medical systems

GT Mini & TempSense 810

Powered by CWD Limited

Product Handbook (EN)

Version: 1.1

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SECTION 1

INTRODUCTION TO GT MINI

PART ONE

Contents of the Box

Item Name		Quantity
GT Mini with Frame		01
Battery Pack		01
TempSense 810		01
Screws	18mm	04
	2.5mm	02
3M Tape		02

Contents of the Box

GT Mini

TempSense 810

Battery Pack

4 x 18 mm Screws

3M Waterproof Tape

2 x 2.5mm Screws

Battery Pack

Specifications Sheet

Constructed using industrial plastics, the battery pack hosts 4 $LiMNO_2$ chemistry-based cells with a capacity of 1000mAh each. Connected in parallel, the total capacity of the battery pack thence is 4000mAh. The batteries can be used in an operating temperature of up to 60°C.

Detailed Specification

Item Name	Specifications
Material	ABS
Dimension	53mm (L) by 64mm (W) by 12mm (H)
Battery Cells	04
Battery Capacity / Cell	1000mAh
Battery Voltage	3V
Battery Chemistry	$LiMNO_2$
Battery Connectivity	Parallel
Battery Operating Temperature	-10°C to 60°C
Battery Storage Temperature	Room Temperature

Construction

Screw Holes

Two screw holes are provided to fasten the battery pack into the GT device. The screw holes are designed to host 2.5mm screw heads.

Battery Connector

Two pin battery connector protrudes from the battery pack. This connector slides into the GT device to power the device. Special care is to be taken when inserting the battery pack into the GT device.

Constructed using industrial plastics, the battery pack hosts 4 - $LiMNO_2$ chemistry-based cells with a capacity of 1000mAh each. Connected in parallel, the total capacity of the battery pack thence is 4000mAh. The batteries can be used in an operating temperature of up to 60°C.

Detailed Specification

TempSense 810

Specifications Sheet

Constructed using industrial plastics, TempSense 810 hosts, BLE circuitry, Temperature Sensor and the batteries.
The batteries survive the sensor for 5 years.

Detailed Specification

Item Name	Description	Specifications
Physical	Material	ABS
	Dimension	70mm (L) by 28mm (W) by 08mm (H)
Battery	Battery Cells	02
	Battery Capacity / Cell	354mAh
	Battery Voltage	3V
	Battery Chemistry	$LiMNO_2$
	Battery Storage Temperature	Room Temperature

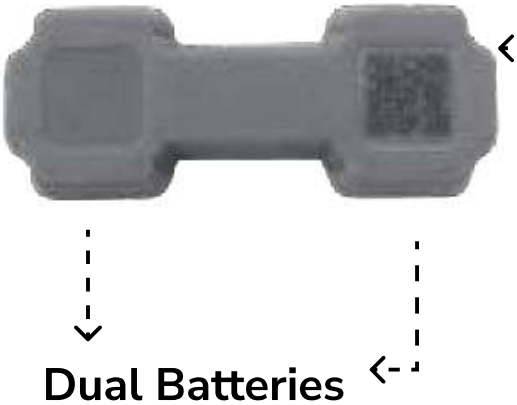
Detailed Specification

Item Name	Description	Specifications
Temperature Sensor	Type	Digital
	Accuracy	• ±0.1°C (maximum) from –20°C to 50°C • ±0.15°C (maximum) from –40 °C to 70°C • ±0.2°C (maximum) from –40°C to 100°C • ±0.25°C (maximum) from –55°C to 125°C
TempSense 810	Operating Temperature	-40°C to +85°C
	Grading	Medical Grade ASTM E1112 and ISO80601 -2-56
	Certification	NIST Traceable, ISO/IEC 17025

Detailed Specification

Item Name	Description	Specifications
	Calibration	Factory Calibrated as per ISO/IEC 17025
Protection	Waterproofing	IP67

Construction



QR Code - Identifier

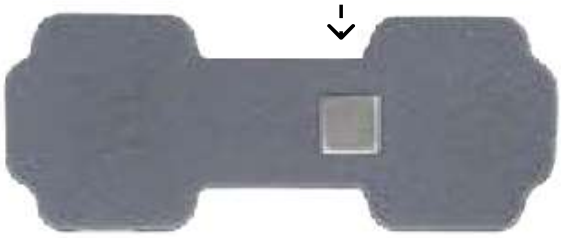
QR code that uniquely identifies the TempSense 810. The QR code is used for pairing the TempSense810 with the GT Mini.

