ULTRASONIC FLOW SENSOR MP803 MANUAL

CONTENTS

1. OVERVIEW

The MP Flow Sensor is the latest innovative product developed by our company. It adopts Gentos' original patented technology, continuously simplifying flowmeter operation and usage while improving customer satisfaction, without compromising product quality.

The product features an integrated clamp-on design. Users simply clamp the flow sensor onto the target pipe and secure it automatically using a nylon cable tie, completing installation quickly and easily. This design eliminates the traditional complexity of flow sensor installation, significantly reducing on-site installation effort and operational constraints.

2. PRODUCT FEATURES

- No need to cut or break the pipe during installation

- Direct clamp-on measurement

- LCD display

- Supports APP-based remote monitoring and measurement

- IP54 protection rating

3. APPLICATION INDUSTRIES

Municipal garden irrigation, building water management, residential water management, collective dormitory water management, water production equipment monitoring and control, aquaculture, farm irrigation, automatic car washing, and more.

4. DIMENSIONS

4.1 TRANSMITTER DIMENSIONS

Maximum dimensions: 113 mm × 42.3 mm × 46.5 mm
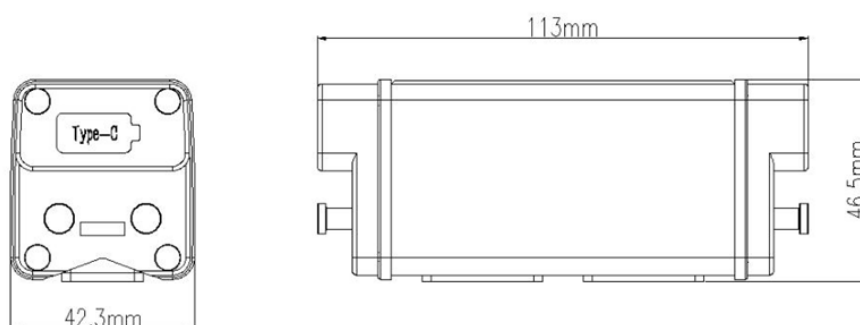
5. INSTALLATION AND WIRING

5.1 INSTALLATION DIAGRAM

Secure both ends of the meter to the pipe using nylon self-locking cable ties to ensure stable and reliable installation.

1. Peel off release film
2. Clip it on the pipeline
3. Fasten the tie

5.2 INSTALLATION INSTRUCTIONS

Carefully read Section 9: Measurement Site Selection before installation. After selecting the appropriate installation location, thoroughly clean the pipe surface at the installation point. Ensure that the sensor is installed on a solid, uniform, and dense section of the pipe material to guarantee accurate measurement and stable performance.

Gentos' special coupling pads are pre-attached to the central area of the two sensors. During installation, peel off the release film from the coupling pads. When the sensor is clamped onto the pipe, the pads will be compressed, ensuring tight contact between the sensor and the pipe wall and eliminating air gaps for optimal signal transmission.

5.3 METER WIRING

Method 1: The meter is equipped with a built-in rechargeable battery. It can be charged and communicate data via the Type-C port.

Method 2: Connect the meter to a mobile phone using the Type-C port. The meter can then be operated through the mobile phone APP. *(Refer to Appendix 1 for detailed instructions.)*

6 DISPLAY AND SETTINGS

6.1 DISPLAY AREA DESCRIPTION

- Upper Row: Displays battery level, WiFi signal strength, measured signal strength, and current time.

- Middle Row: Shows instantaneous flow or flow rate. Press briefly to switch between the two.

- Lower Row: Displays cumulative flow. Access the Unit menu to configure unit settings.

6.2 KEY DESCRIPTION

1. ⏻ Power On/Off:

   In battery-powered mode, press and hold the button for 5 seconds to turn the meter on.

   Press and hold again for 5 seconds to turn it off.

   Note: The On/Off button does not function when the device is powered via Type-C.

2. ◀ Function Key:

   Short press to alternately display flow and flow velocity.

   Press and hold for 5 seconds to enter the settings menu.

   In the menu, short press this key to cycle through icons and options.

Note: Due to variations in production batches, there are two types of button markings:

- The Power On/Off button may appear as either of the two symbols: ⏻ or ①.

- The Function button may appear as either ◀ or ✓.

