Lookout Lab Bluebot Ultrasonic Flowmeter User Manual

Contents

Ultrasonic Flowmeter Instruction Manual

Model: 100-RF-PTP, 100-RF-PTP-L

Update Record	Revision	1.1.1
	Date	08 .2023

Update Information:

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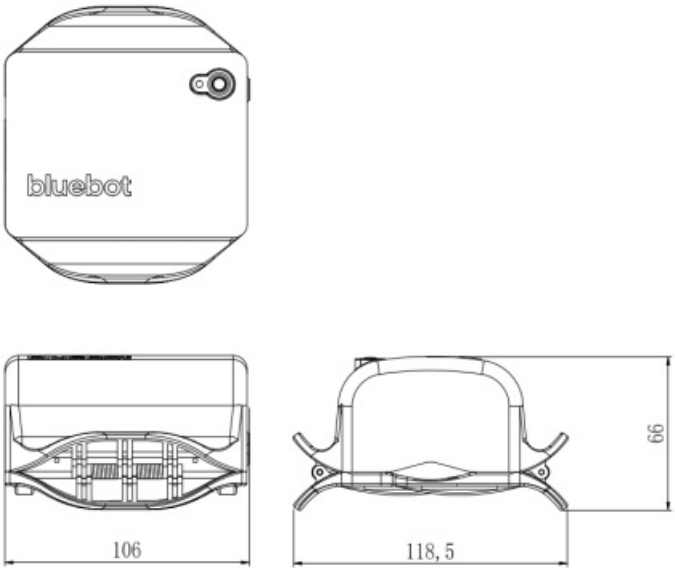
1 Technical Specifications

External Dimension



Performance Specifications:

- Accuracy: ±7.0 %;
- Repeatability: 1.0 %;
- Measuring Medium: Water;
- Pipe Material: PVC(American Standard SCH80), Copper(American Standard)
- Protection Rate: IP54
- Pipe Size: 0.75″~2″ (100-RF-PTP), 0.75″~4″ (100-RF-PTP-L)

Functional Specifications:

- Power Supply: USB Type-C, 5V 1000mA
- Temperature:
  Transmitter:0 ~ 50 ,
  Transducer: 0 ~ 50 ;
- Humidity: Up to 99% RH; Non-condensing.

Physical Specifications:

- Transmitter: Milky silica gel
- Power Supply Cable: USB line 3.0mm*3.0mm
- Weight: 0.4Kg

2 Installation and Wiring

2.1 Bluebot Wiring

1. Insert power cord into the power plug
2. Clean up the measured pipe section, then put the meter on it.

2.2 Data Concentrator Box Wiring

The Bridge can convert LoRa signals into WIFI signals. Connect the power to the data concentrator box. Follow the instructions in Chapter Four to perform the network setup. After successful network setup, the WIFI indicator light on the data concentrator box will turn blue and remain steady.

3 Measuring Site Selection

The installation of this ultrasonic flow meter is the simplest one of all kinds of flowmeters. Only one suitable measuring site needed, plug the transducers on the pipe and then start the measurement.

When selecting a measurement site, it is important to select an area where the fluid flow profile is fully developed to guarantee a highly accurate measurement. Use the following guidelines to select a proper installation site:

