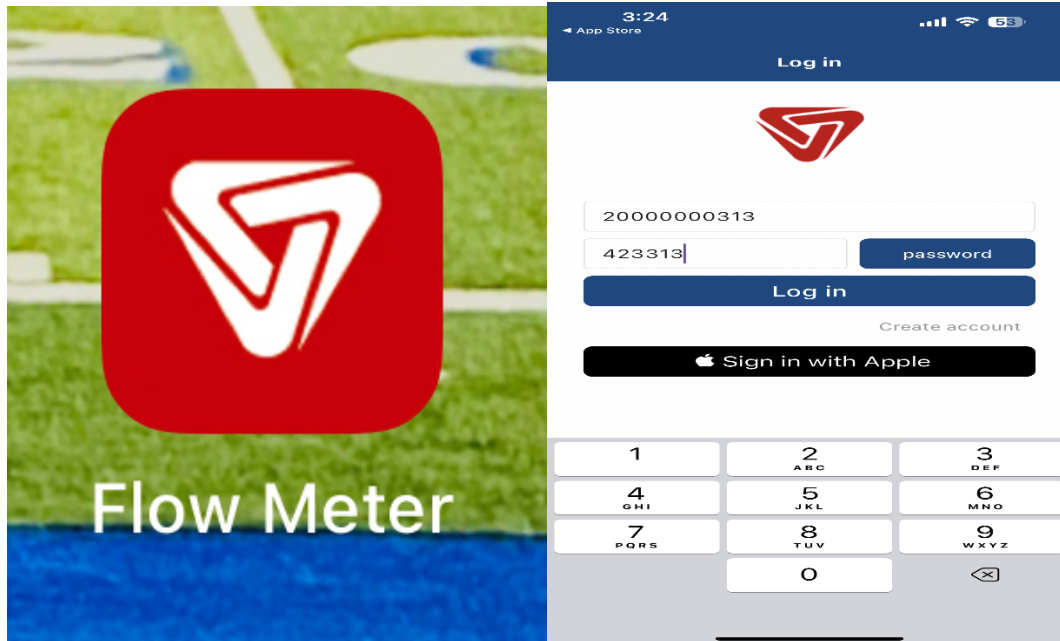




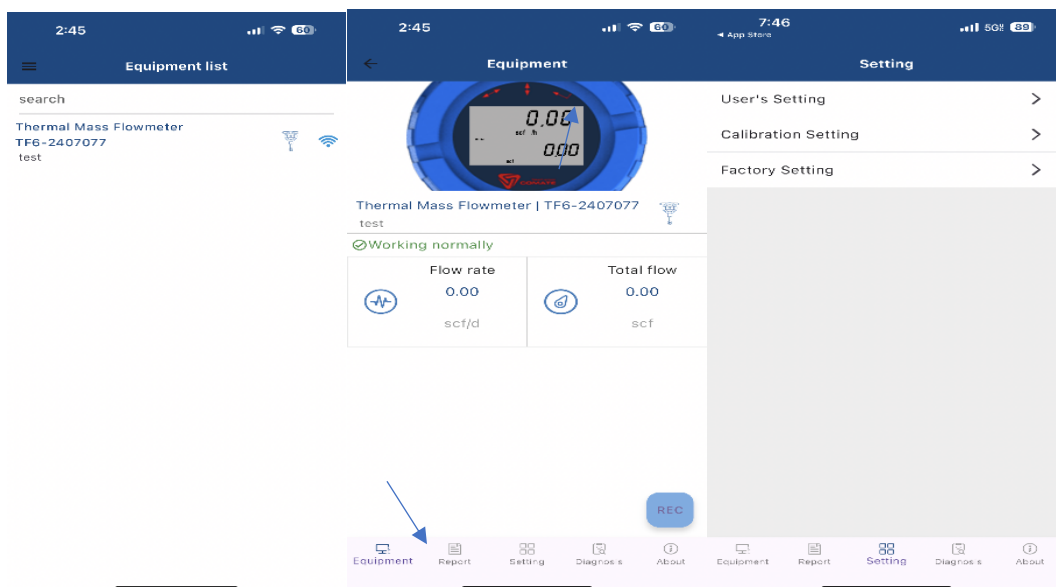
Thermal Mass Meter
Quick setup guide

Note: You will need to follow these instructions exactly to connect to the Meter.

