





Index

1) Introduction-----	3
2) How to do Online Configuration-----	5
3) How to do Offline Configuration-----	11
4) General Features of Display Gateway-----	18
5) Support-----	21



About EzzTank – Water Level Monitor

EzzTank Water Level Monitor is an IoT (Internet of Things) based wireless solution for overhead tank water level monitor and management. The solution auto calibrates to suit the tank level with 2 cm accuracy

It manages multiple tanks in single receiver (additional wireless sensor unit required for each tank).

The solution consists of following.

- 1) Display Unit – Indoor unit
- 2) Sensor Unit – Floats inside the water tank
- 3) Accessories – 8 screws, 6 AA batteries, 5m Inch tape, One screwdriver.

1) Sensor Unit

Sensor unit is built with ultrasonic technology to measure the water level and operates on AA battery. User has to drop the device in the water storage tank, it starts measuring the water level and transmits the data to the Display unit.

- The Maximum measuring height: 150cm
- The Minimum measuring height: 10cm
- Accuracy of measurement: 1cm



1. Remove the top cover and connect 6 numbers of AA batteries. Once you put the 3-batteries on any side you will see a LED Blinking in the middle. This indicates the device is ON. If the device is not blinking remove the batteries and reinsert to see the LED is Blinking.
2. Then close the top cover and put the screws that has come along with this unit



2) Display Unit:

Plug and play receiver unit with colour display, shows the water level, and provides different real time alerts to the users.

Preconfigured Alerts

- Water Low level : 20cm
- Water Full / Overflow: 80cm
- Clean tank
- Low battery of Sensor unit – 20% Battery in the Sensor



Gateway Configuration:

1. Plug the EzzTank Display Gateway into a power socket.



2. The gateway will display a screen as shown in the below image,



Here, choose your configuration method?

- [Online Configuration \(Need Internet Connection\)](#)
- Offline Configuration (No need of Internet Connection)

Online Configuration Mode



Press "Menu"
Button for online
configuration mode



3. After entering into online mode the Gateway will display the QR code for download the EzzTank Mobile App from the Google play store, scan it and download the application.



After downloading APP,
Press '**Next**' for
Gateway registration



4. For gateway registration, the user needs to fill the details in the EzzTank mobile application to register the gateway.

5. First-time users of the application, fill in the phone number/E-mail ID along with the ID of the Gateway (displayed on the gateway along with its QR code shown in the below image).



6. After registering in the app, the gateway will be added to the user.

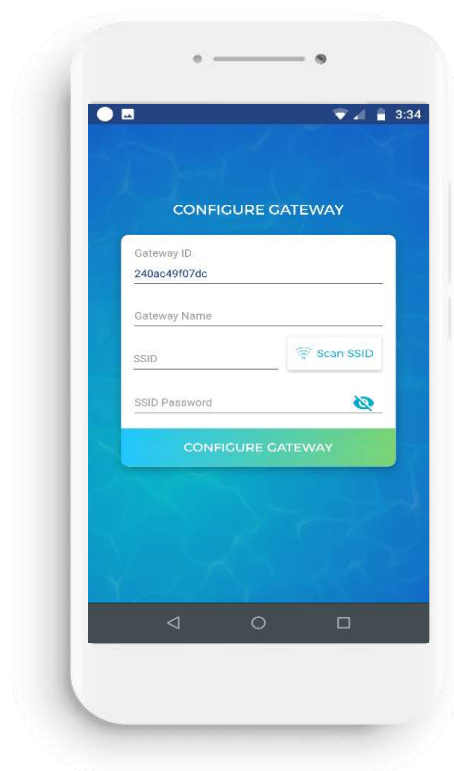
7. The application will prompt the user to create a hotspot with the name “**EZZTANK**” and password as “**12345678**”, create it.

8. The gateway will try to connect to the “EZZTANK” Wi-Fi network. When connected successfully the gateway’s buzzer will beep twice.

9. After successful connection “**APP CONNECTED**” message will be displayed in the gateway and the buzzer will beep once. On top of the screen, you can see that “**Gateway Not Configured**” message being displayed like in the image shown below. So, the next step is to configure the gateway.



