



CONNECTED SENSORS

SMART WATER MONITORING SOLUTIONS



WATER MONKEY





CONNECTED SENSORS

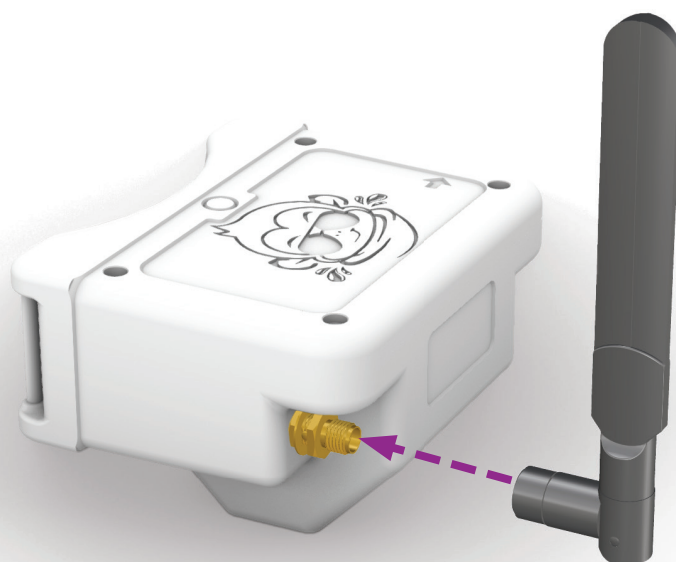
Setup Your Water Monkey

Before Installing Your Water Monkey

Install Your Antenna

The supplied antenna must be securely attached to the Water Monkey as shown in the image to the right. Do not over-tighten the antenna as this can damage the connector along with the antenna.

The antenna should be tight enough to support itself without hanging loose. It is important to always have an antenna attached to an active device.

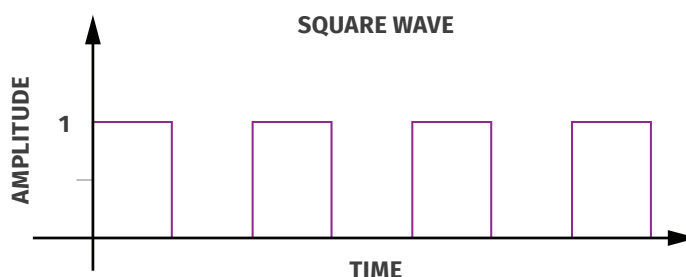


Smart Pulse Adapter

The Water Monkey is compatible with both single meter and compound meter (i.e. meters with 2 heads) with the addition of a Smart Pulse Adapter.

The Smart Pulse Adapter is an accessory cable that connects simply to the Water Monkey via an expansion port. It works on compound meters through sensors, where sinusoid waves are picked up and actively converted into square waves that the Water Monkey can count.

Adding a Smart Pulse Adapter to the Water Monkey makes it adaptable and easy to transfer from single to compound meters without having to buy two devices.