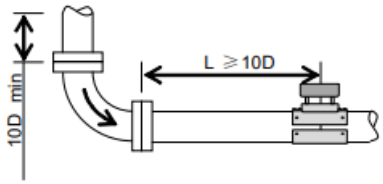
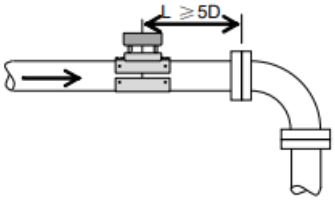
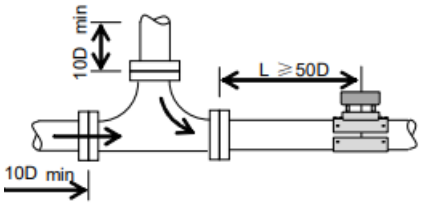
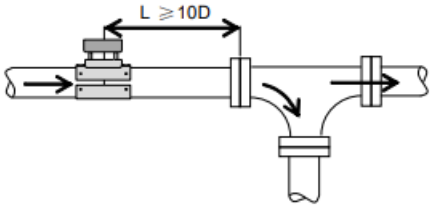
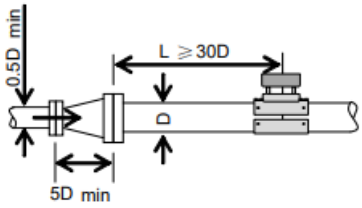
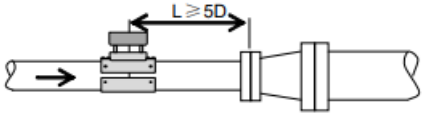
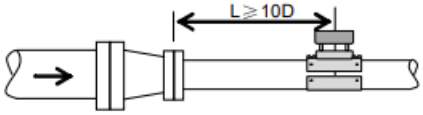
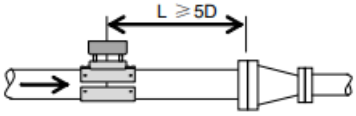
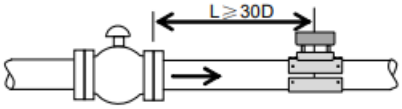
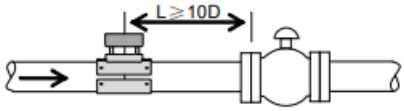
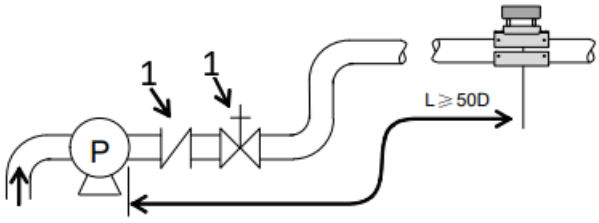
*Choose a section of pipe that is always full of liquid, such as a vertical pipe with flow in the upward direction or a full horizontal pipe.

*The site should have a straight pipe run length equal to at least 10 pipe diameters upstream and 5 pipe diameters downstream from any throttling valves or other flow disturbance producing elements, such as pipe reducers, elbows, tees, etc.

*Ensure that the measuring site temperature is under the transducer temperature limits.

*Consider the inside condition of the pipe carefully. If possible, select a section of pipe where the inside is free of excessive corrosion or scaling.

* Choose a section of sound conducting pipe.

Name	Straight length of Upstream piping	Straight length of Downstream piping
90° bend		
Tee		
Diffuser		
Reducer		
Value	 Flow controlled upstream	 Flow controlled downstream
Pump	 1. Check Value	

4 Bluebot Operating Instructions on Mobile App

4.1 Download bluebot water App

Open the Apple App Store, search for the bluebot water app software, and download it. Follow the prompts to install and register.

4.2 Powering up the bluebot

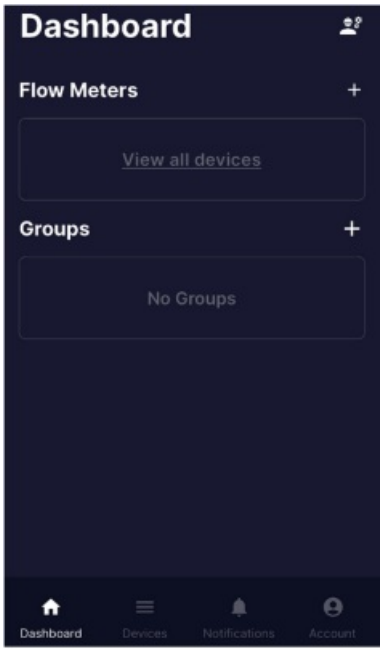
Power up the bluebot meter and data concentrator box separately.

