LINKTAP www.link-tap.com

User Manual English

Important: Please read this user manual thoroughly before installing the LinkTap ValveLinker. The device damage due to incorrect or improper installation will not be covered by the warranty.

The LinkTap ValveLinker is a wireless valve controller for operating 9-24V DC latching solenoid valves. It also works with the LinkTap 1-inch flow meter to measure flow rate and volume.

The ValveLinker comes with 3 models: 1-zone (V1-1Z), 2-zone (V1-2Z) and 4-zone (V1-4Z).

Use two 9V alkaline, lithium or rechargeable batteries (not included). The service life of lithium batteries is about twice that of alkaline batteries. Do not use carbon-zinc batteries, NiMH or Ni-Cd rechargeable batteries.

The ValveLinker can only control the 9-24V DC latching solenoids; it can NOT drive any type of AC solenoids, nor can it drive semi-direct lift solenoid valves. A rule of thumb is that the two input wires of the DC latching solenoid are of different colors (for example, one red and one black). If the colors of the two wires are the same, it can be safely determined that the solenoid is not a DC latching type.

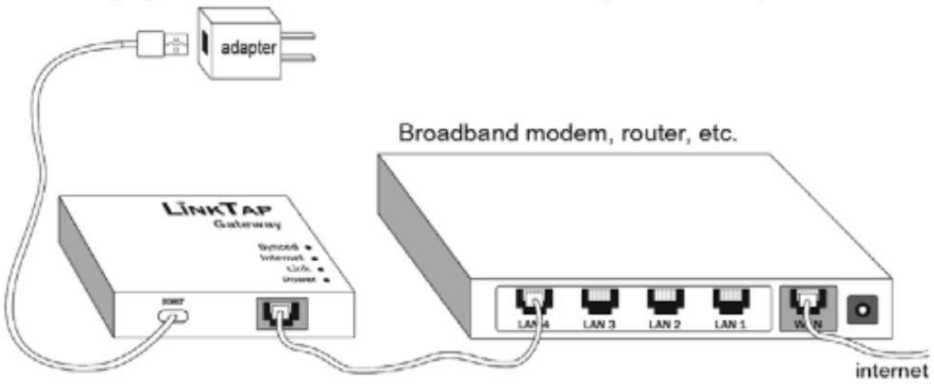
The ValveLinker uses the same LinkTap Gateway as the LinkTap water timers. If you already have a LinkTap system in the house, please start from Step 3 below.

Installation

Step 1:

Connect LinkTap Gateway to a LAN port of your home broadband modem (or a network switch, a router, a hub, a Wi-Fi extender) using the supplied ethernet cable. Power on the Gateway using the supplied USB cord and power adapter. 3 solid green LEDs (Power, Link and Internet) indicate that the Gateway has connected to the LinkTap cloud server. This process may take up to a few minutes.

To reduce possible interference, please place the Gateway over 30cm (or 1 foot) away from any power sockets and/or other electronic devices. Tip: Placing the Gateway at a higher location will usually increase the wireless coverage.



Step 2:

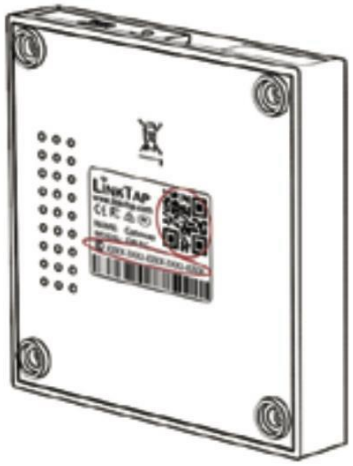
Register the Gateway through LinkTap free mobile app or web app. When the registration is completed, the Synced LED on the Gateway will turn solid green.