Setup Your Water Monkey

Before Installing Your Water Monkey

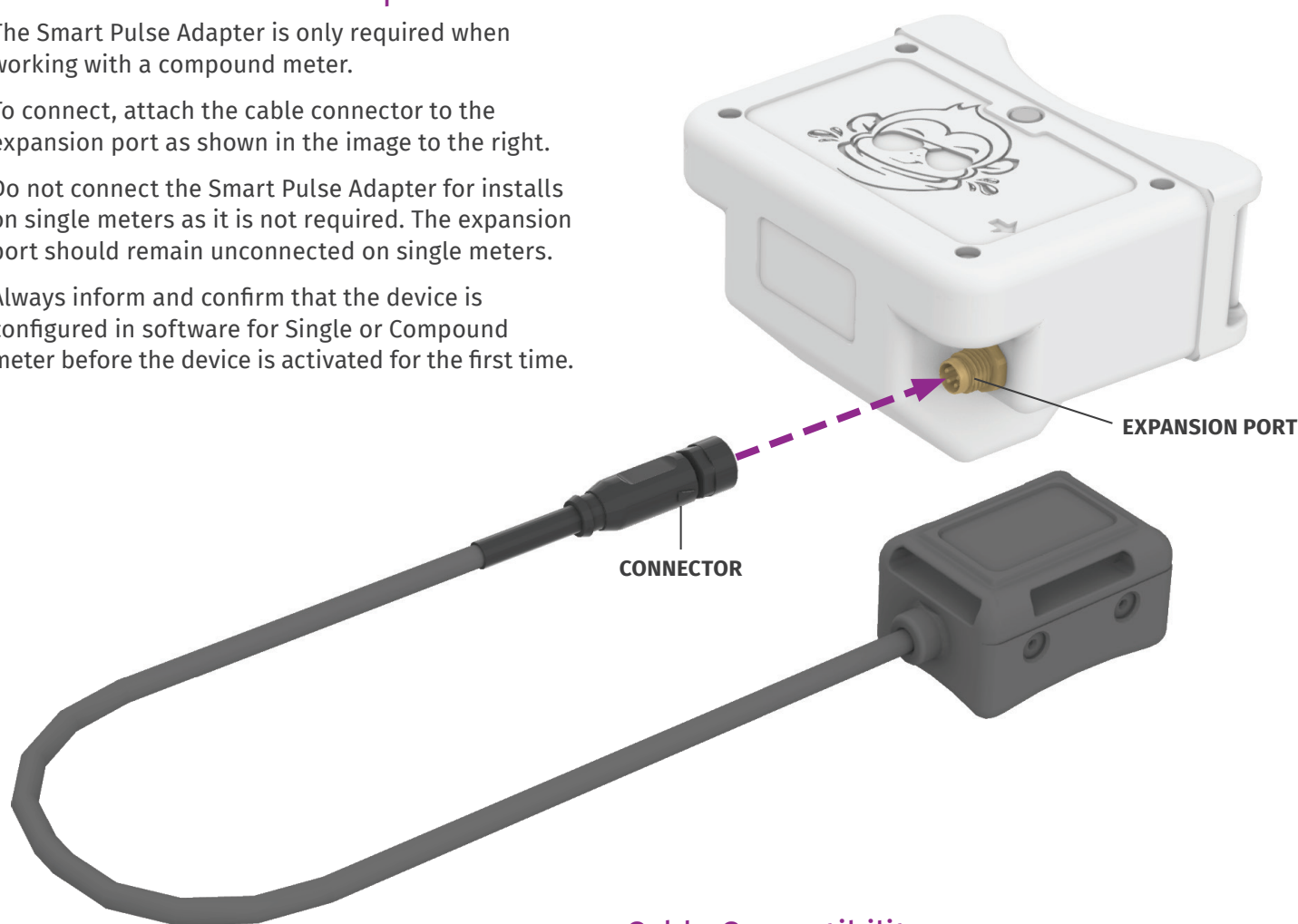
Attach the Smart Pulse Adapter

The Smart Pulse Adapter is only required when working with a compound meter.

To connect, attach the cable connector to the expansion port as shown in the image to the right.

Do not connect the Smart Pulse Adapter for installs on single meters as it is not required. The expansion port should remain unconnected on single meters.

Always inform and confirm that the device is configured in software for Single or Compound meter before the device is activated for the first time.



Cable Compatibility

The Water Monkey can be used as a conventional pulse counter and is compatible with most AMR complaint pulsed output cables.

It's expansion port is capable of accepting any pulsed input that is presented as active high with a maximum allowable voltage of 3.6VDC.