4.3 Equipment distribution network

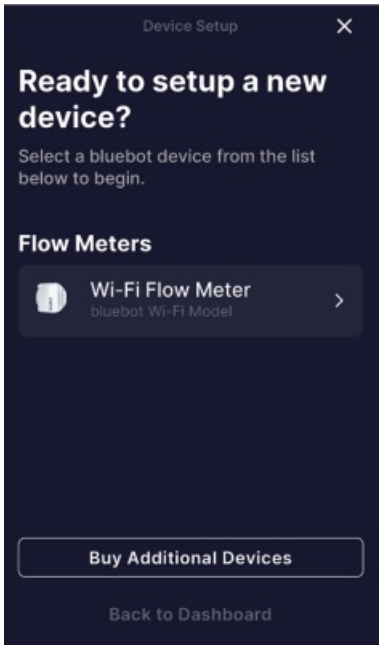
Press the reset button on the gateway box to make the WIFI indicator light flash. Click on the Bluebot icon on the phone desktop to open the Bluebot water app software.

If need adding cloud controlled ball valves to the WIFI distribution network, first ensure that the phone and cloud controlled ball valve are on the same network and power on the cloud controlled ball valve.

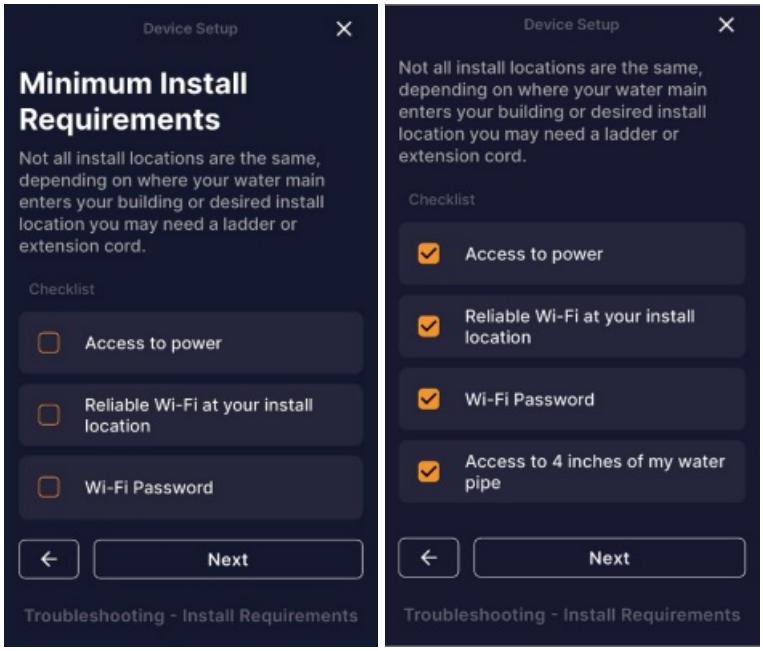
1 Click “view all devices” enter the Devices interface.
2 Click “Setup your first device” icon.