- 1. Download the COMATE (Flow Meter) app from the Apple Store or Google Play.
For Android users: pgyer.com**
- 2. Once you download the app, you will need an access code to access the app.
Account: 20000000313**

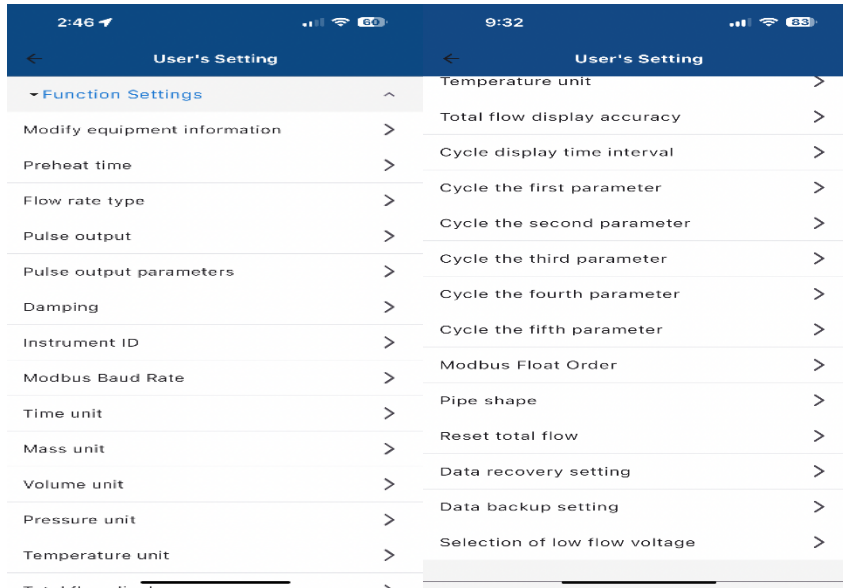


- 3. Once you log in, select the Thermal Mass Meter and it will bring you to the main page. Select Settings on the bottom menu and it will bring you to the settings menu.**

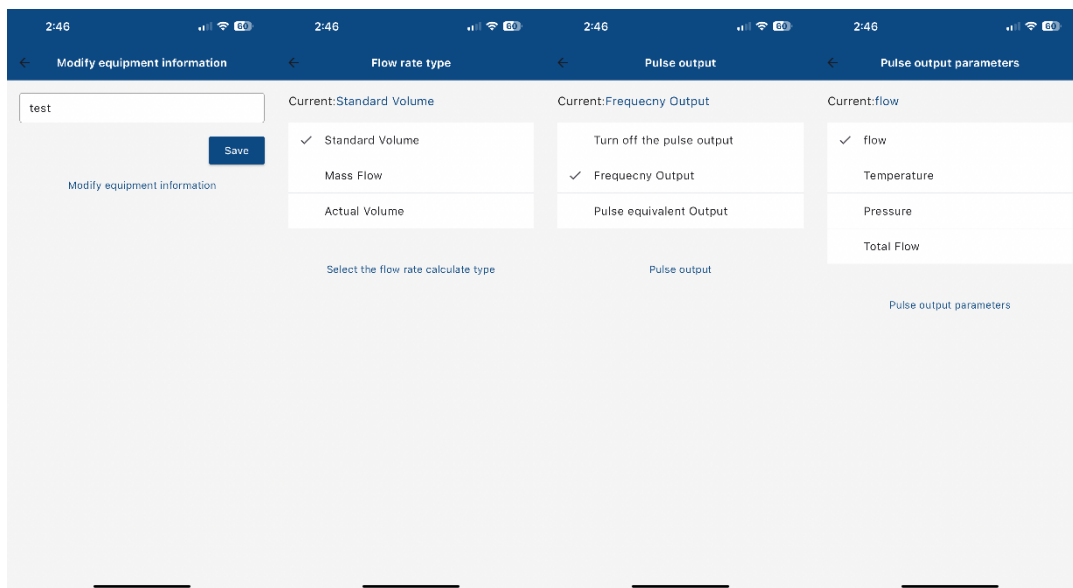


Function Settings

4. Select **User Settings** and now you will be able to set up the meter to your specifications starting with **Function Settings**



5. Under **Modify Equipment information**, this is where you can tag the meter to the name of choice. **Flow rate type** will allow to to choose your preferred flowrate: standard volume, mass flow, or actual volume. The next 2 settings is where you would change your **Pulse Output** and **Pulse Output Parameters**.