Mount Your Water Monkey

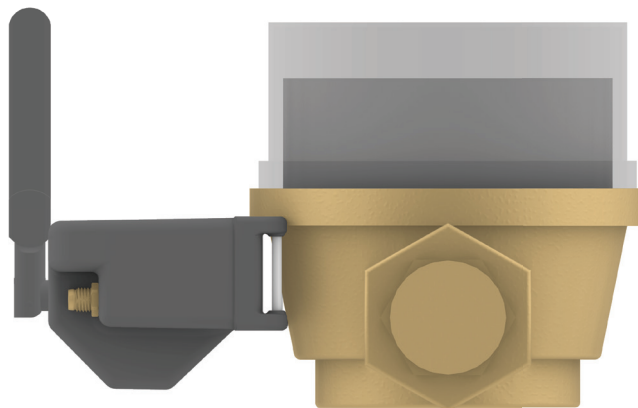
Best Practices & Considerations

SINGLE METERS – Mounting Positions

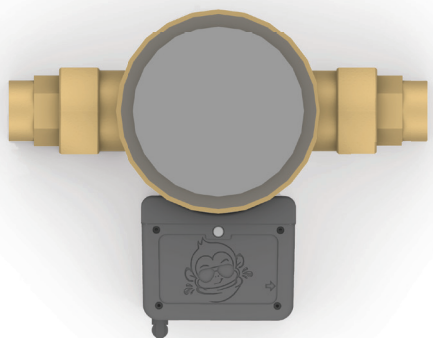
Place the Water Monkey up against the side of the single meter head. The device should be flush, with as little gap possible between edge of device and side of the water meter

Attach the Water Monkey using the strap provided. Once attached, the Water Monkey should sit tightly against the device – as shown in the side view illustration.

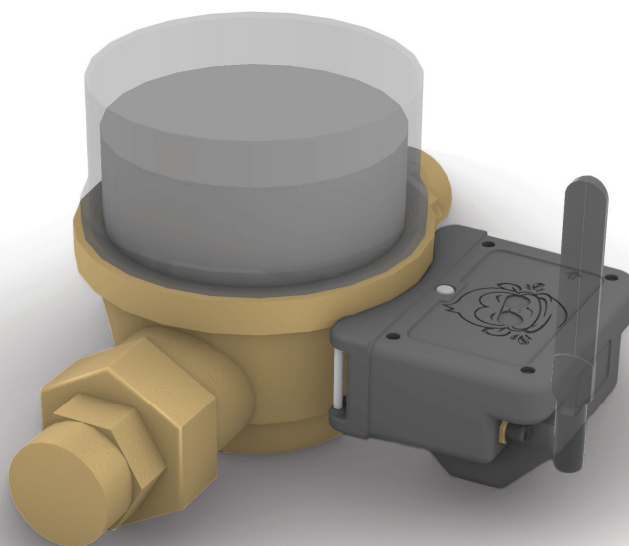
If device is loose, adjust the straps until the Water Monkey sits snugly against the water meter.