Scan QR code to install LinkTap mobile App

Download on the App Store

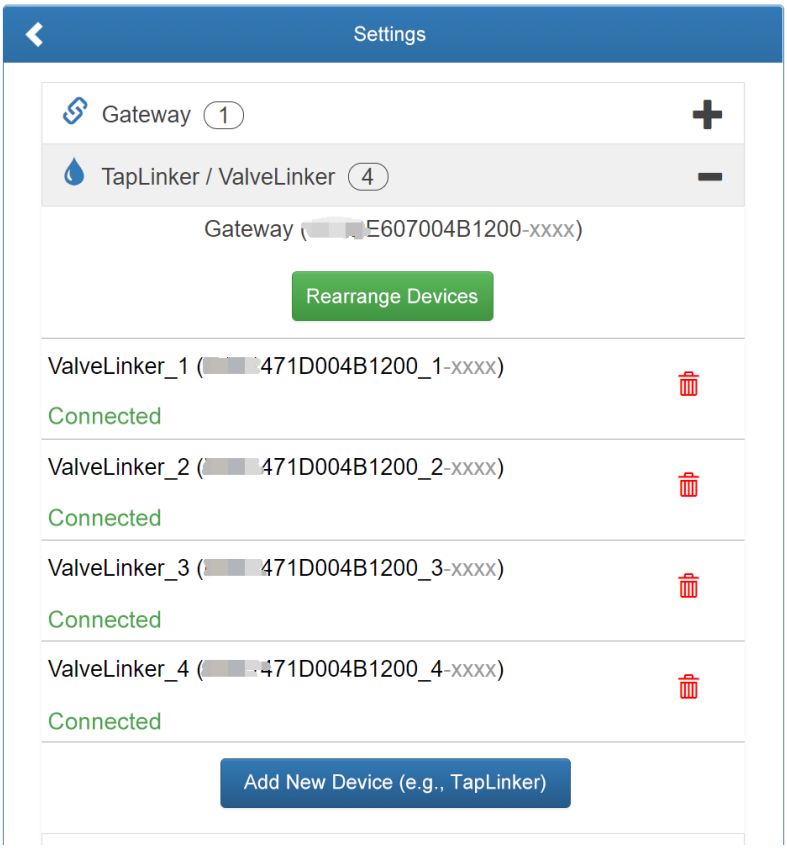
GET IT ON Google Play

or visit https://www.link-tap.com/signin for web App



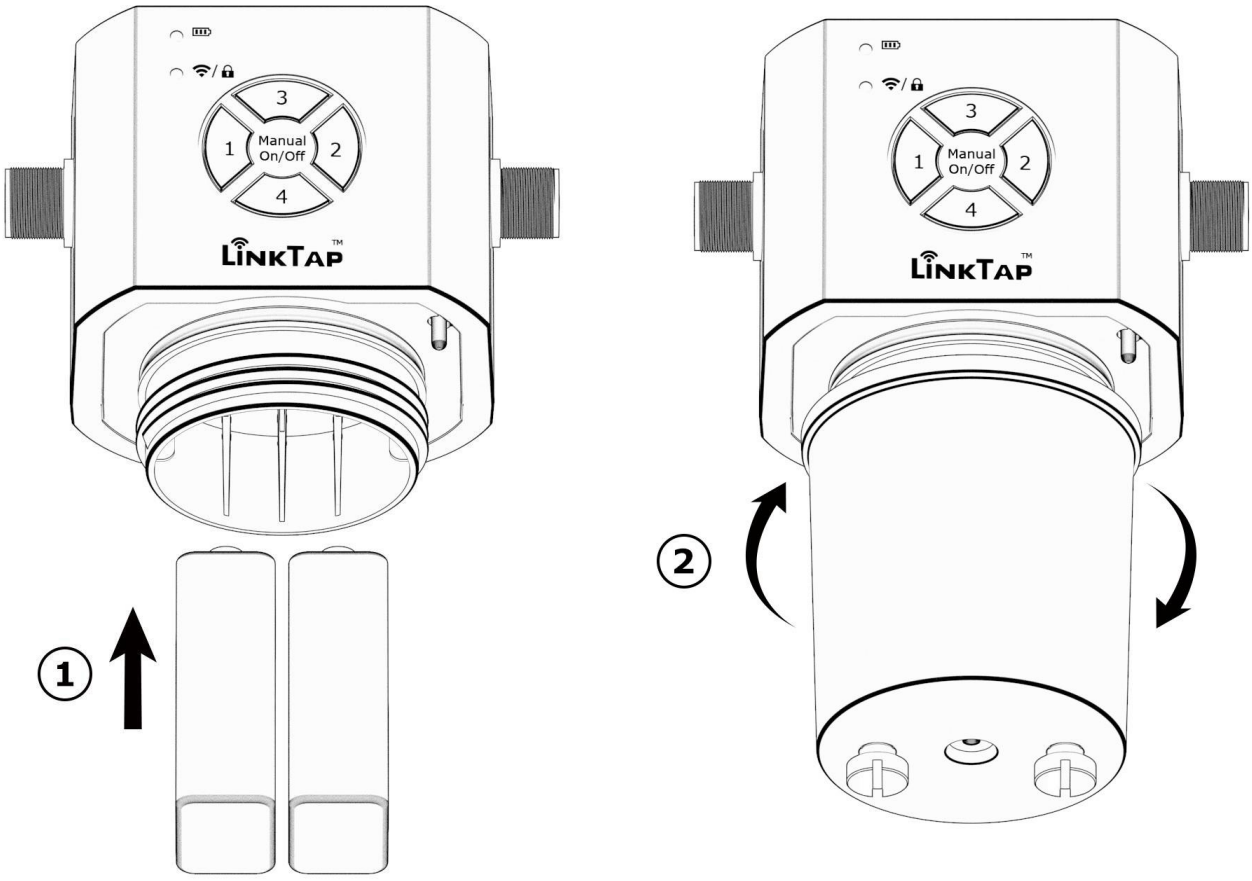
Step 3:

Add a new ValveLinker device through the LinkTap app. If your ValveLinker is a 2-zone or 4-zone model, there will be 2 or 4 ValveLinkers displayed on the app, and each of the ValveLinker can be controlled independently.