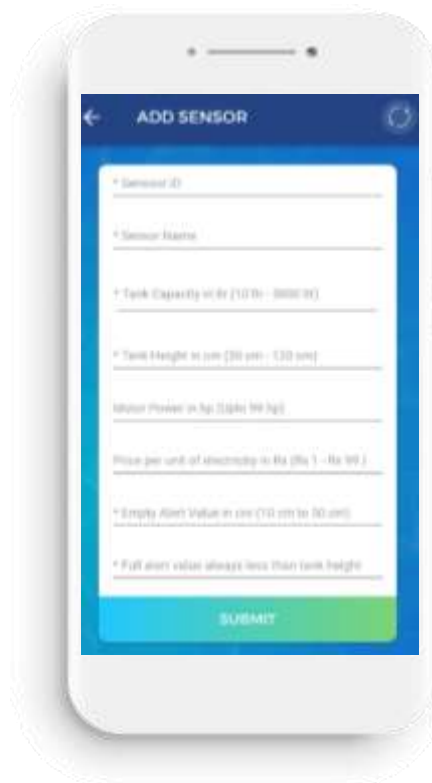
10. The gateway should be configured in the EzzTank mobile application. To do it, click the “Configure” button in the application. Enter a name for your gateway. Fill the Wi-Fi name and password of the network you want to connect the gateway within the SSID name and SSID password.



The name entered in the “Gateway Name” will be shown in the gateway on the top of the screen, for example in the below image it is shown as “**Demo**” on the top right corner of the screen.



11. Next step is to add the sensor unit, in the mobile application, click the “add sensor” button. Enter the details like “Low Alert”, “Tank capacity” etc., after entering the details, press the submit button.



12. Now, the sensor will be displayed on the gateway as shown below. The full and empty alert entered in the app will be displayed here.

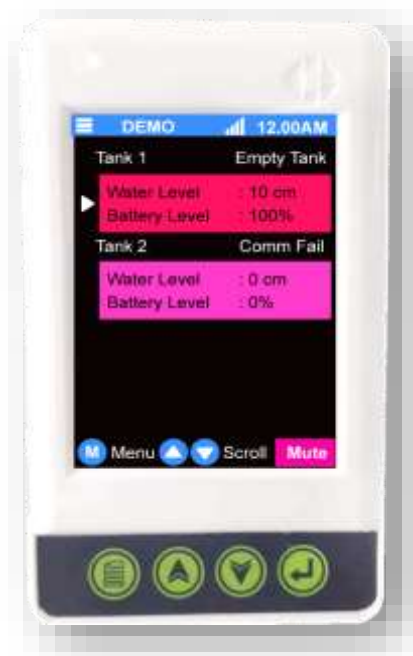


13. The user can monitor the water level now in the gateway. These are the basic steps that need to be performed for the gateway to display the water level.



14. If the user adds another sensor (EzzTank Transmitter) in the mobile application, then it will be added in the gateway automatically, like below.

(Each sensor can be individually monitored by selecting the sensor using '←' button. It can be selected by pressing the scroll buttons.)





Offline Configuration



Press “↵” Button
For offline configuration mode

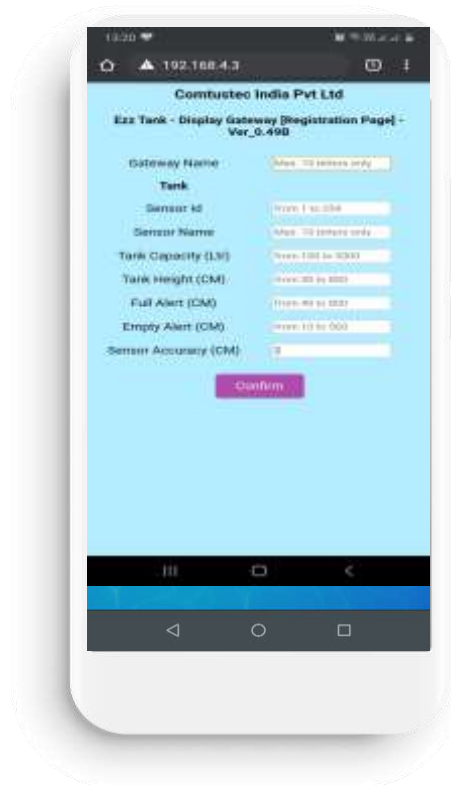
3. Press the enter button to choose the Offline mode.