6. The next settings will allow you to adjust your **Damping** (1-99), **Instrument ID** (slave address), **Modbus Settings** (**Baud Rate**,**Parity**, **Stop bits**), and **Time Unit** (seconds, minute, hour, or day)

The screenshot shows a mobile application interface with four settings screens. The first screen, 'Damping', has a value of 5 and a 'Save' button. The second screen, 'Instrument ID', also has a value of 5 and a 'Save' button. The third screen, 'Modbus Baud Rate', shows a list of options with '9600-No Parity-1 Stop Bit' selected. The fourth screen, 'Time unit', shows a list of options with 'Day' selected. The top status bar shows the time as 2:46 and 2:47, and the bottom navigation bar has four icons.

Setting	Value
Damping	5
Instrument ID	5
Modbus Baud Rate	9600-No Parity-1 Stop Bit
Time unit	Day

7. Under the next settings you will be able to change your **Mass Unit** (lb), **Volume Unit** (mcf), **Pressure Unit** (PSI (G)) , and **Temperature Unit** (F)

The screenshot shows four settings screens. The 'Mass unit' screen has 'lb' selected. The 'Volume unit' screen has 'mcf' selected. The 'Pressure unit' screen has 'PSI absolute pressure' selected. The 'Temperature unit' screen has '°F' selected. The top status bar shows the time as 2:47 and 2:48, and the bottom navigation bar has four icons.

Setting	Value
Mass unit	lb
Volume unit	mcf
Pressure unit	PSI absolute pressure
Temperature unit	°F

8. **Total Flow Display Accuracy** will allow to choose how many digits that you want to display. **Cycle Display Time Interval** is how soon the parameters will change on the display in seconds. Under **Cycle the parameter**, you will have 5 parameters to choose from and set. Next you will have your **Modbus Float Order**.

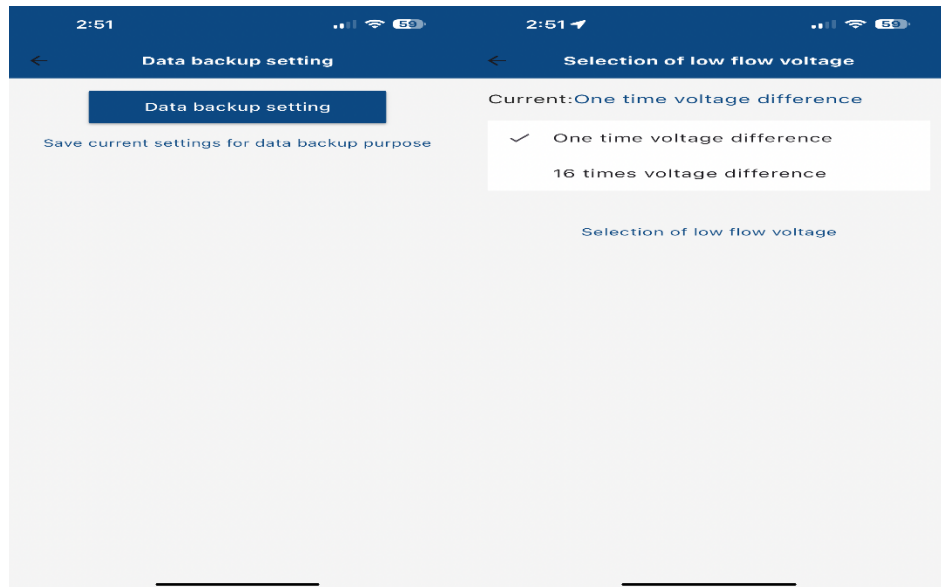
The screenshot displays a mobile application interface for Modbus configuration. It consists of four panels, each with a title bar and a content area. The first panel, 'Total flow display accuracy', shows a numeric input field set to '5' and a 'Save' button. The second panel, 'Cycle display time interval', shows a numeric input field set to '5' and a 'Save' button. The third panel, 'Cycle the first parameter', shows a list of parameters: 'Total Flow' (checked), 'Temperature', 'Pressure', and 'Density', with a 'Cycle the first parameter' button below. The fourth panel, 'Modbus Float Order', shows a list of four options: 'The lower 16 bit register is in the first ^ 16 bit register^ and the lower eight bits are in the first', 'The high 16 bit register is in the first ^ 16 bit register^ and the high eight bits are in the first', 'The lower 16 bit register is in the first ^ 16 bit register^ and the upper eight bits are in the first' (checked), and 'The upper 16 bit register is the first ^ the lower eight bits of the 16 bit register are the first'. A note at the bottom right says 'Set the float order of Modbus under IEEE format'.