Step 4:

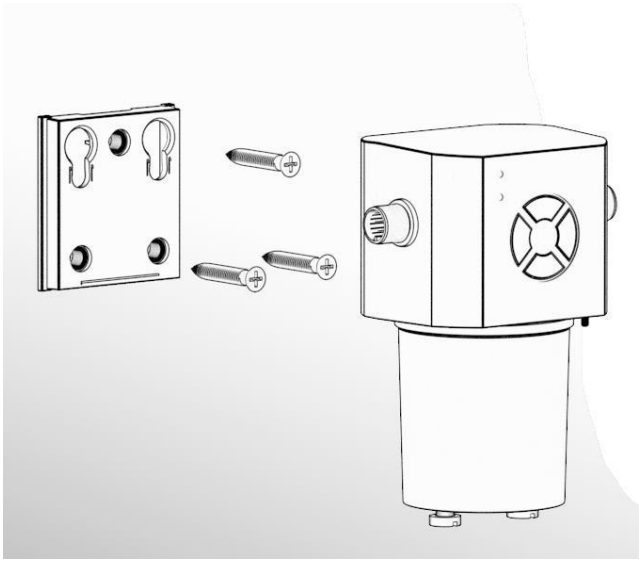
Insert two 9V alkaline (or lithium, rechargeable lithium) batteries into the ValveLinker in the correct orientation, then switch on the device. The ValveLinker will automatically connect to the Gateway in 5~60 seconds, as indicated by 2 solid green LEDs (and). These 2 LEDs will go off after being solid green for 10 seconds to save power.