SIDE VIEW



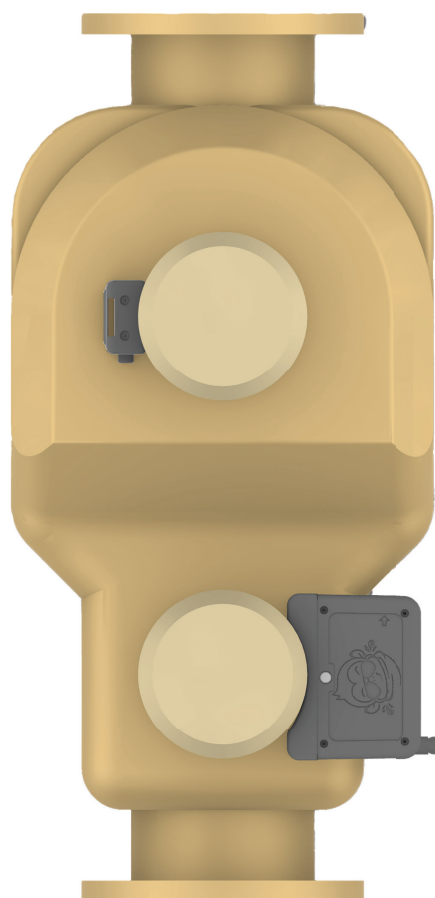
TOP VIEW



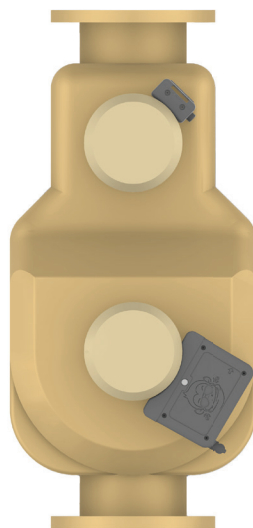


Mount Your Water Monkey

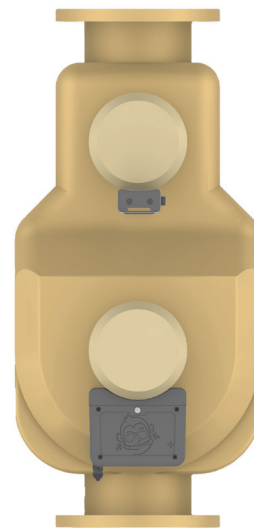
Best Practices & Considerations



IDEAL POSITION



GOOD



OK

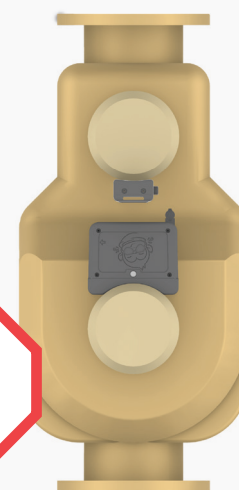
TOP VIEW

COMPOUND METERS – Mounting Positions

Mount the Water Monkey up against the side of a meter head, with as little gap possible between edge of device and side of the meter. Do the same with the Smart Pulse Adapter.

To reduce the risk of interference between devices, it is always recommended to place the Water Monkey and Smart Pulse Adapter far from each other – shown in illustrations above.

Avoid placing devices close to each other – shown in illustration on right. Devices installed in close proximity will result in inaccurate readings and skewed data.



WRONG POSITION



Mount Your Water Monkey (cont'd)

Best Practices & Considerations

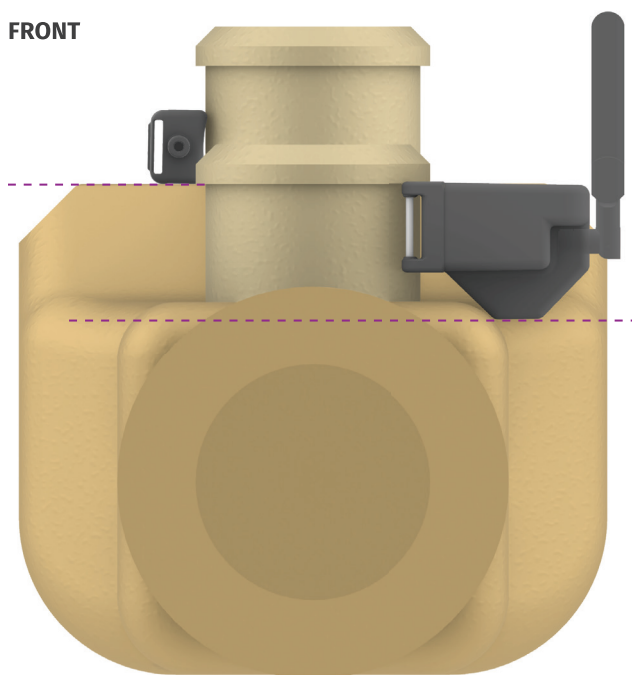
Height/Distance Considerations

Once the mounting positions of the Water Monkey and Smart Pulse Adapter have been located, the second factor that needs to be considered is the height of the devices.