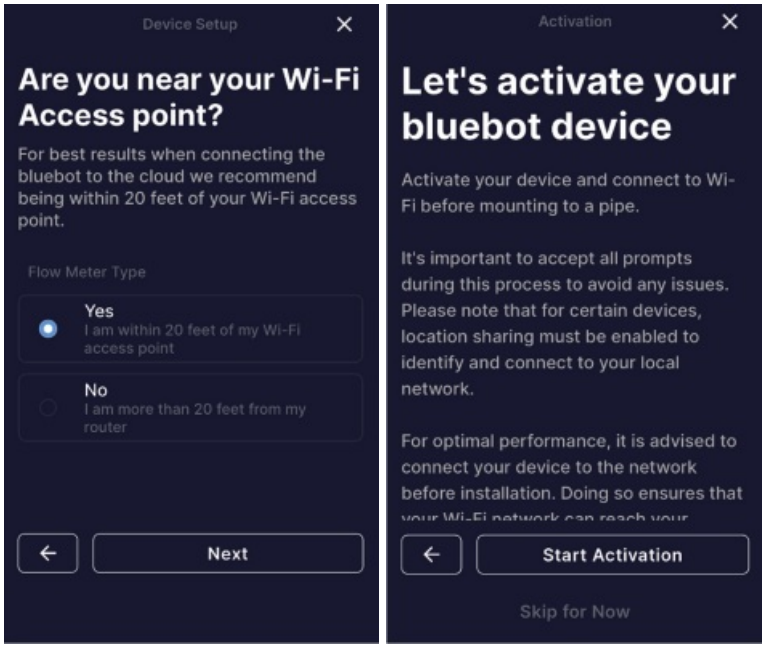
3 Click Wi-Fi Flow Meter.
4 Click Next



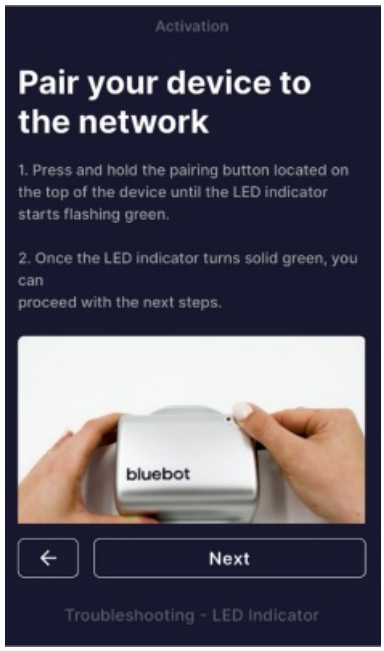
5 Select Minimum Install Requirements.
6 Click Next.



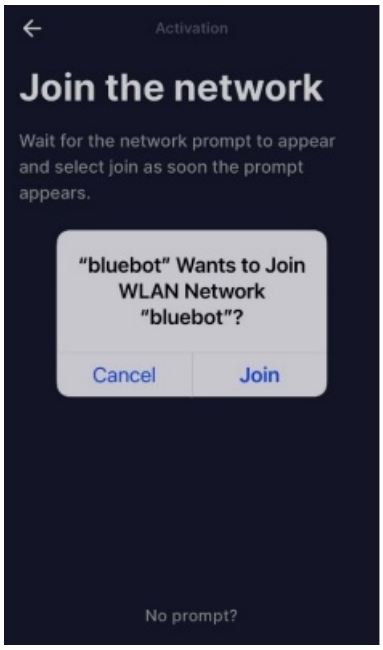
7 Select Yes and then click Next.
8 Click Start Activation.