Dual Batteries

Dual batteries with chemistry of LiMNO4 that survive a vast temperature range of -40°C to +125°C.

Sensing Tip

Stainless steel-based sensing tip that can measure the air temperature or touch based temperature.



Constructed using industrial plastics, TempSense 810 hosts, BLE circuitry, Temperature Sensor and the batteries. The batteries survive the sensor for 5 years.

Detailed Specification

Global Tracker Mini

Specifications Sheet

Constructed using industrial plastics, Global Tracker hosts, BLE circuitry, battery monitoring circuitry, display, buzzer, Temperature Sensor, memory, real time clock and battery. The batteries i.e. the battery pack survives the device for 5 years.

Detailed Specification

Item Name	Description	Specifications
Physical	Material	ABS
	Dimension	120mm (L) by 84mm (W) by 20mm (H)
Battery	Battery Pack	4000mAh
Temperature Sensor	Type	Digital
	Accuracy	• ±0.1°C (maximum) from –20°C to 50°C • ±0.15°C (maximum) from –40 °C to 70°C • ±0.2°C (maximum) from –40°C to 100°C • ±0.25°C (maximum) from –55°C to 125°C

Detailed Specification

Item Name	Description	Specifications
GT Mini	Operating Temperature	-10°C to +60°C
	Grading	Medical Grade ASTM E1112 and ISO80601 -2-56
	Certification	NIST traceable, ISO/IEC 17025
	Calibration	Factory calibrated as per ISO/IEC 17025
Screen	Type	E-ink display
	Display Size	2.9 “
	Display resolution	296 px x 128 px
Buzzer	Type	Piezo

Detailed Specification

Item Name	Description	Specifications
	Volume	75dB
Protection	Waterproofing	IP67
Connectivity	Type	Short Range Radio
	Technology	Bluetooth Low Energy
	Version	5.0 & Above
Button	Type	Push Button
Certification		CE, RoHS (FCC in Process)

Construction

B Medical Logo

Laser Printed B Medical logo

QR Code

QR Code for uniquely identifying the device and for pairing the application with the device.

Push Button

Single rubberized push button for interactivity.

E-Ink Display

Low power 2.9” e-ink display with 296 pixels x 128 pixels.

Air Vents & Conduits

Air vents for Ambient temperature Sensor Buzzer sound.

Constructed using industrial plastics, Global Tracker hosts, BLE circuitry, battery monitoring circuitry, display, buzzer, Temperature Sensor, memory, real time clock and battery. The batteries i.e., the battery pack survives the device for 5 years.

PART TWO

Installation of GT Mini (Device Preparation)

STEP 1

Remove the outer frame. The frame can be removed by pulling on the notch in the bottom.

STEP 2

Insert the battery pack into the GT Mini device. Special care is to be taken while pushing the connector into the device (black connector side facing up).

STEP 3

Upon pushing the battery pack into the device, all the way IN, the device will boot up and refresh (can take up to 65 seconds).

Installation of GT Mini (Device Mounting)

STEP 1

Use the 2.5mm screws in the box to fasten the battery pack into the GT Mini device. This will ensure that the battery pack is secured.

2 x 2.5mm Screw

STEP 5

Align and mount the GT Mini on the RCW. The 18mm screws can be used for the same. Frame can then be affixed once mounted.

STEP 6

Using the 3M stickers in the box, affix the TempSense 810 inside the RCW. The metal sensing element should be facing up.

Stick 3M Sticker on the back side of TempSense 810.

Place it inside groove in Vaccine boxes.

