around water heaters when cut in half.

After cutting “bridges” 1 and 2, regions “A” and “B” can be monitored separately by connecting the leads from “a” and “b” connection bridges into separate wireless modules. In this way, the amount of fluid covering the membrane can be determined by the number of regions that are alarming.

The design can be cut in half to create two 3"x30" membranes to wrap around opposing sides of a water heater . Each half should be connected to a wireless module.

1"x12" (Tee) Format

This format is recommended for tight spaces and around the base of toilets or inside overflow/condensation pans.

As an example, below is a tee membrane installed on the back of a toilet base where anode (a) and cathode (b) must be bridged by a leak on the floor that surrounds the toilet.

Tape Format



Common Installation Areas

TIP Installing the membrane upside-down - with the conductive side facing up - desensitizes the sensor to leaks. If the leak sensor is triggered by accidental exposure to small amounts of liquid (ice cubes falling on the floor and melting under the membrane), this

orientation ensures that there must be a significant amount of water to trigger while avoiding the false alarms.

Operating NOAH™

Powering On/Off

Devices arrive in a sleep mode and ready to be installed - they do not need to be “turned on”. Once the installation team puts the device into service, there is no need to turn it on or off.

NOTE

- Be sure when you install the NOAH™ that the LoRaWAN has been setup at your location and the device is within range of at least one gateway.
- The status of your devices can be viewed at portal.kairoswater.io

Button Functions

Pressing the button once will wake the device, which will then send a report to the portal.kairoswater.io.

Reporting Frequency

While turned on, NOAH™ sends heartbeat messages to portal.kairoswater.io three times a day; but, the button can be pressed to send a new uplink to the network. The device is designed to send uplinks immediately if an alert conditions occurs (leak, tamper, or temperature thresholds being triggered.) Otherwise, if there is no activity, the NOAH™ conserves its energy.

NOTE

- A leak is detected (water is present on the leak detection membrane)
- The device is bumped or moved triggering a tamper alert
- The temperature rises above 109.94 °F

Custom alerts can be created at portal.kairoswater.io.

Remote Commands

The Kairos platform can send commands to NOAH™ devices remotely through the LoRaWAN network. Because NOAH™ operates in Class A mode – meaning it only listens for incoming messages immediately after it sends one – remote commands are queued by the platform and delivered during the device’s next scheduled check-in or event transmission.

NOTE Remote commands are managed by the Kairos platform and technical support team. End users do not send commands directly; commands are triggered through actions in the Kairos Portal or by the Kairos support team.

Settings Updates

The Kairos platform can remotely update NOAH™’s configuration, including:

- **Check-in frequency** – how often the device sends its routine status report
- **Alarm thresholds** – the temperature or leak sensitivity levels that trigger an alert
- **Alert behavior** – audible and visible alert settings

NOTE Settings changes take effect after the device performs its next automatic restart. The device will continue operating normally with its current settings until that restart occurs.

Temporary Overrides

For short-term situations – such as increased monitoring during a known event – the platform can apply a temporary check-in frequency override that takes effect immediately without requiring a device restart. Temporary overrides are held in the device’s working memory and are not saved permanently; they are cleared after a power cycle or factory reset.

Alert Acknowledgements

When NOAH™ sends an alert (leak, tamper, or temperature), the platform sends back an acknowledgement to confirm receipt. This tells the device that the alert has been logged and allows it to track which events have been seen by the cloud. If an alert is not acknowledged

within the expected window, the device will continue to re-send the notification until confirmation is received.

Restart

The Kairos support team can remotely restart a NOAH™ device. This is typically used after a settings update to apply new configuration, or to recover a device that has become unresponsive. A restart takes only a few seconds; the device will re-join the network automatically and resume normal operation.

LED Status Indicators

By default, and for the sake of conserving battery, the onboard LEDs at the nose of the device are disabled. However, it can be enabled over-the-air or at the factory and flash different colors to communicate the state of the device's sensors.