4. Switch ON Wi-Fi on your mobile phone and connect the hotspot network, in some phones a message pops out asking whether to get connected with this WiFi network without internet, user can chose yes. Then the mobile will connect to this gateway device WiFi.
5. Then the device will ask for the password user can feed the password as shown in the screen
6. After successful connection (no need for internet connection) just open any web browser and provide this IP Address 192.168.4.3
7. The browser would reach to the landing page as shown below. There, the user must fill their gateway configuration details, Follow the instructions shown in the screen and complete the registration of gateway and Sensor. Sensor ID will be printed on the device.

Image 1



8. Confirm the configuration after feeding correct values, the system requires second confirmation for Sensor ID.
9. After that, the user can recheck their configuration details if any changes needed the user can edit otherwise click proceed for the configuration process.

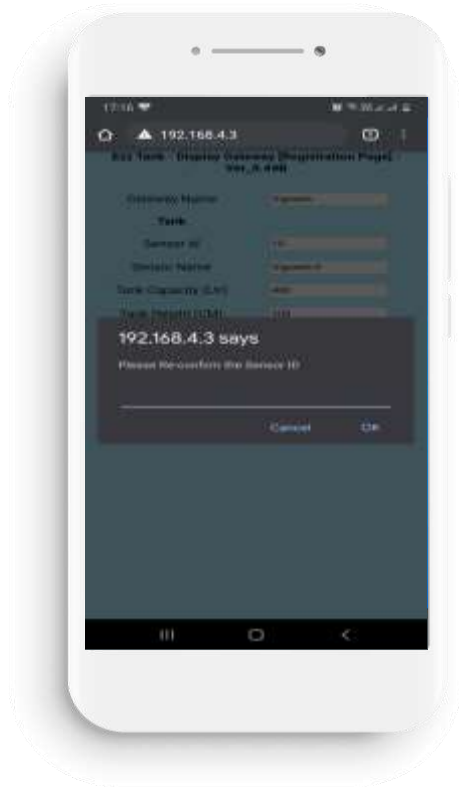


Image 2



Image 3

10. Now, Display Gateway restarts automatically to adapt new configuration settings. User as to again go to the WiFi selection page and connect to this gateway with the new gateway name, provide the same password to get connected. Once after this go to web browser and key in this :192.168.4.3 and press enter. User should see the below screen



The image shows a smartphone screen displaying a gateway control application. The app interface includes a status bar at the top with the time 10:33 and IP address 192.168.4.3. The main display area shows the gateway name 'Ezz Tank - Displav Gateway - Ver_0.49B' and a sensor name '[Vignesh]'. A 'Sensor Log' button is visible. Below this, there is a section for 'Accuracy Acknowledged [✓ - Yes || ✗ - No]'. A table displays sensor data for 'Vignesh-S' with 27% signal strength. The table includes columns for Water (CM), Battery (%), and Signal Strength(%). Below the table, there is a section for 'Temperature - 28 °C [Accuracy - 2 CM] ✓'. Further down, there are buttons for 'Full Alert', 'Empty Alert', and 'Tank Height'. At the bottom, there are several control buttons: 'Add', 'Edit', 'Firmware Update', 'Delete', 'Factory Reset', 'Buzzer OFF', 'Display OFF', 'LoRa Restart', 'ESP32 Restart', and 'Sensor Ping from Gateway'. Annotations with lines pointing to specific elements are provided on the left and right sides of the screen.