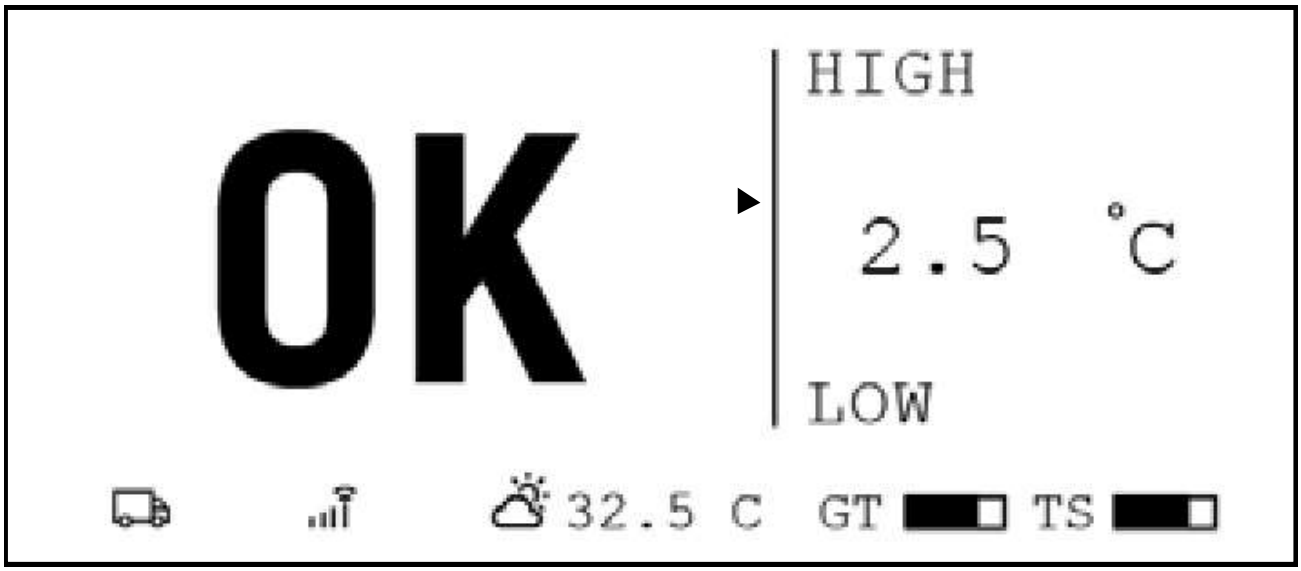
SECTION 2

WORKING WITH GT MINI

PART ONE

Home Screen : Understanding Screen Iconography

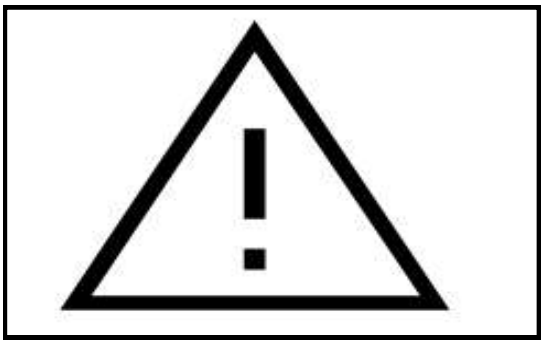
The E-ink display on the device is equipped with several icons that not just indicate the various functionalities of the device but also the status of the product at a given time. Here's what you'll see on the Home Screen:



Home Screen

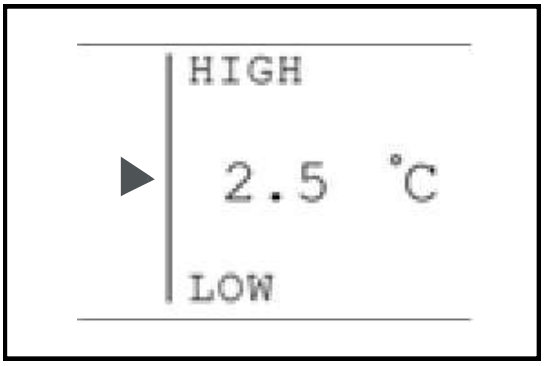
SYMBOL : OK

This icon is displayed when the temperature inside the vaccine box and the ambient temperature has been within the thresholds.