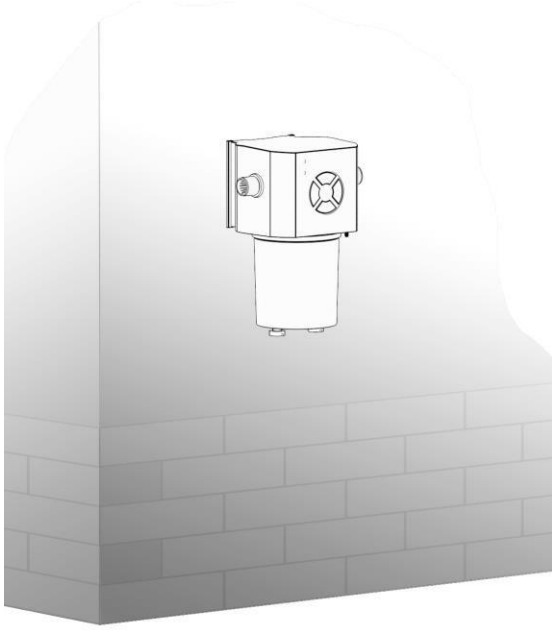


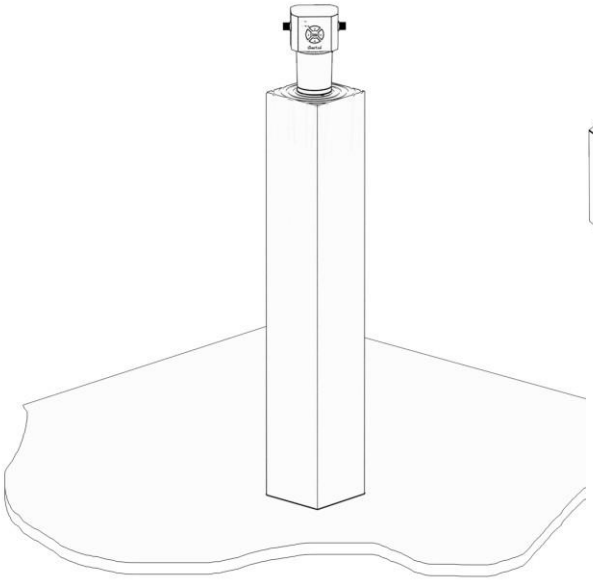
Step 5:

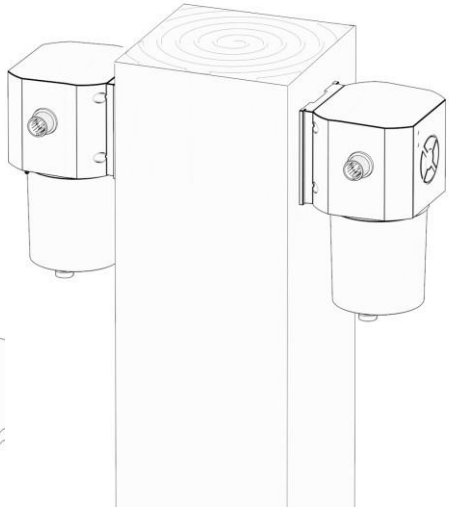
Determine the installation location of the ValveLinker. As shown below, the device can be hanging on a wall, hanging or standing on a hardwood stake, or placed in a valve box. From the perspective of wireless communication, the device should be placed as high as possible, therefore the location above the ground (e.g., on a wall or wooden stake) is desirable. If the device must be placed in the valve box or the device is lower than the ground, it is strongly recommended that an object (such as a wooden stake or brick) is used to lift the ValveLinker so that the device is as close to the ground as possible. In addition, if the device is placed below the ground, the LinkTap Gateway should be placed as high as possible (for example, upstairs).