Gateway Name

Version of Gateway

Sensor Name

Sensor Signal Strength

Water Temperature

Delete Sensor

Factory Reset

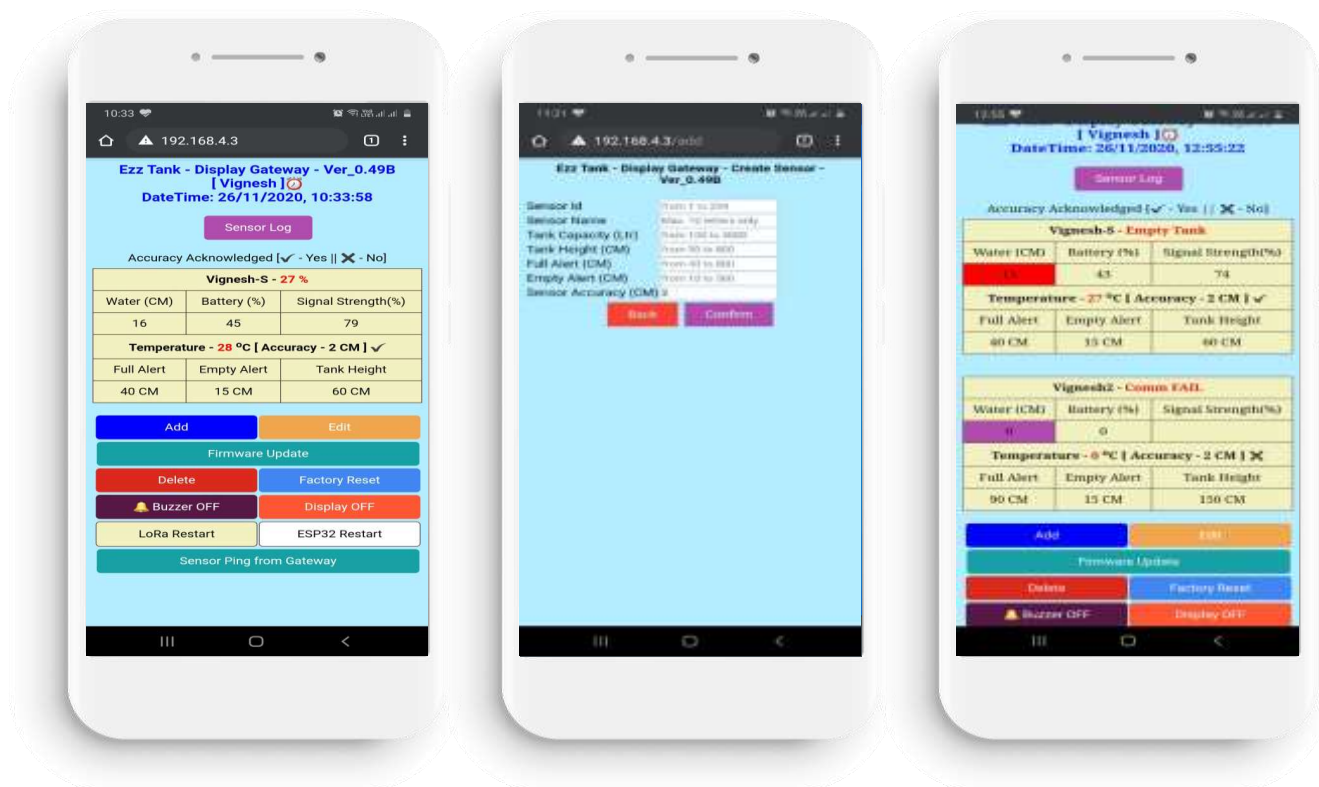
Water (CM)	Battery (%)	Signal Strength(%)
16	45	79

Full Alert	Empty Alert	Tank Height
40 CM	15 CM	60 CM



ADD Sensor

The display gateway is capable of monitoring upto 4 water storage tanks at a time. If the user needs to monitor more than 1 tank user can buy additional sensors alone and add the same through the add sensor option.