9. **Pipe shape** can be changed to round or square under **Pipe Shape**. **Reset Total Flow** will allow you to reset the totaliser. If you need to recover the last setting made, you can make that change under **Data Recovery Setting**

The screenshot displays a mobile application interface for Modbus configuration. It consists of three panels. The first panel, 'Pipe shape', shows a list of two options: 'Round Pipe' (checked) and 'Square Pipe', with a note 'The shape of the pipeline' below. The second panel, 'Reset total flow', shows a 'Reset Total Flow' button and a note '>Reset total flow to 0'. The third panel, 'Data recovery setting', shows a 'Data recovery setting' button and a note 'Recover the last settings(only can recovery to the latest saved settings)'.

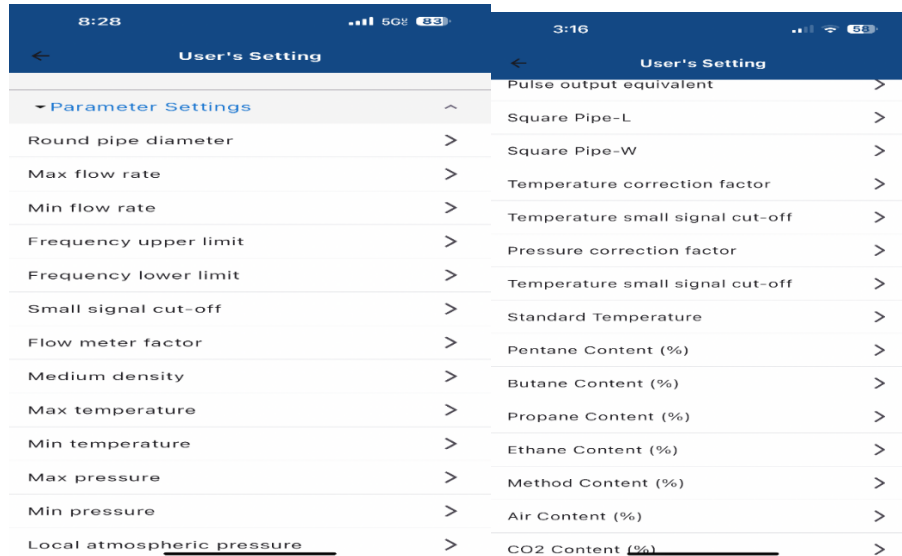
10. If you need to backup your data, you will do this in **Data Backup Setting**.

11. The last setting under Function Setting is **Selection of low flow voltage** (default is one time voltage difference)



Parameter Settings

1. Select Settings on the bottom menu and it will bring you to the settings menu. Select **User Settings** and now you will be able to set up the meter to your specifications starting with **Parameter Settings**



2. If you changed the pipe shape to round, you can change the diameter under **Round Pipe Diameter**.
3. Next you can change the **Maximum Flow Rate** and **Minimum Flow Rate**.
4. To change the frequency limits, do so under **Frequency Upper Limit** and **Frequency Lower Limit**

8:28 50% 8:28 50% 8:28 50% 8:29 50% 8:29 50%

← Round pipe diameter ← Max flow rate ← Min flow rate ← Frequency upper limit ← Frequency lower limit

150.0 2240.5 22.400000 10000.0 200.0

Save Save Save Save Save

Set the diameter of the pipeline, unit is mm Set the max flow rate for analog output Set the min flow rate for analog output Set the Frequency upper limit, unit as Hz Set the Frequency lower limit, unit as Hz

5. If you need to change the **Low Flow Cutoff**, you will do so under Small Signal cut-off. Meter factor can be changed under **Flow Meter Factor**. Also, if you need to change the current density, select **Medium Density** and enter the value.
6. The Output and Input temperature can be changed under **Maximum Temperature** and **Minimum Temperature** settings.

8:29 50% 8:29 50% 8:29 50% 8:30 50% 8:30 50%

← Small signal cut-off ← Flow meter factor ← Medium density ← Max temperature ← Min temperature

0.0 1.0 1.205000 200.0 0.0

Save Save Save Save Save

When flow is less than the value setted, meter will display zero; Set the flow meter's factor Set the density of measured medium Set the max temperature of output/input Set the min temperature of output/input

7. Output and Input Pressure can be changed under **Maximum Pressure** and **Minimum Pressure**.
8. Local Atmospheric Pressure can be changed. (Note: you can google the atmospheric pressure at your location for accurate input)
9. **Pulse Output Equivalent** (value per pulse) can be changed under the next setting.