- The symbols may differ, but the functionality remains identical and does not affect operation.
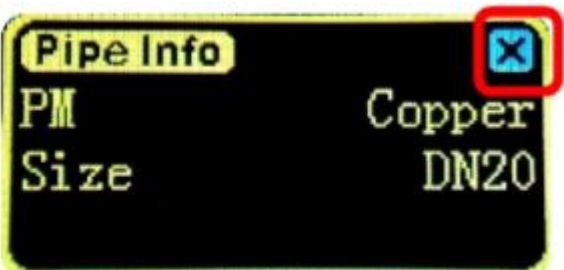
7 TECHNICAL INDEX

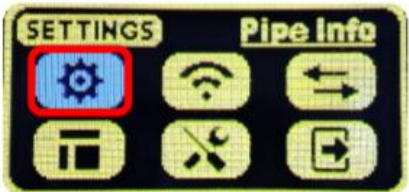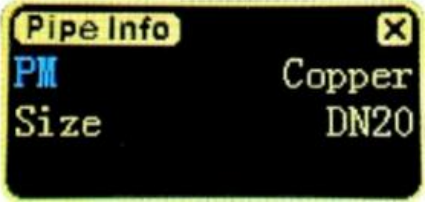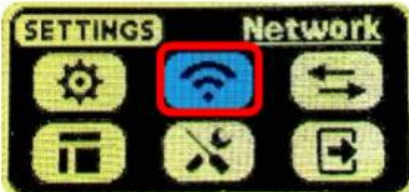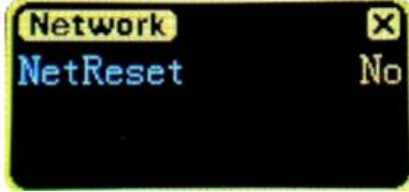| CATEGORY	ITEM	SPECIFICATION
Performance Index	Measurable Velocity Range	0.03 ~ 5.0 m/s
Performance Index	Pipe Size	DN20, DN25, DN32
Performance Index	Medium	Water
Performance Index	Pipe Material	Carbon steel, Stainless steel, Copper, PVC (model determined at delivery)
Function Index	Input	Type-C (Power supply, charging, communication)
Function Index	Output	Type-C (Communication)
Function Index	WIFI	2400 ~ 2483.5 MHz
Function Index	WIFI Distance	Up to 40 m (open environment, theoretical)
Function Index	Power Supply	External 5V, 1A adapter; built-in 3.7V lithium battery (optional)
Function Index	Keyboard	2 touch keys
Function Index	Display Screen	0.96" LCD, resolution 80 × 160
Function Index	Temperature	Ambient: 5 ~ 55°C (Class A); Medium: 0 ~ 60°C
Function Index	Humidity	0 ~ 99% RH, no condensation
Function Index	IP Rating	IP54
Function Index	Installation Method	Nylon self-locking cable ties
Physical Properties	Transmitter	All-in-one
Physical Properties	Sensor	Clamp-on
Physical Properties	Cable	Type-C cable, length 1 m
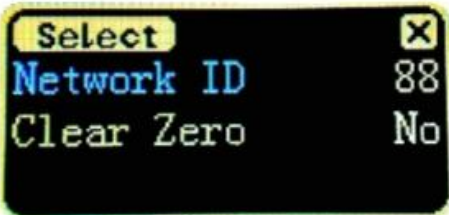
8 MENU DETAILS
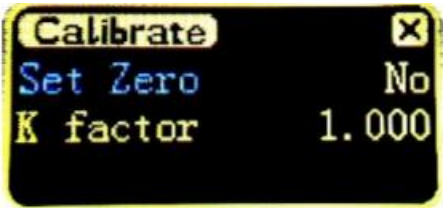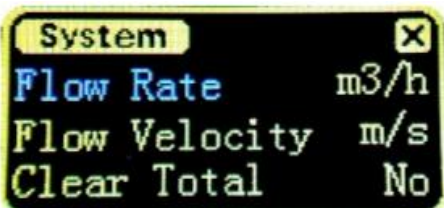
8.1 OPERATION INSTRUCTIONS

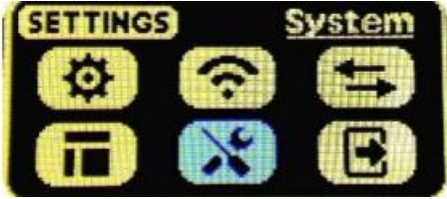| DISPLAY PROCESS STEPS	KEY OPERATION INSTRUCTIONS
	Press and hold ⏻ for 3 seconds to power on and enter the main measurement interface. There are four main interfaces, which can be switched by pressing the ◄ key. Interface 1: Display instantaneous flow and cumulative flow; When the cumulative flow accumulates to 99999m3, 99999000L or 26416976Gal, it will be automatically cleared.
	Interface 1: Display instantaneous flow and cumulative flow; When the cumulative flow accumulates to 99999m3, 99999000L or 26416976Gal,it will be automatically cleared. Interface 2: Display instantaneous flow rate and cumulative flow; When the cumulative flow accumulates to 99999m3, 99999000L or 26416976Gal, it will be automatically cleared.
	Interface 3: Date and time; Display the current date and time Interface 4: Serial number and version number; Display the factory serial number and software version number of the instrument.
	Press and hold ◄ for 2s, enter menu option interface and a total of 6 option icons.