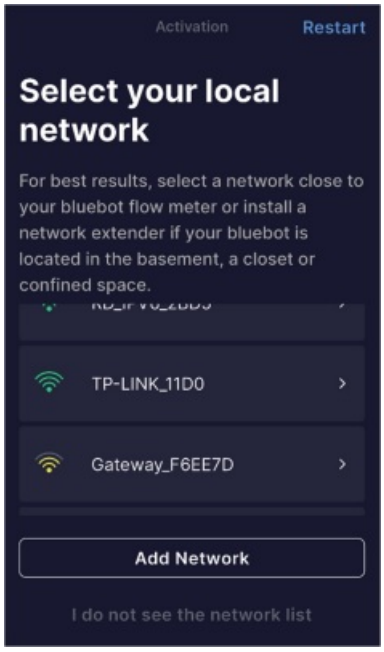


9 Power up your flow meter, click Next.
10 Pair your device to the network, and click Next.

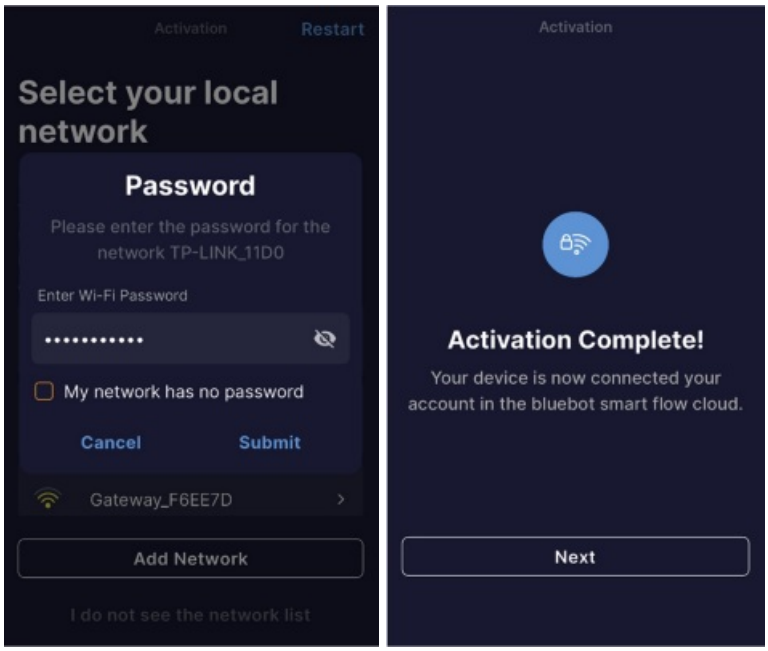


11 Click to Join.
12 Select your local network.

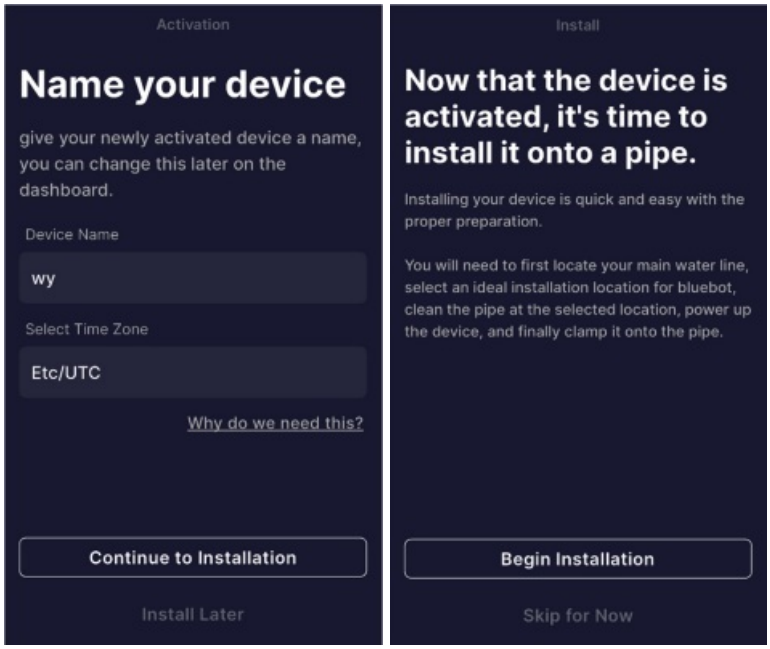




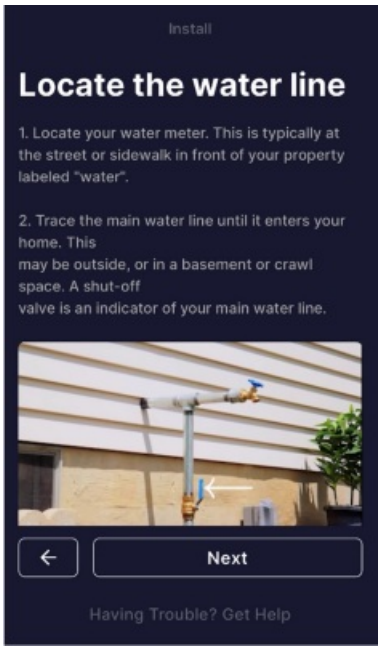
13 Enter the network password, Click Submit
14 Activation Complete.