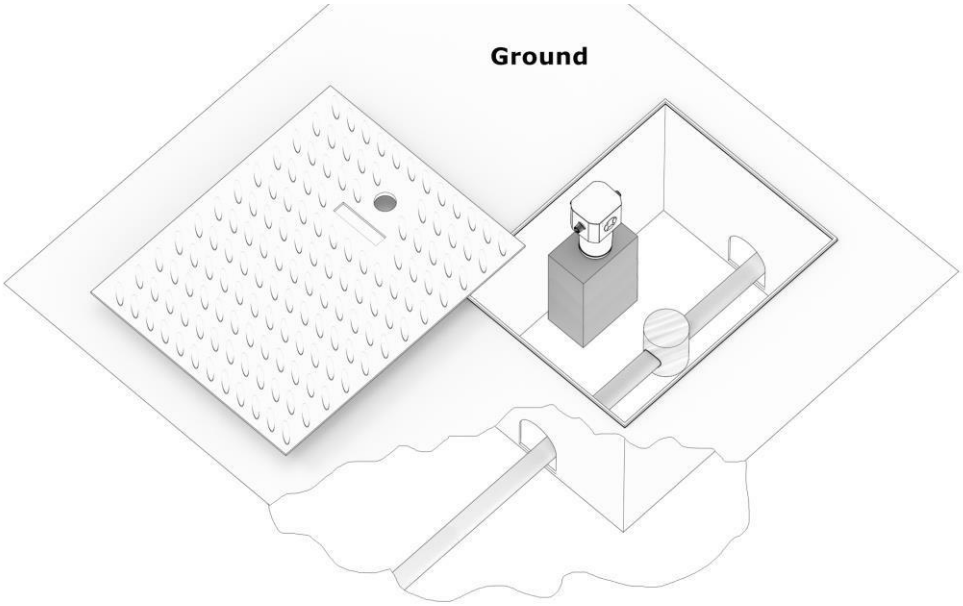
ⓘ The distance between the ValveLinker and the solenoid valve & the flow meter should not exceed the length of the connection cables. But if a longer flow meter cable is required in your project, please contact us at support@link-tap.com, and we will provide you a variety of length cables as optional accessories.

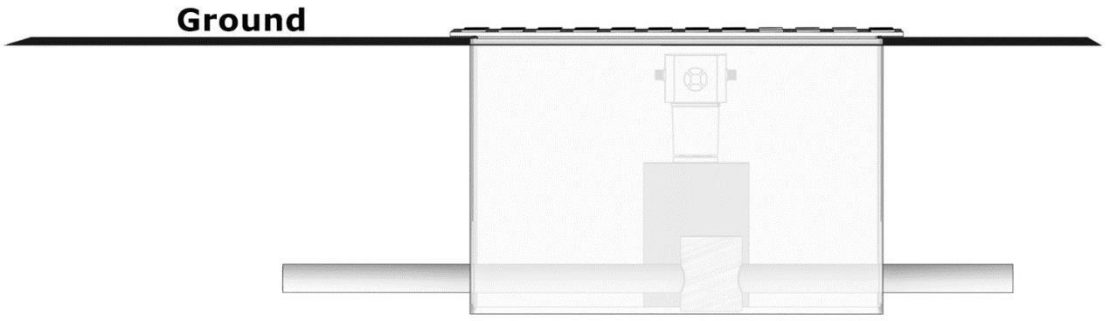









Ground


Ground

Tip: The location of the ValveLinker and the Gateway has a great impact on the wireless performance of the devices. The LinkTap app comes with a "Device Health Check" tool. (This tool can also be accessed in a web browser by visiting www.link-tap.com/health). Before fixing the ValveLinker to a certain location, you can check the wireless receiving signal strength and connection performance of the device through the tool. If the signal is weak, or the wireless connection performance is poor, then you need to adjust the location of the ValveLinker or Gateway to achieve a more stable wireless connection. In some scenarios, you may need to move the Gateway closer to the ValveLinker via a Wi-Fi extender. For more information on this issue, please refer to the FAQ (www.link-tap.com/faq).