	Then shortly press ◄, and light up each secondary menu option icon in turn. For example 1: light up ✿ , and choose Pipe Info;
	In secondary menu option icon lit up, press and hold ◄, enter corresponding to the secondary menu. For example, 2: enter Pipe Info menu option, including PM, Size sub option;
	Shortly press ◄, Choose the items in the secondary menu in turn. After finishing the choice of icon, long press ◄, enter into corresponding sub menu, and then shortly press ◄ to choose, after selecting, long press ◄ to confirm. For example, 3: Shortly press ◄ to light up Size, then long press ◄, DN20 icon flashes, and then shortly press ◄ to choose DN20, DN25, DN32, finally, long press ◄ to confirm.
	When need exit, light up X icon in the upper right corner, and long press ◄ to exit to the main interface.

8.2 MENU DETAILS

FIRST-LEVEL MENU SELECTION INTERFACE	SECONDARY MENU OPTIONS	DESCRIPTION
		Pipe info: set pipe specification parameters PM: Support Copper, PVC, SS, Carbon Steel (According to the user's selection requirements, it has been selected at the factory, and the specific information is subject to the instrument display) Size: Pipe Diameters. Support DN20, DN25, DN32
		Network: set Wi-Fi Choose Yes, long press ◄, display Succeed, set Wi-Fi succussed.
		Unit: set unit parameter Clear Zero Clear Zero Network ID: Set network ID (0-247)

		Calibrate set system parameter Set Zero: Set static zero point K factor: meter factor, used to correct measurement results.
		System Settings Reset Parameters Flow Unit: m³/h, L/min Velocity Unit: m/s, ft/s Clear Total: Clear total cumulative value
		Data: yyyy–MM–dd Time: HH–mm–ss Reset: restore factory settings
		Turn Scr: Turn Scr: Select " ∧ " and " ∨ " to make the display interface flip 180° Upgrade: Upgrade program

		Power off: Shutdown
		Exit Return to the measurement main interface

9 MEASUREMENT SITE SELECTION

This product provides one of the easiest and fastest installations among small-diameter flow meters.
Simply select a suitable measuring point, clamp the sensor surface onto the pipe, and secure both ends with cable ties to begin measurement.

To ensure measurement accuracy, the measuring point must be located on a pipe section with uniform fluid distribution and a stable flow field. During installation, observe the following guidelines:

- Select a pipe section that is completely filled with fluid, such as:

  - A vertical pipe section (fluid preferably flowing upward), or

  - A horizontal pipe section that remains fully filled with fluid.

- The measurement point should be located on a straight pipe section with:

  - At least 10 pipe diameters (10D) upstream, and

  - At least 5 pipe diameters (5D) downstream.
    There should be no valves, elbows, reducers, or other flow-disturbing components within this range.
    The recommended straight-pipe lengths are shown in the table below.

- Ensure that the temperature at the measuring point is within the specified operating range.

- Consider the scaling condition of the pipe's inner wall. Select a pipe section with minimal or no scaling, and with uniform, dense pipe material to ensure effective ultrasonic signal transmission.

- During installation, ensure there are no air bubbles or particles between the sensor and the pipe wall.

- For horizontal pipes, install the sensor at the 3 o'clock or 9 o'clock position, avoiding the top of the pipe where air bubbles may accumulate.

10 APPENDIX 1 — OPERATION INSTRUCTIONS FOR METER TUBE APP

10.1 DOWNLOAD METER TUBE APP SOFTWARE

Scan the below QR code to download iotcustomer-gw-110.apk and install the meter software.

This version is a trial version, and the final interpretation right belongs to Meter Tube App. For more exciting content, please pay attention and update the device software in time.

10.2 ADD DEVICE

Three adding device modes, USB mode, scan and WiFI mode.

10.2.1 USB MODE

1. Connect the mobile phone to the WiFi network and open the mobile phone location information.

2. The mobile phone is directly connected to the device with a USB cable, and the "Default Instrument"

will pop up on the home page to view the data and set the function of the device.

3. Open the Meter Tube APP, click "Default Meter" and select "Function Settings-WiFi Settings", enter

the WiFi password and click "Next".

4. The WiFi distribution network is added successfully, the serial number of the device is displayed, and

the device name and location information are entered.