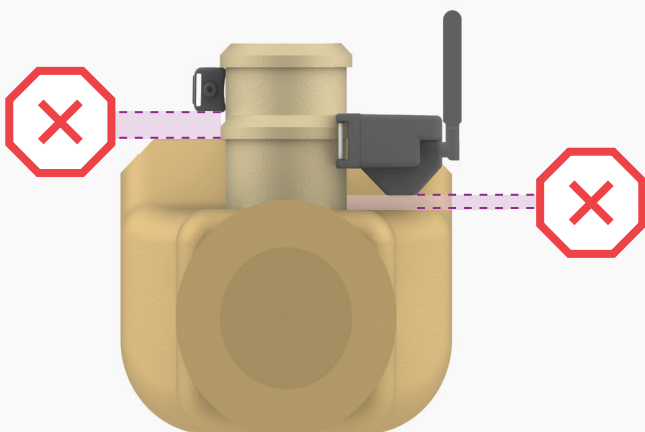
Both devices must sit as close and as low as possible to the meter. Place each device the meter, leaving little to no gap between device and meter.

Once mounted, it is always best to ensure both the Water Monkey and Smart Pulse Adapter are flush and sit firmly on the compound meter. This will ensure the most accurate data is captured.

FRONT



DESIRED HEIGHT



AVOID SPACES & GAPS

Eliminate All Spaces & Gaps

Spaces or openings between the Water Monkey, and Smart Pulse Adapter should always be minimized as much as possible, if not eliminated altogether.



Adjust Your Water Monkey

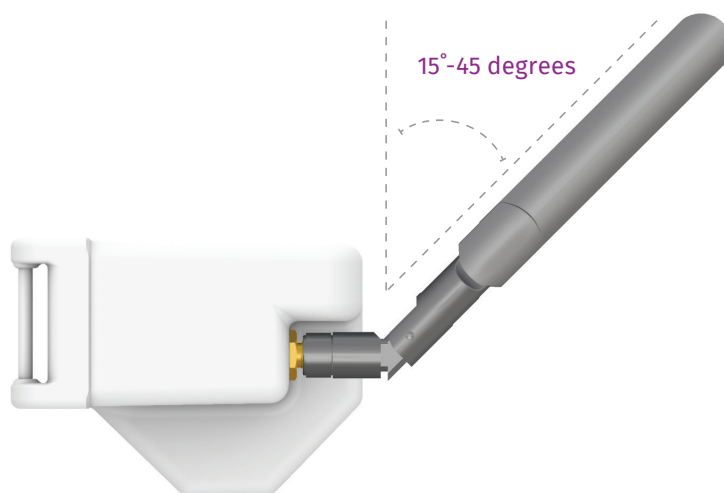
Best Practices & Considerations

Antenna Positioning

Once the device has been installed, the antenna must be positioned at a 45-degree angle away from the Water Monkey as illustrated below. A 45-degree angle is optimal however a vertical position (90°) is also acceptable when space is limited.

NOTE: There should be no objects touching or in close proximity to the antenna. Any objects closer than 5 inches will have a significant impact on antenna performance.

If space is a challenge Connected Sensors has an External Antenna with Extension Cable available as an optional extra.