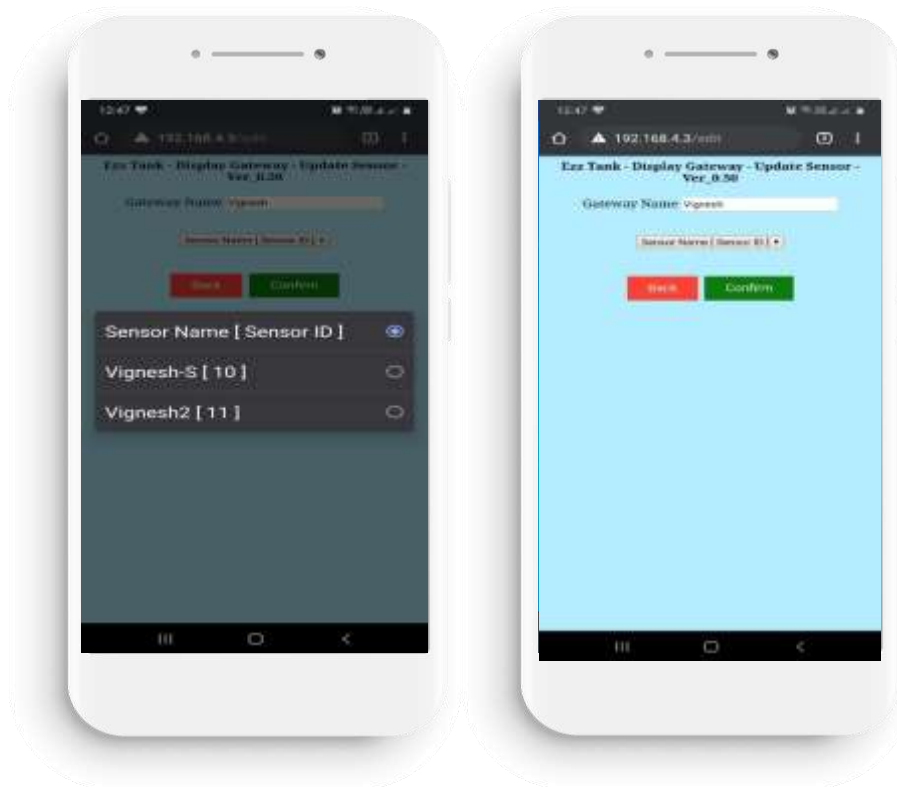


Click “Add” to feed the sensor and tank details and confirm with sensor ID.



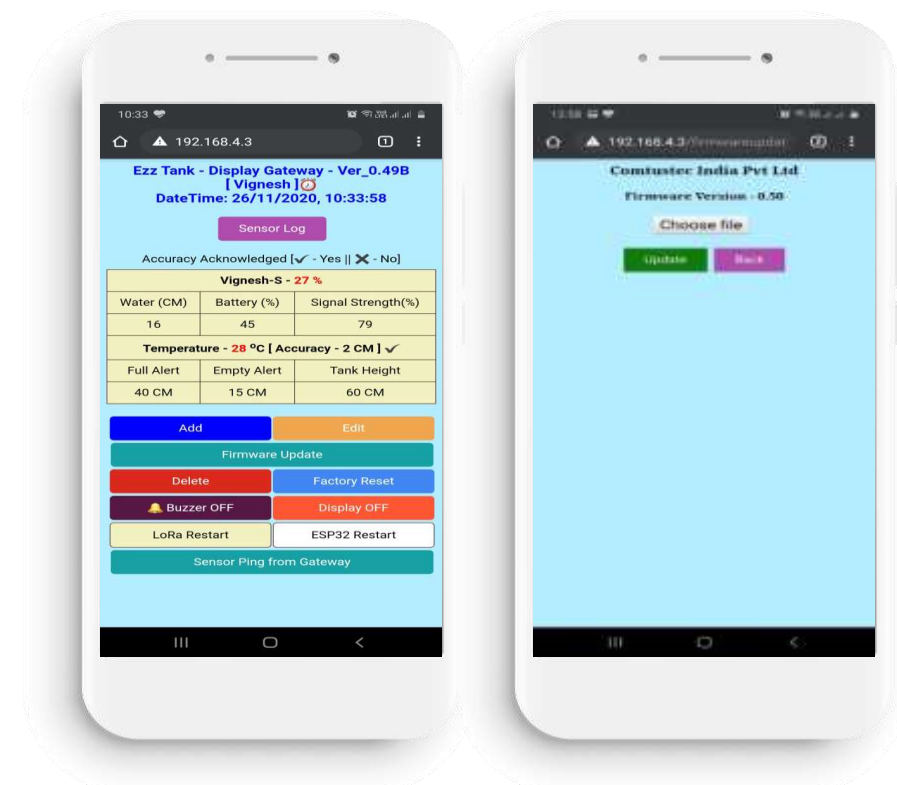
Edit Sensor

The user can edit sensor configuration details using “Edit” option in Home screen