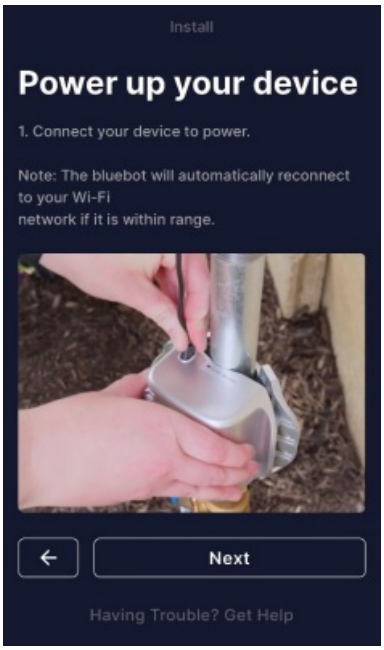


15 Name your device.
16 Click Begin Installation and start to install it on the pipe.

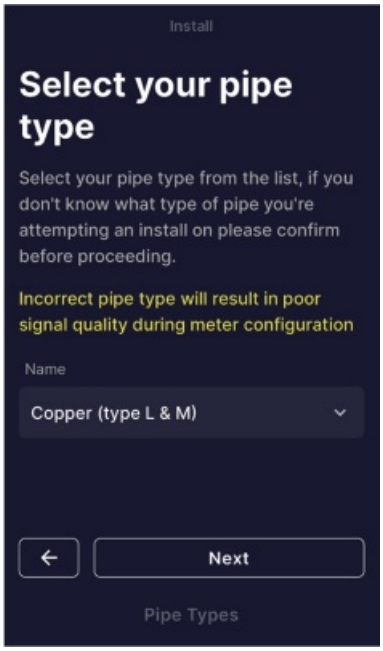


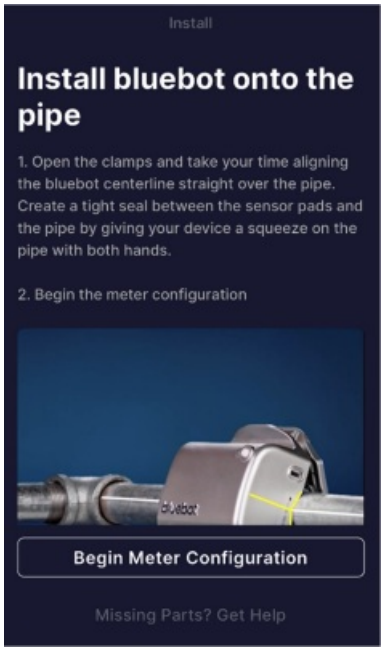
17 Select the appropriate measuring point according to the picture prompts, and clean the surface of the measuring point location.
18 Then clamp the meter onto the pipe and turn on the power, note that the installation direction should be the same as the direction of water flow.



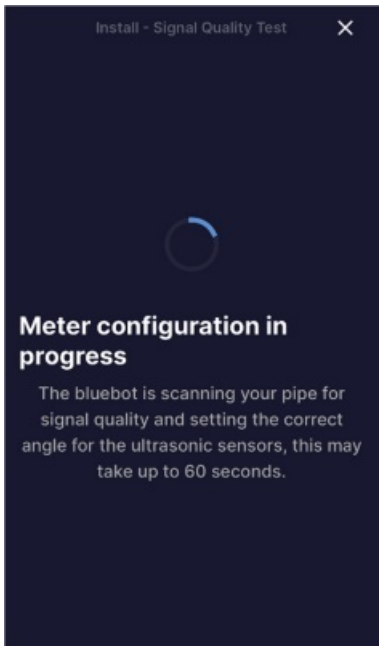


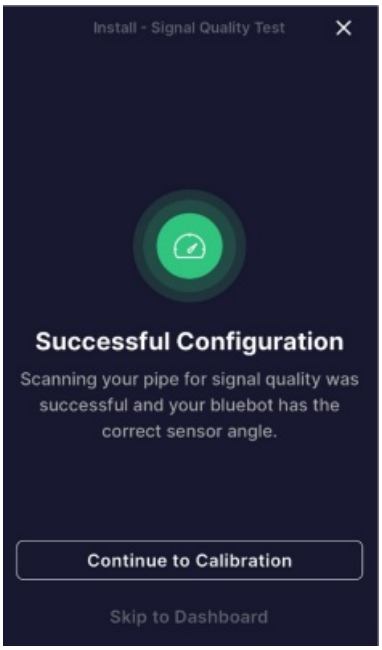
19 Select your pipe type
20 Install bluebot onto the pipe