SYMBOL : ALERT

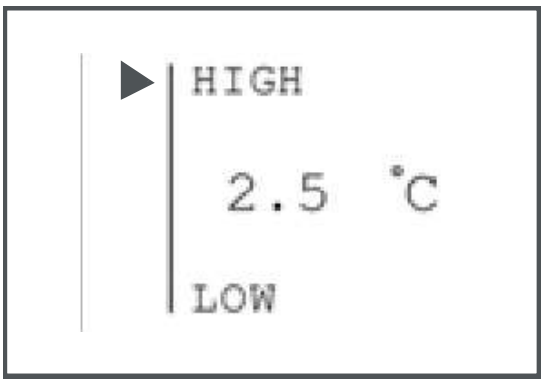
This icon is displayed when the temperature inside the vaccine box and the ambient temperature has breached the set thresholds.



SYMBOL : TEMPERATURE SLIDER

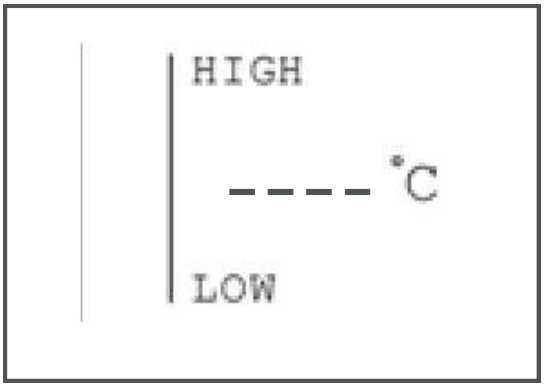
This icon group displays the current temperature as measured by the TempSense 810.

Note : Arrow level moves up or down depending on the current temperature.



If the measured temperature is within the thresholds the arrow stays in the middle of the HIGH/ LOW bar.

However, if the measured Temperature is HIGH, the arrow points to the HIGH in the HIGH/ LOW bar.



SYMBOL : EMPTY TEMPERATURE

When there is a disconnection between the Tempsense 810 and GT Mini the temperature is not available. This is illustrated by dashes.

SYMBOL : On Trip

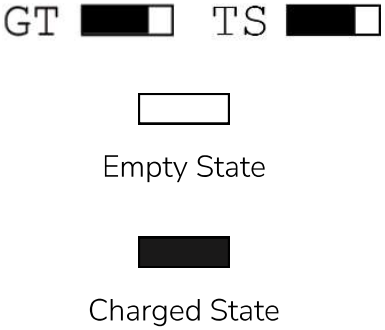
This icon is displayed (upon screen refresh) when the RCW is configured to be on a TRIP. The trip status can be changed from the app.

SYMBOL : TempSense 810 Connected

This icon is displayed when the GT Mini is connected to TempSense 810.

SYMBOL : Ambient Temp.

This icon is displayed when the vaccine box has measured the AMBIENT TEMPERATURE.



SYMBOL : Battery Status

This icon displays the current battery status of both, the GT Mini & TempSense 810