Firmware update

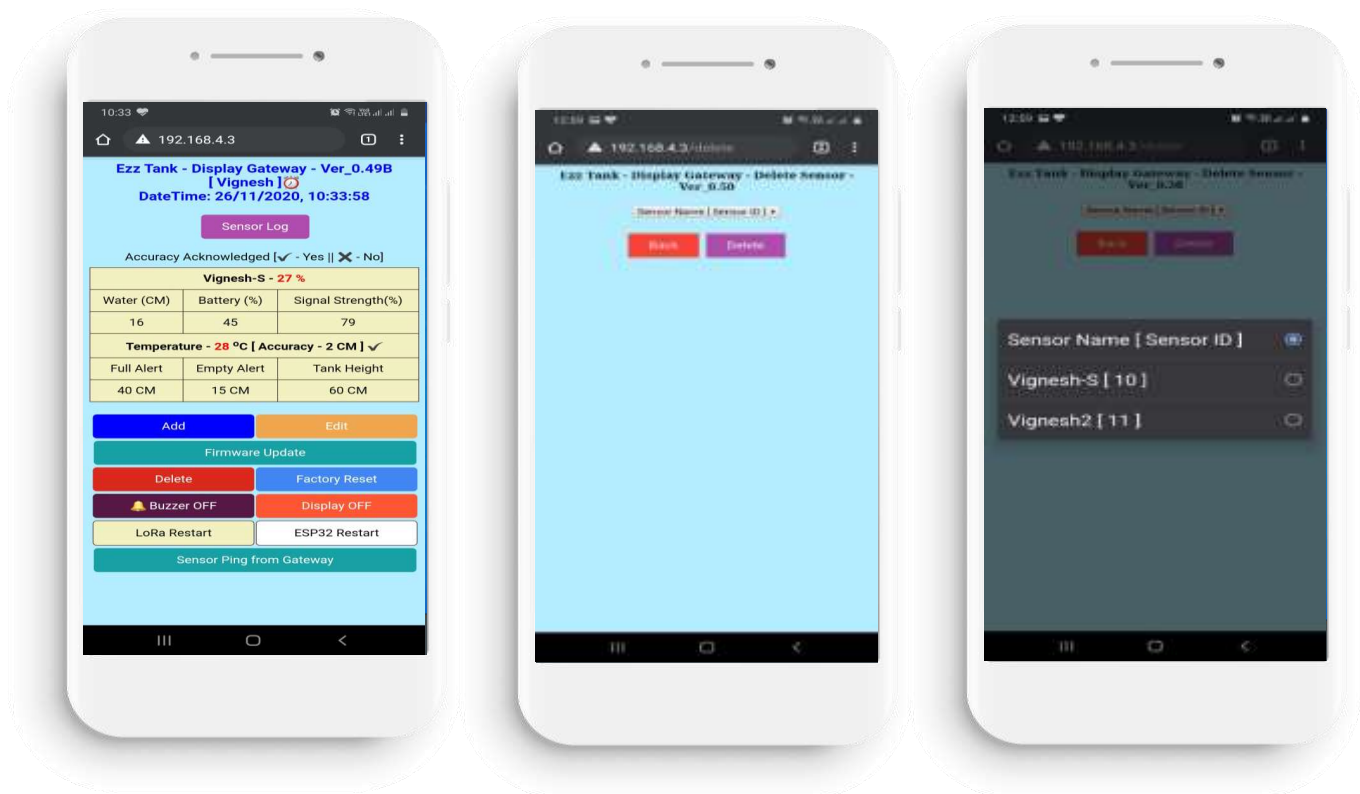
The user grab the benefits from updating latest software versions to the display monitor.