5. After completion, the device is added successfully.

10.2.2 SCAN MODE

1. Power on the device and connect to the network.

2. Open the App, click "Scan" on the home page to add devices;

3. Enter the device name and location information, after completion, the device is added successfully;

4. The app checks the data added successfully.

10.2.3 WIFI MODE

1. Power on the device

2. Open the App, click "Add Device" on the homepage, click "Manually Add", and select the product MP flow sensor;

3. Waiting for the device to connect;

4. The connection is successful, enter the WIFI password, and wait for the network distribution;

5. Enter the device name and location information, after completion, the device is added successfully;

6. The app checks the data added successfully;

10.3 Meter Tube APP function items

1. Device addition: WIFI, code scanning and USB are available to add devices to the distribution network, and provide serial numbers for POE devices to add devices;

2. Real-time monitoring: users can view meter data in real time (instantaneous flow, instantaneous flow rate, cumulative volume, etc.);

3. Real-time curve: users can view the meter data visually and dynamically in real time;

4. Mode switching: provide two meter data viewing modes: water meter mode and normal mode; (not open yet);

5. Function setting: the user can set the function of the device under the condition of USB direct connection;

6. Equipment grouping: all instruments of the user can be grouped and managed;

7. Device upgrade: It can realize the remote firmware upgrade operation of the device;

10.3 METER TUBE APP FUNCTION ITEMS