8:30 5G 100% 8:30 5G 100% 8:30 5G 100% 8:30 5G 100%

← Max pressure ← Min pressure ← Local atmospheric pressure ← Pulse output equivalent

2000.0 0.0 101.324997 200.0

Save Save Save Save

Set the max pressure of output/input Set the min pressure of output/input Set the local atmospheric pressure, unit Mpa; Set the the Pulse output equivalent, how much of the parameter against one pulse

10. **Square Pipe-L and Square Pipe-W**
11. **Temperature Correction Factor**
12. **Pressure Correction Factor**

8:31 5G 100% 8:31 5G 100% 8:31 5G 100% 8:31 5G 100%

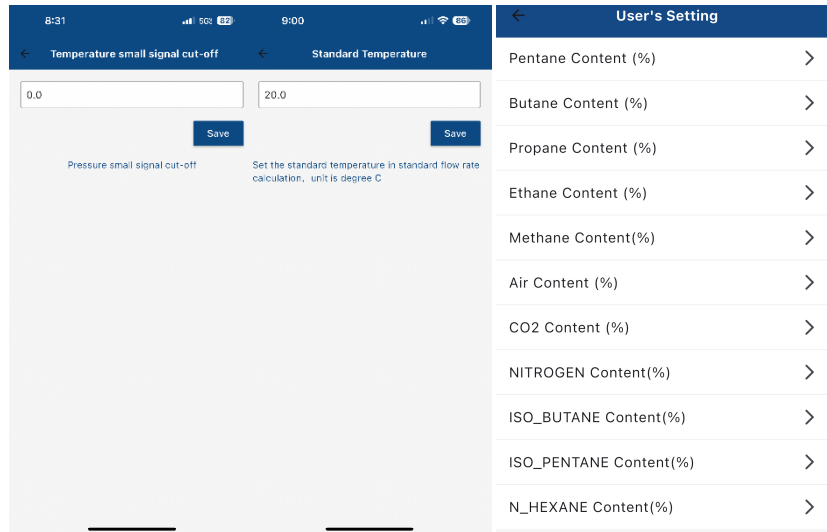
← Square Pipe-L ← Square Pipe-W ← Temperature correction factor ← Pressure correction factor

1000.0 1000.0 1.0 1.0

Save Save Save Save

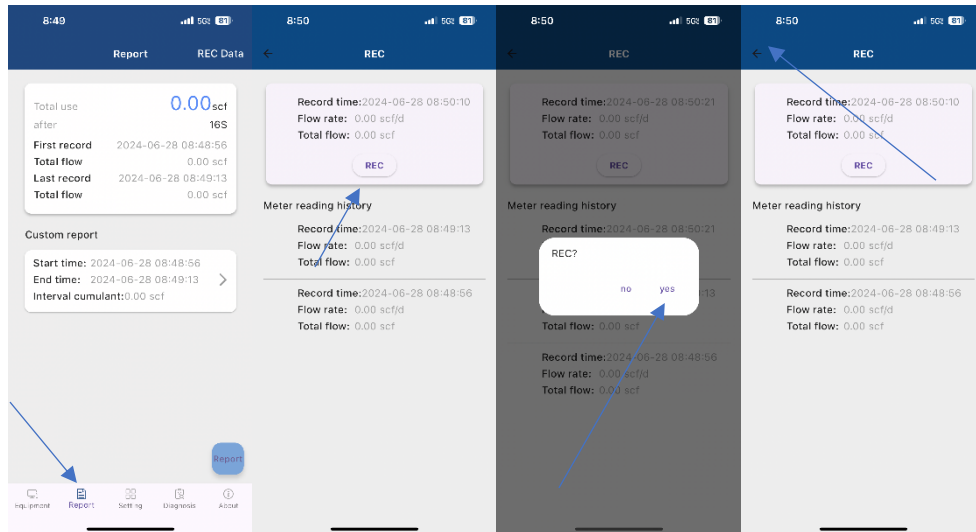
Input the length, unit is mm Input the width, unit is mm Temperature correction factor Pressure correction factor

13. **Temperature Small Signal cut-off (low flow cut off) and Standard Temperature**
14. **Specific Gas.** Here you be able to adjust the specific gases based on the customer Gas GC analysis. **Pentane, Butane, Propane, Ethane, Methane, Air Content, and CO2.**



Report

1. To run a report, select **Report** on the bottom menu and then select the blue Report button.
2. Next it will bring you to the **RECORD** menu where you will select the **REC** button.
3. When prompted, select **YES**.
4. Once you select yes, hit the back button at the top left of the screen.



5. After you hit the back button it will bring you back the **REPORT** menu. Select the blue report once again.
6. Next you will be prompted to confirm the start and end time of the report. Once you confirm the time, a PDF Report will be generated.