OPTIONAL

External Antenna For Harsh RF Environments

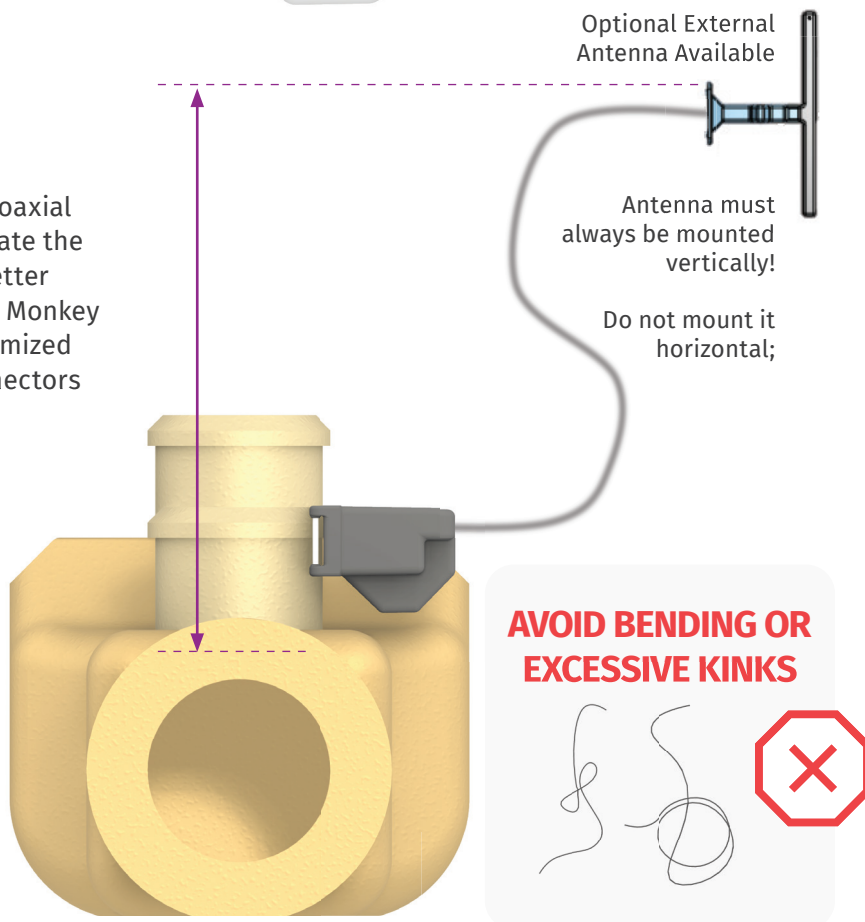
The external antenna is supplied with a 6ft coaxial RF cable. The purpose of this cable is to elevate the antenna above the meter in order to get a better connection. The distance between the Water Monkey and external antenna should always be maximized without causing too much stress on the connectors and/or cable.

Adjusting cable length

When using an external antenna with a predefined length of cable, avoid wrapping or coiling the cable on itself.

Coaxial cables are sensitive to mechanical stress. Excessive bending and kinks should be avoided as this can cause reduced performance due to RF interference.

If the extended cable length is too long, a shorter cable can be requested to accommodate the installation.





CONNECTED SENSORS

Device Activation

Activating Your Water Monkey


IMPORTANT:

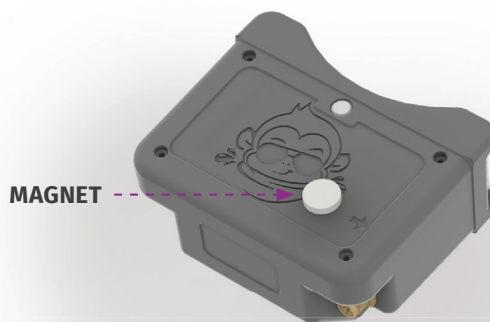
Water flow is required to complete the calibration process. Before attempting steps to activate the device, ensure there's water flowing through meter.

STEP 1

Activate Water Monkey

To activate your device, touch the supplied magnet to the arrow located on face of the Water Monkey.


 **NOTE:** Move the magnet away from the device immediately, once the light is turned on, as it can interfere with the activation process.