1. Device Addition: WIFI, code scanning, and USB are available to add devices to the distribution network, and provide serial numbers for PoE devices to add devices.
2. Real-Time Monitoring: Users can view meter data in real time (instantaneous flow, instantaneous flow rate, cumulative volume, etc.).
3. Real-Time Curve: Users can view meter data visually and dynamically in real time.
4. Mode Switching: Provides two meter data viewing modes: water meter mode and normal mode (not open yet).
5. Function Setting: Users can set device functions when directly connected via USB.
6. Equipment Grouping: All instruments of the user can be grouped and managed.
7. Device Upgrade: Allows remote firmware upgrades for devices.
8. Equipment Management: Manage devices using serial numbers, names, and location information.
9. Software Upgrade: Check if the software has the latest version; if so, choose to update to the newest version.
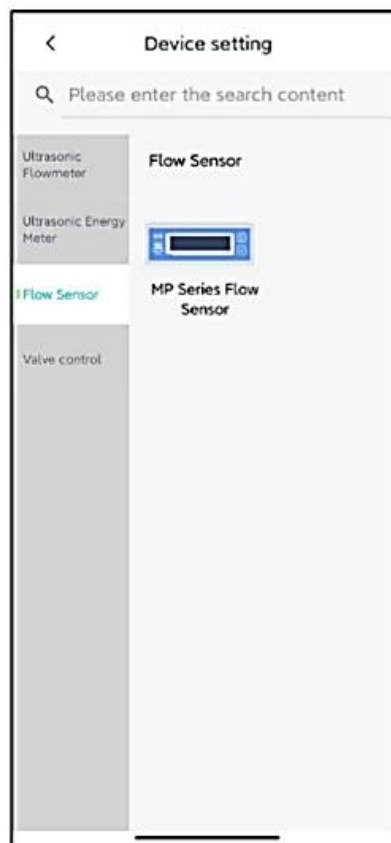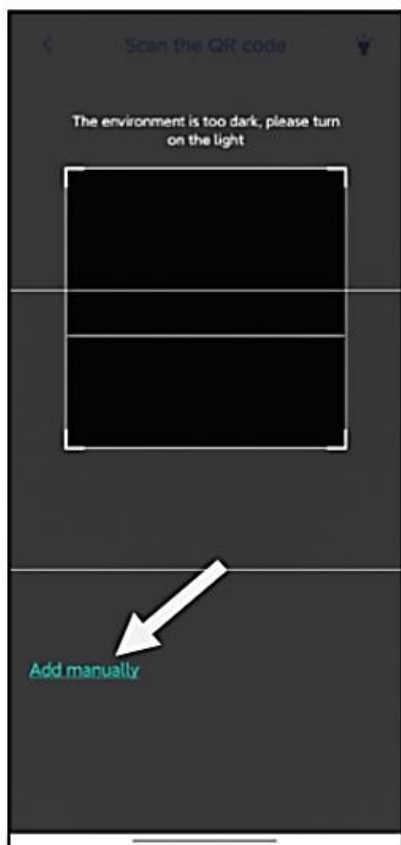
10.4 OPERATIONAL MANUAL
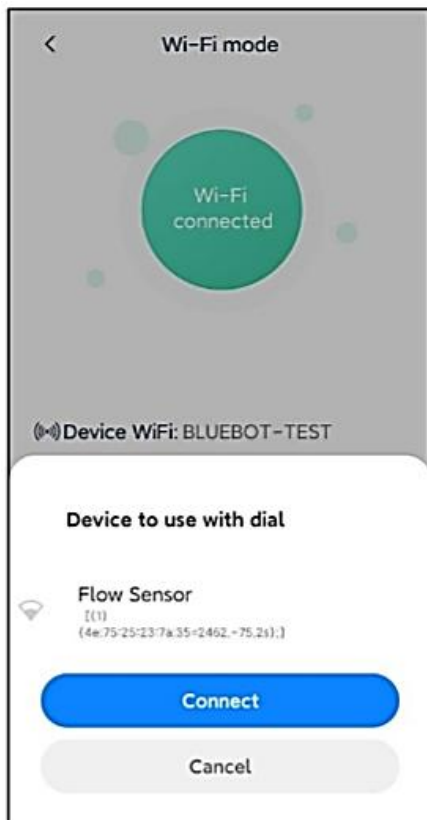## 10.4.1 USB MODE DEVICE ADDITION
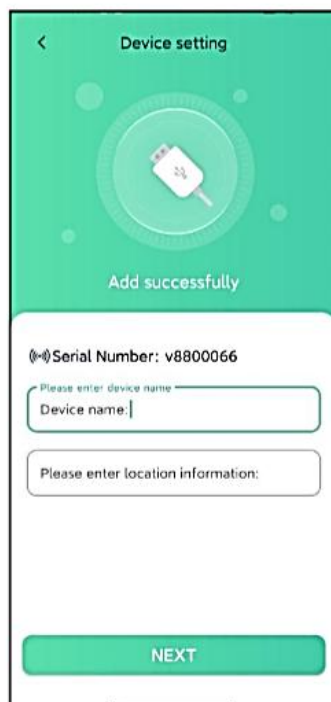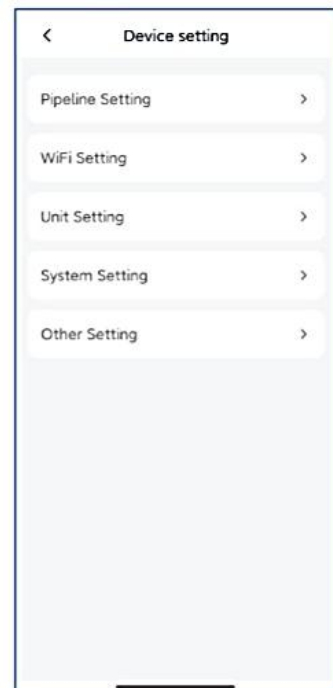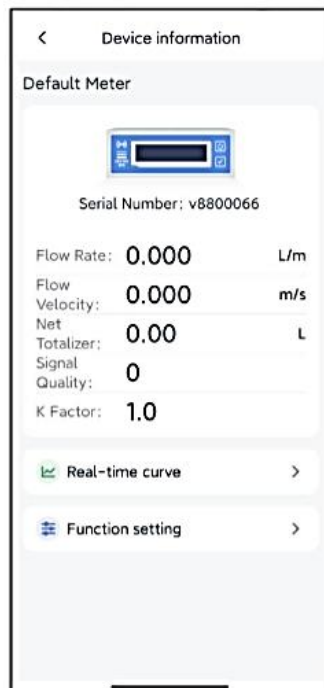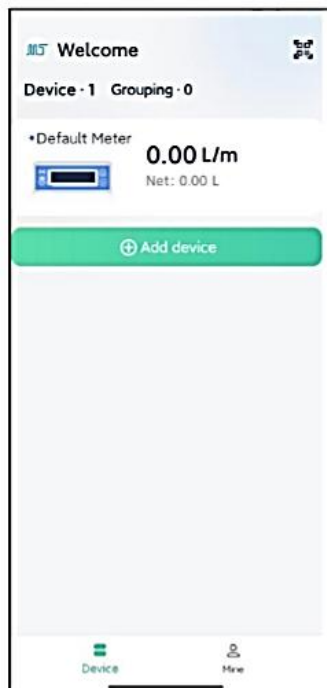
10.4.2 SCAN TO ADD EQUIPMENT DEVICE

10.4.3 WIFI MODE DEVICE ADDITION

10.5 METER TUBE APP MANAGEMENT DEVICE

After the device is successfully added, you can perform device management operations on the Meter Tube APP, and view meter flow related data, etc. For specific operations, please refer to the "Meter Tube APP Operation Instructions".