Color	Pattern	Meaning
Green	On for 5 seconds	Successfully joined the Kairos network
Green	3 flashes	Tamper event detected – device was moved or bumped
Green	20 rapid flashes	Factory reset complete; device is now off
Red	On for 5 seconds	Failed to find a network during join attempt
Red	Solid on	Temperature alarm – temperature has exceeded the configured high threshold
Blue	Continuous flash	Leak detected – water is present on the sensing membrane

Frequently Asked Questions

- Do I need a subscription with wireless service provider?
 - Not necessarily. The Kairos team will evaluate the site determine if there is a need to connect gateways to the internet over cellular if there is not sufficient locations with access to ethernet or Wi-Fi. If that is the case, Kairos has a business account with a provider for \$12 per month per gateway.
- How can I improve wireless signal strength?

- Moving the device to a location where it is not next to other electronic equipment or large metal items can improve the wireless signal strength. Trying a different orientation can sometimes improve signal strength as well.
- How often will I need to replace the battery in these devices?
 - Battery life will vary widely based on environmental factors; however, these devices have been tested to power in an ideal environment for over ten years.

Notice

©2026. All rights reserved.

Kairos Water, Inc reserves the right to change this manual at any time without notice.

Information provided in this document is subject to change without notice.

Terms and Warranty

One year limited warranty.

Support

Please contact us at info@kairowater.io or visit our support page at support.kairowater.io for any technical or warranty repair/replacement questions.

Federal Communications Commission (FCC) Statement
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
•Reorient or relocate the receiving antenna.
•Increase the separation between the equipment and receiver.
•Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
•Consult the dealer or an experienced radio/TV technician for help.
Warning: Changes or modifications made to this device not expressly approved by
may void the FCC authorization to operate this device.
Note: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.
RF exposure statement:
The transmitter must not be colocated or operated in conjunction with any other antenna or transmitter. This equipment complies with the FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a Minimum distance of 20cm between the radiator and any part of your body.
ISED Statement
This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:
1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.
Déclaration ISE
Cet appareil contient des émetteurs/récepteurs exemptés de licence qui sont conformes aux RSS exemptés de licence d'innovation, sciences et développement économique Canada. Le fonctionnement est soumis aux deux conditions suivantes:
1. Cet appareil ne peut pas causer d'interférences.
2. Cet appareil doit accepter toute interférence, y compris les interférences qui peuvent causer un fonctionnement indésirable de l'appareil.
For Receiver:
This device meets the exemption from the routine evaluation limits in section 6.6 of RSS 102 and compliance with RSS 102 RF exposure, users can obtain Canadian information on RF exposure and compliance.
Cet appareil satisfait à l'exemption des limites d'évaluation de routine de la section 6.6 du RSS 102 et conformité au RSS 102 exposition aux RF. Les utilisateurs peuvent obtenir de l'information canadienne sur l'exposition aux RF et la conformité.
This equipment complies with Canada radiation exposure limits set forth for an uncontrolled environment. The device is installed and operated without restriction.
Cet équipement est conforme Canada limites d'exposition aux radiations dans un environnement non contrôlé. Die Installation und der Betrieb der Ausrüstung sind uneingeschränkt.
For Transmitter:
This device meets the exemption from the routine evaluation limits in section 6.6 of RSS 102 and compliance with RSS 102 RF exposure, users can obtain Canadian information on RF exposure and compliance.
cet appareil est conforme à l'exemption des limites d'évaluation courante dans la section 6.6 du cnr - 102 et conformité avec rss 102 de l'exposition aux rf, les utilisateurs peuvent obtenir des données canadiennes sur l'exposition aux champs rf et la conformité.
This equipment complies with Canada radiation exposure limits set forth for an uncontrolled environment. The device is installed and operated without restriction.
Cet équipement est conforme Canada limites d'exposition aux radiations dans un environnement non contrôlé. Die Installation und der Betrieb der Ausrüstung sind uneingeschränkt.