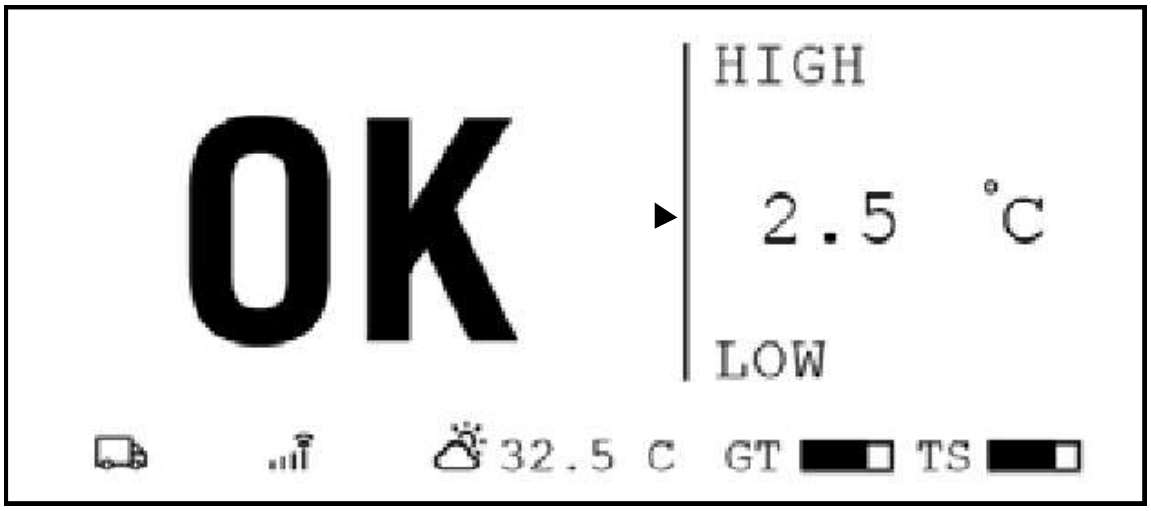
Screen Navigation : Home Screen <--> History Screen

GT Mini displays two different screens. We call them the **Home Screen** and the **History Screen**.

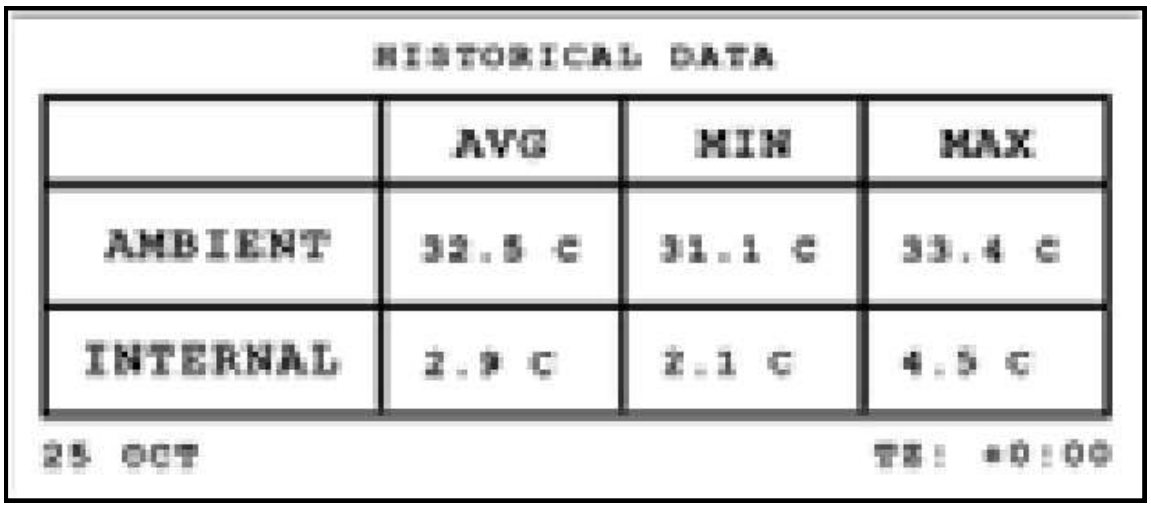
One can shift from **Home Screen** to **History Screen** by pressing the button on the device once.

On pressing the button again, the data for the previous date is shown. The device automatically comes back to **Home Screen** if no activity is detected for 20 seconds.

Push Button



Home Screen



Historical Screen

Historical Screen : Understanding Screen Iconography

SYMBOL : Date

This icon on the History Screen displays the data of that specific date.

SYMBOL : Time Zone

This icon in the History Screen displays the time-zone of that specific date. +0.0 signifies GMT.