Step 6:

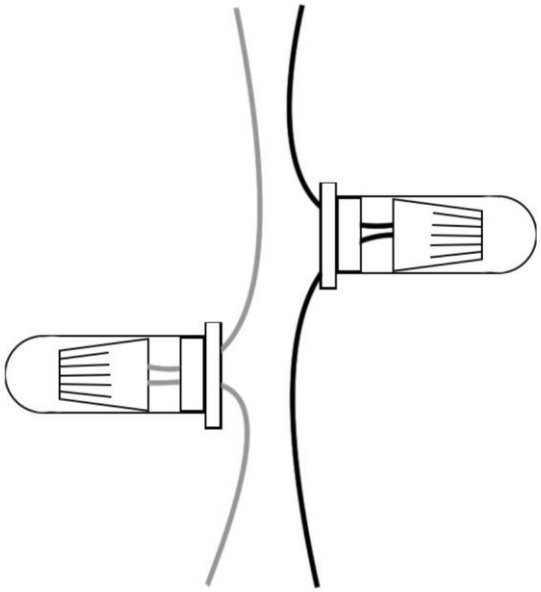
Install the DC latching solenoid valve and optional flow meter on the PVC pipes, then connect the ValveLinker with the solenoid and flow meter using the supplied connection cables and waterproof connectors.

In order to extend the life of the valve and flow meter, it is strongly recommended to install an inline filter before water enters the valve.

If you are in an area where the pipeline is at risk of freezing in the winter, you need to take proper measures to prevent the solenoid valve and the pipeline from being damaged in the winter. A common way is to install a water drain valve or faucet on the pipe before the solenoid valve to drain the water from the pipe. For more information, please consult your local professional plumber.

The ValveLinker comes with two connection cables: one is used to connect the ValveLinker and the solenoid valve, and the other is used to connect the ValveLinker and the flow meter. The two cables have different configurations and therefore cannot be used

interchangeably.



If the connection cables are to be buried in the ground, it is recommended to place the cables inside of a corrugated tube or PVC pipe for more protection.

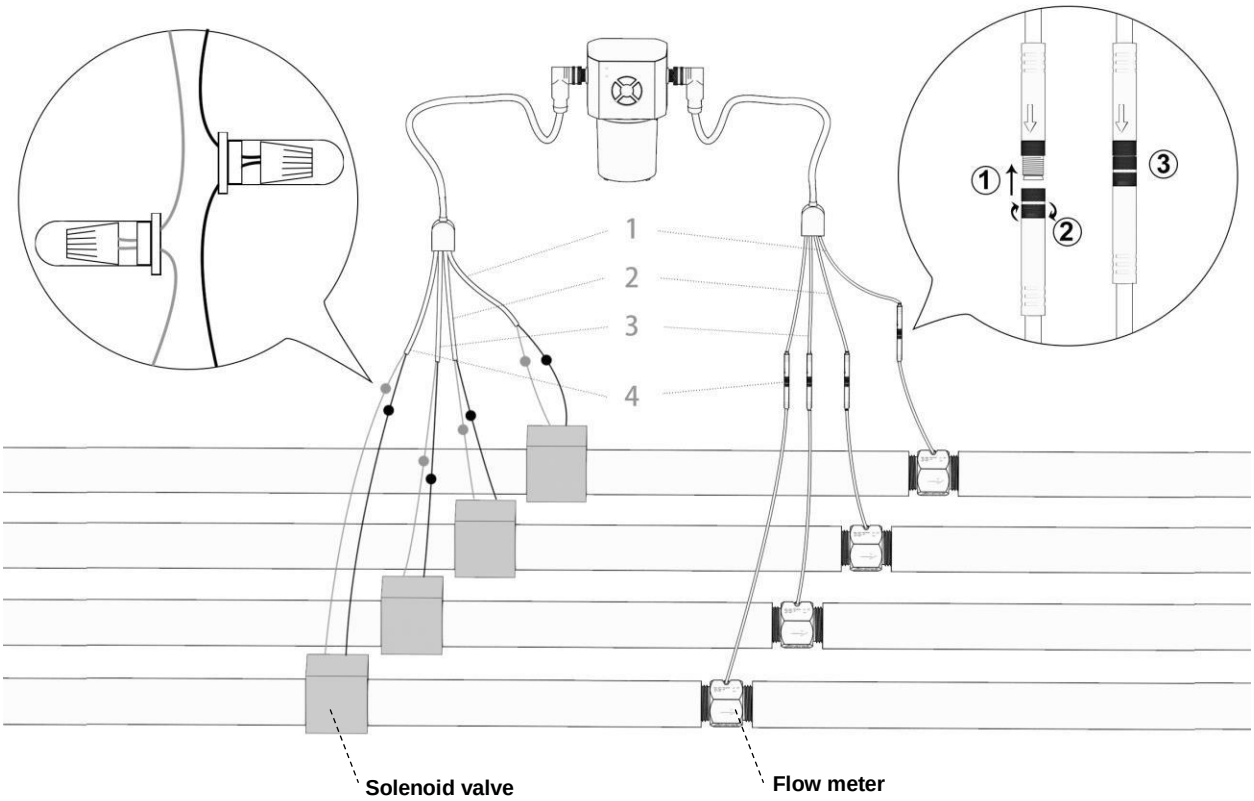
Please pay attention to the polarity of the wires when connecting the solenoid. The positive wire (red) of the solenoid needs to be connected with the positive wire (red) of the connection cable, and the negative wire (black) of the solenoid needs to be connected with the negative wire (black) of the connection cable.