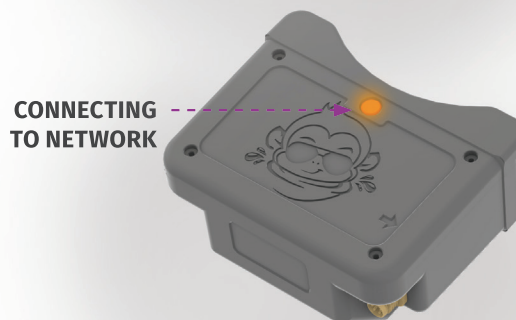


STEP 2

Connect to Network

Once activated, an orange light will start to blink, indicating that the device is attempting to connect to a network and to the Connected Sensors Servers.

 **NOTE:** For a first time activation, the orange light on the device can remain blinking for up to 6 minutes.




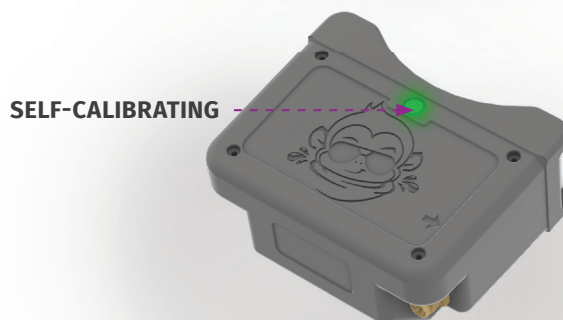
STEP 3

Self Calibration Process

Once a connection to the cloud server has been established, the device will rapidly blink green light 5 times. This indicates that the Water Monkey has been activated and started the self-calibration process.

To achieve a successful calibration, the Water Monkey requires a) sufficient flow of water and b) connection to network.

 **NOTE:** First time calibrations can take up to 24-hours to complete. If unsuccessful after 24-hours, try resetting and recalibrating the device (see section on Troubleshooting).





Troubleshooting

Before contacting a Connected Sensors, please attempt the following solutions. Some situations may not apply to your device.

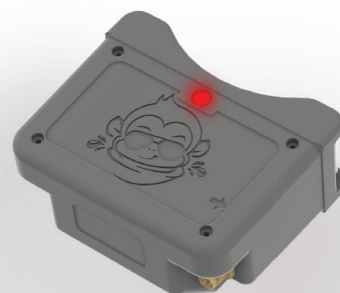
It's past 24 hours, Water Monkey's light indicated is still blinking orange

If device is in an area with weak signals or poor reception, it may have trouble establishing connection to the network. You may an external antenna to get a better connection. Contact Connected Sensors to purchase the antenna.

There is no or insufficient water flowing through the meter for the device to capture valid data. Ensure there's sufficient water flow through the meter, reset and try recalibrating the Water Monkey again.

Water Monkey's light indicator is blinking red

If a red light appears, it indicates there's a critical system error. Contact servicedesk@connectedsensors.ca for help.



How do I reset / recalibrate the device

To force a reset and recalibration of the Water Monkey, hold the magnet up to the arrow located on the face of the device.

An orange light will illuminate once the magnet is detected. Once orange light is lit, count for 12 seconds keeping the magnet close to the device. After 10 seconds you will notice the light turn off for a second.

Move the magnet away from the device and the system will attempt to recalibrate and connect to the Connected Sensors cloud server. A green light will flash immediately once the device has successfully been recalibrated.

The green light can take up to several hours depending on flow of water through meter during the time of recalibration. If attempting to recalibrate for the first-time, please allow up to 24 hours for the light to flash green.

⚠ DO NOT ATTEMPT
Multiple reset and re-calibration in less than 15-minute window. This will void warrenty on battery life of the device.

How do I shutdown the device

To force a shutdown, hold the magnet up to the arrow located on the face of the Water Monkey. You will notice the orange light illuminate once the magnet is detected.