	AVG	MIN	MAX
AMBIENT	32.5 C	31.1 C	33.4 C
INTERNAL	2.9 C	2.1 C	4.5 C

Temperature Table

The temperature data of the specific day for both Ambient Temperature (outside) and the Internal Temperature TempSense 810) are displayed. The MIN and MAX temperatures can indicate if any breach was seen during the day. AVG indicates the average temperature during the day by summing up all of the temperature readings divided by the no. of readings on that day.

PART TWO

Mobile Application : Search & Download

Available on both iOS and Android application stores, one can download from the respective stores either by searching for “B Medical Connect” or by scanning the displayed QR code for the respective stores.

Installation

STEP 1

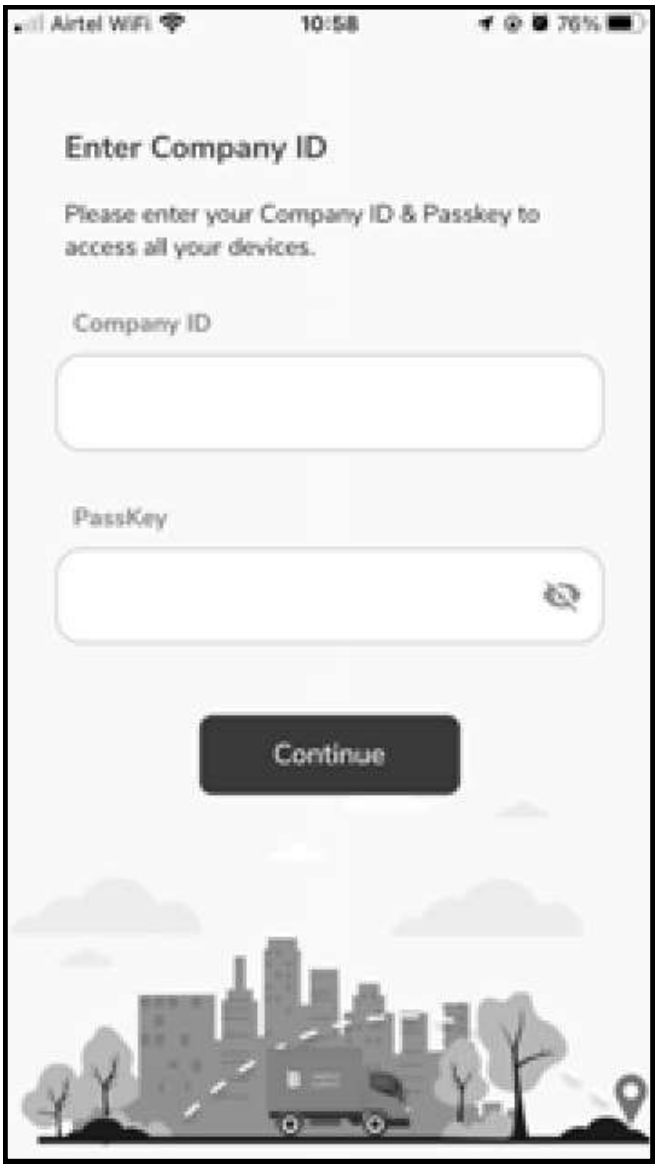
Launch the downloaded application
on the phone by clicking on the
‘B Medical Connect’ app icon.

STEP 2

After application splash screen is displayed ‘Application Permissions are requested’. These MUST be given for the application to work properly.

STEP 3

After giving permissions you need to login by putting correct credentials.



STEP 4

Once you are logged in home screen is displayed.

The app is ready to be use.

Connect to GT Mini

STEP 1

Launch the downloaded application on the phone by clicking on the ‘B Medical Connect’ app icon. Wait for the Home Screen.

STEP 2

Click on the push button on the GT Mini and let the Home Screen transition to History Screen. The GT Mini is discoverable on Bluetooth and is now ready to connect to the App.

Push Button

Single rubberized push button for interactivity.

STEP 3

Click on the ‘+’ button in the Home Screen of the App. This opens the Scan Screen. This is used to identify and connect to GT Mini.