When installing the flowmeter on the pipe, be careful not to let soil, dust, water or other substances enter the waterproof connector of the flow meter. In addition, be careful not to press the pipe clamp on the connection wire of the flow meter. If possible, do not press the

pipe clamp against the stainless-steel cover plate on the flow meter.

The connectors of the flow meter cables are waterproof. Be sure to tighten the two connectors to each other.

For the 2-zone and 4-zone models, please pay attention to the serial number of the wire when connecting the flow meters. As shown in the figure below, wire #1 needs to be connected to the flow meter working with solenoid valve #1, wire #2 needs to be connected to the flow meter working with solenoid valve #2, and so on.



Step 7:

After the ValveLinker has been connected to the solenoid valve and the flow meter, you can perform a preliminary watering test. Turn on the main valve on the pipe first, then press the blue "Manual On/Off" button on the ValveLinker to open the solenoid valve. The water should pass through the solenoid valve and flow meter, and you can also see the real-time flow rate value on the app.

The measurement range of the LinkTap 1-inch flow meter is 3-120 liters/min. If the actual flow rate is less than 2 liters/min, the flow meter may not detect the water flow, so the flow rate value on the app will be displayed as 0.

If the preliminary watering test is ok, you can press the blue button on the ValveLinker again to close the solenoid valve. In addition, you can test the "Instant watering" function through the app.

Manual Watering:

Press the blue Manual On/Off button once to start or stop watering. You can also disable, partially enable or fully enable the Manual button lockout function through the app.

Step 8:

If the flow meter has been installed, you can verify water cut-off detection and notification process by following the steps below.

1) Log into the app, go to “Device Details” page, then enable “Water cut-off alert”.
2) Turn off the main valve on the pipe.
3) Press the Manual On/Off button on the ValveLinker, or activate Instant Watering on the app to start watering.

Within 45 seconds, you should receive a water cut-off alert on your phone.

Step 9:

Enable all fault alert options on the app. You can now remotely access your ValveLinker from anywhere with peace of mind!

About the fault detection function:

If the flow meter has been installed, the ValveLinker can detect the following faults in a real time manner and then send push notifications and emails to you and your nominated person, e.g. neighbor, friends, etc.