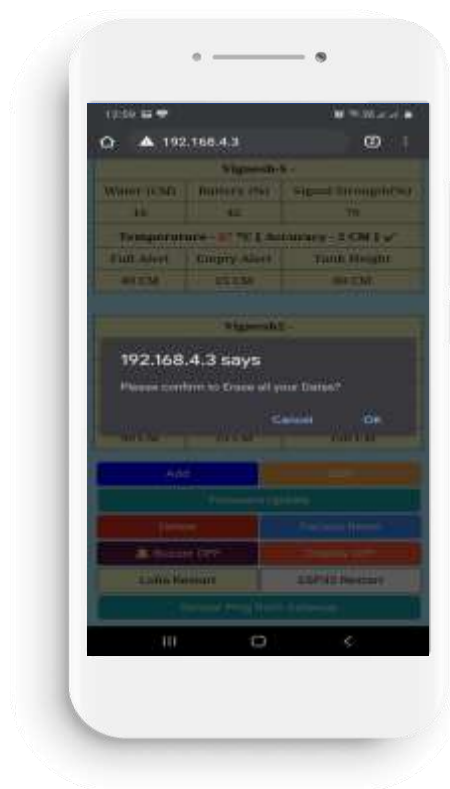
Delete Sensor

To delete the sensor from the display gateway using “Delete”. Once user selects delete a new page opens, in that user has to select the sensor that they want to delete through the drop-down menu and delete it.



Factory Reset

This will delete all the configuration in the gateway and bring back to default factory settings



General Features of Display Gateway

Alerts:

The gateway will notify the users whenever there is a full or empty level detected by the transmitter with the help of buzzer.

Full Alert: The buzzer will sound continuously in an interval of 1 second until the user mutes it by pressing the mute button.

Low Alert: The buzzer will sound continuously for 1 minute in an interval of 1 second and will go off. This process will be repeated three times after which the buzzer will go off completely. User can also mute it by pressing the mute button. (Will be explained in detail under 'Button usage')

Wi-Fi indication:

- As explained above, the buzzer will beep twice when connected to the Wi-Fi during the configuration process.
- On every power-on process, the gateway will try to connect with Wi-Fi configured, if connected the buzzer will beep twice else it will beep thrice.
- If the gateway disconnects from the Wi-Fi midway and reconnects again the buzzer will beep twice.

Button Usage:



There are four buttons available for the user to use. Each button has different functionality based on the page the gateway is, user can follow the button function as shown in the display screen in every page. For reference user shall refer the below image.

Settings Menu:



The settings menu can be accessed by pressing the 'M' Menu button on the main page. It consists of different options for the user to explore, below are the options available:

- WIFI INFO
- Sensor Scan
- Brightness
- Display

WIFI INFO:

This page will display the Wi-Fi Name and Wi-Fi password along with the signal strength and Wi-Fi mode. Wi-Fi mode will display online/offline, Online means Wi-Fi is available, offline means not available.

Note:

If user wants to move from online to offline or vice versa then the device configuration will get deleted, user as to redo all the configuration.

Sensor Scanner: This option will display the sensor available within the reach, For example, if the user has more than one sensor and want to check the IDs or the water level/battery, then this option can be selected. This page will display the sensors with their IDs, water level, battery level values.



Display Sleep:

User can enable or disable the display sleep function selecting sleep YES or NO. To select YES or NO user should use the up and down keys. Once they chose their need, they can save the settings by pressing the save button.

If the display is kept in the sleep mode, display will switch OFF and will wake up only when there is any alert or when user presses any key.

If the display Sleep selected is NO, all the time the display will be ON.



Brightness:

The user can adjust the brightness of the display of the screen by pressing this option. A screen will be displayed as shown below



Change the brightness by pressing the ‘v’ and ‘^’ buttons and save it by pressing ‘←’. The settings will be saved by the gateway, and the brightness of the screen get adjusted as per the user settings.

Alert Sound:

User can enable or disable alert audio alarm. If alert is disabled, the audio alarm will not come for any alert.

Support:

If there is any difficulty you are facing in using the gateway, kindly mail us.

Email: ezztank@comtustec.com



---Thank you---