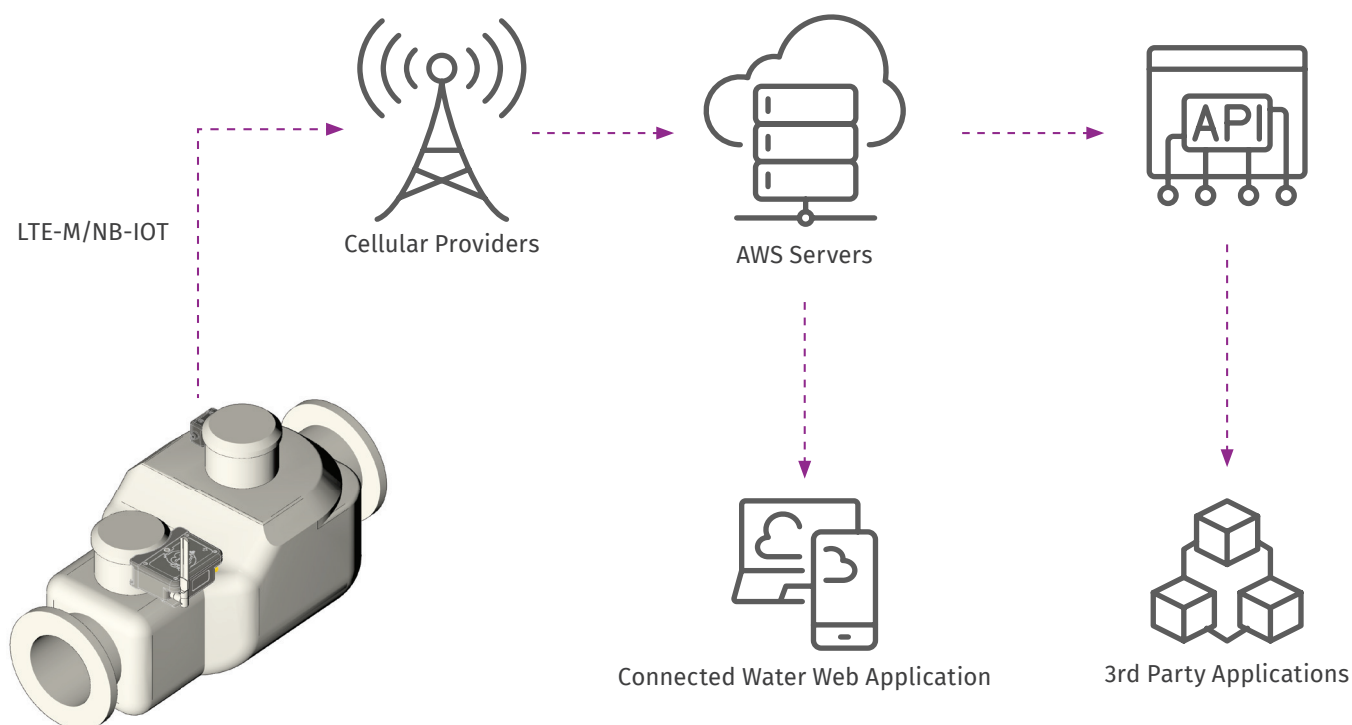
From the time the orange light is lit, count to 35 second keeping the magnet close to the device. After 30 seconds you will notice the orange light turn off for a second. Move the magnet away from the device and the system will start blinking red 3 times, and then shutdown.

To start the Water Monkey again, follow process to reset / recalibrate the device.



CONNECTED SENSORS

System Architecture



Known Compatible Meters

Badger: Models: LP, and Recordall (RCDL) models; 25, 35, 40, 55, 70, 120, 160, 170, 200 are all compatible.

Badger: HR E and HR E LCD encoders are compatible.

Neptune: Model T 10 is compatible.

Hersey: Models 420, 430, 435, 442, 452, MVR 30, MVR 50, MVR 160 are all compatible.

Master Meter: All compatible

Sensus: Models S 03, S 04, SR, SR11, T 05, W 19, ICE, PMM, Invensys ICE are all compatible.

Elster: Model C700 is compatible.

Sensus iPerl is NOT compatible.

Sensus OMNI is NOT compatible.

Contact for solution.

CONNECTED SENSORS

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