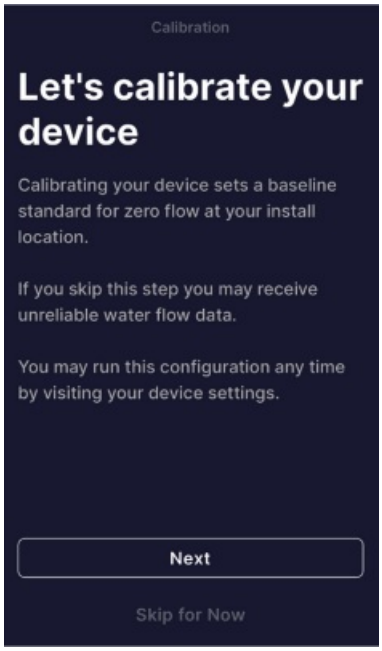


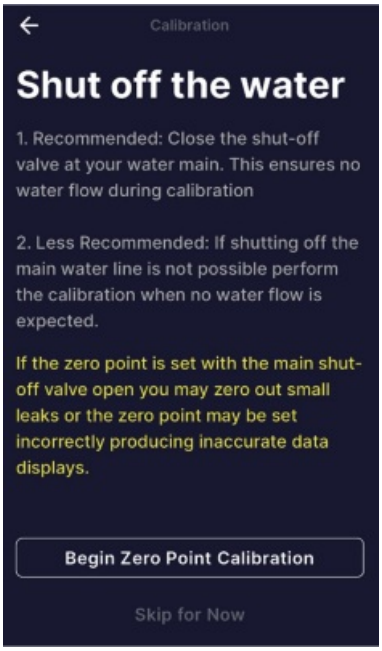
21 Meter configuration in progress
22 Successful configuration



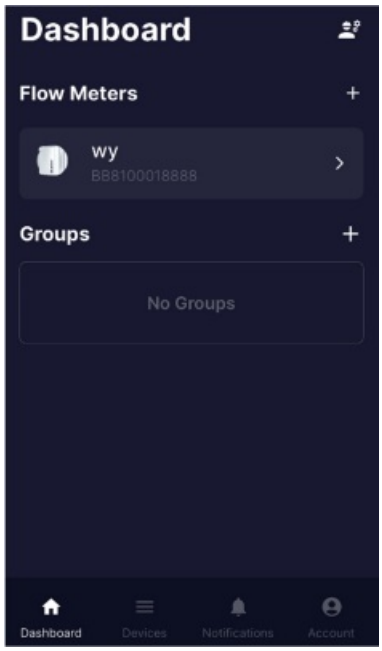


23 Prepare for zero point calibration
24 Calibrate your device



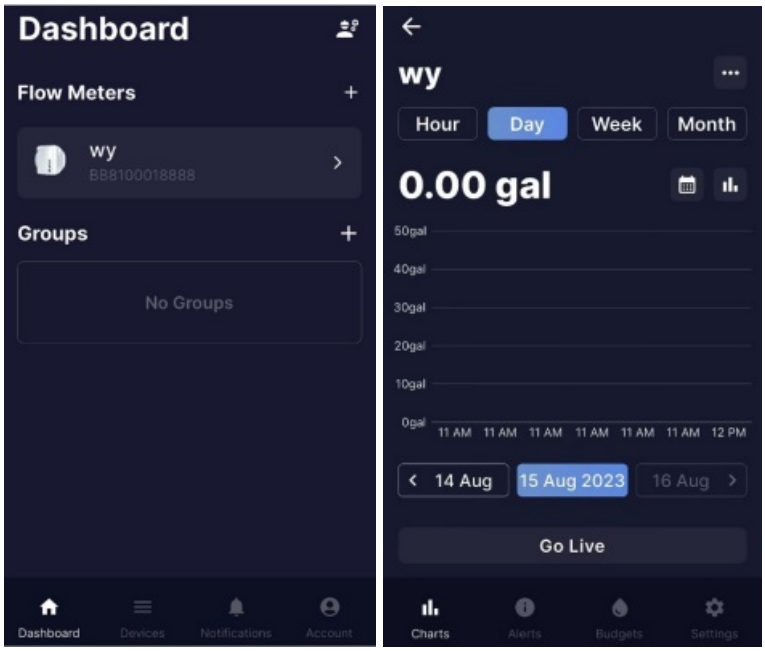


25 Device installed



4.4 Operating Instructions

1 Click on the newly installed device WY
2 View water usage by hour, day, month, and year.



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 not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment

Radiation Exposure Statement
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

Documents / Resources

	Lookout Lab Bluebot Ultrasonic Flowmeter [pdf] User Manual 100-RF-PTP, 100-RF-PTP-L

References

- User Manual