1) The valve failed to shut down the watering properly;

2) The valve failed to open properly;

3) The mains water is turned off, causing no water come out of the valve;

4) The water flow rate abnormally increases or decreases.

The real-time push notifications will be sent to all your smartphones and tablets with the LinkTap app installed, and an email will be sent to your registered email address and two other email addresses. You can use email address of your neighbors, friends, family members, or colleagues, so that when a fault occurs but you are unable to handle the failure in time for some reason, they can help you out.

When a fault occurs, in order to avoid false positives, the system will make multiple measurements, so sending out real-time push notifications and emails will be delayed by 10 to 45 seconds. Similarly, when the flow rate changes, the current flow rate value won't be shown on the app until 10 to 30 seconds later.

Specifications

Operating water pressure range: 0.02-0.8MPa or 2.9-116 psi

Watering cycles per day: up to 100

Watering duration per cycle: 3 seconds to 23 hours 59 minutes

Temperature of water flow: 1°C to 40°C

Flow meter measurement range: 3 to 120 L/min with a measurement error of ± 5%

Wireless water timer power: two 9 volts alkaline, lithium or rechargeable lithium batteries

Gateway power input: 5V DC, 1A

Wireless technology: Zigbee

Wireless transmission distance: up to 800m *

Wireless operating spectrum: 2.4GHz ISM

Network security: 256-bit encryption

Max. number of ValveLinkers & TapLinkers per Gateway: 15

Max. number of Gateways per user account: 6

***Actual ranges may vary depending on environmental conditions, building materials, etc. Wireless coverage claims are used only as a reference and are not guaranteed as each wireless network is unique.**

LinkTap App User Manual

Visit https://www.link-tap.com/app-manual or scan the QR code for the LinkTap app user manual.

LinkTap Product Videos

Visit https://www.link-tap.com/video or scan the QR code for more product details.

Warranty

LinkTap guarantees the wireless valve controller and gateway products for 2 years from date of purchase. This guarantee covers all serious defects of the device that can be proved to be material or manufacturing faults. Under warranty we will either replace the device or repair it free of charge if the following conditions apply:

- The device must have been handled properly and in keeping with the requirements of the operating instructions.
- Neither the purchaser nor a non-authorised third party have attempted to repair the device.
- Faults which occur as a result of incorrectly installed or leaking batteries or using third party power adapter & USB cord are not covered by the warranty.
- Damage caused by frost is not covered by the warranty.

Disclaimer

LinkTap has done its utmost to ensure that the fault detection & notification function works reliably. However, due to various factors in real world (e.g., network delay or interruption, equipment failure, battery quality problems, improper use of the device, etc.), there is still an extremely low chance of false positives or false negatives. LinkTap and its designated agents are not liable for any possible loss caused by false positives or false negatives.

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.

FCC Warning: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

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.

This device meets the FCC and IC requirements for RF exposure in public or controlled environments. The end user is advised to maintain a distance 20 cm from the timer and any personnel to ensure compliance with RF exposure regulations.

IC Statement

This device complies with Industry Canada's licence-exempt RSSs. Operation is subject to the following two conditions:

(1) This device may not cause interference; and

(2) This device must accept any interference, including interference that may cause undesired operation of the device.

The term "IC: " before the certification/registration number only signifies that the Industry Canada technical specifications were met. This product meets the applicable Industry Canada technical specifications.

This equipment should be installed
and operated with minimum distance 20cm between the radiator & your body.

Cet appareil contient des émetteurs / récepteurs exemptés de licence conformes aux RSS (RSS) d'Innovation, Sciences et Développement économique Canada. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage,
et (2) l'utilisateur de l'appareil doit accepter tout brouillage

radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement
Cet équipement doit être installé et utilisé avec une distance minimale de 20 cm entre le radiateur et votre corps.