STEP 4

Using the camera window in the Scan Screen, point it to the GT Mini's QR code affixed on the top right corner of the device. Once the QR is detected, the APP will show the connect button. Click **'Connect'**.

STEP 5

On clicking ‘Connect’, the app attempts to connect to the GT Mini. On successful connection, the app fetches all data and records from the device.

STEP 6

The data fetched is processed and shown on the ‘Device Screen’ of the application. The ’Device Screen’ is the screen from where both information and control of the device is managed.

Add to Favourites

STEP 1

After Installing B Medical Connect application, please tap on the '+' icon available at the bottom of the screen to connect GT Mini to your phone.

STEP 2

Summary screen will be displayed once you are connected to GT Mini. Tap on the menu available at the upper right corner of the screen.

STEP 3

After tapping on menu, you will have a few options.

Please select **‘Add to Favourites'** from there.

STEP 4

You will receive confirmation of GT Mini added to favourites.

STEP 5

After adding GT Mini to favourites, it will appear on the home screen. And you can access it any time without scanning QR Code.

Remove from Favourites

STEP 1

After adding GT Mini to favourites, you can access it from the home screen. Please tap on it to connect (the data fetch is done only once per connection).

STEP 2

You will be provided two options. Please select ‘Connect’ and press the button on GT Mini as shown earlier.

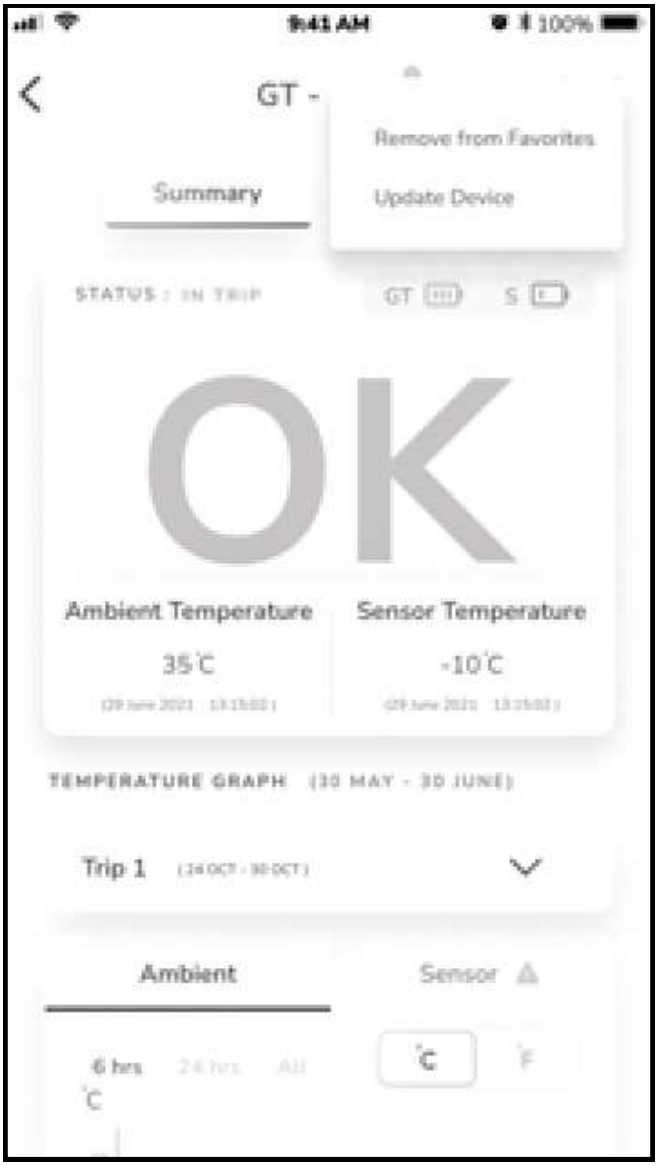
STEP 3

Summary screen will be displayed once you are connected to GT Mini. Tap on the menu available at the upper right corner of the screen.

STEP 4

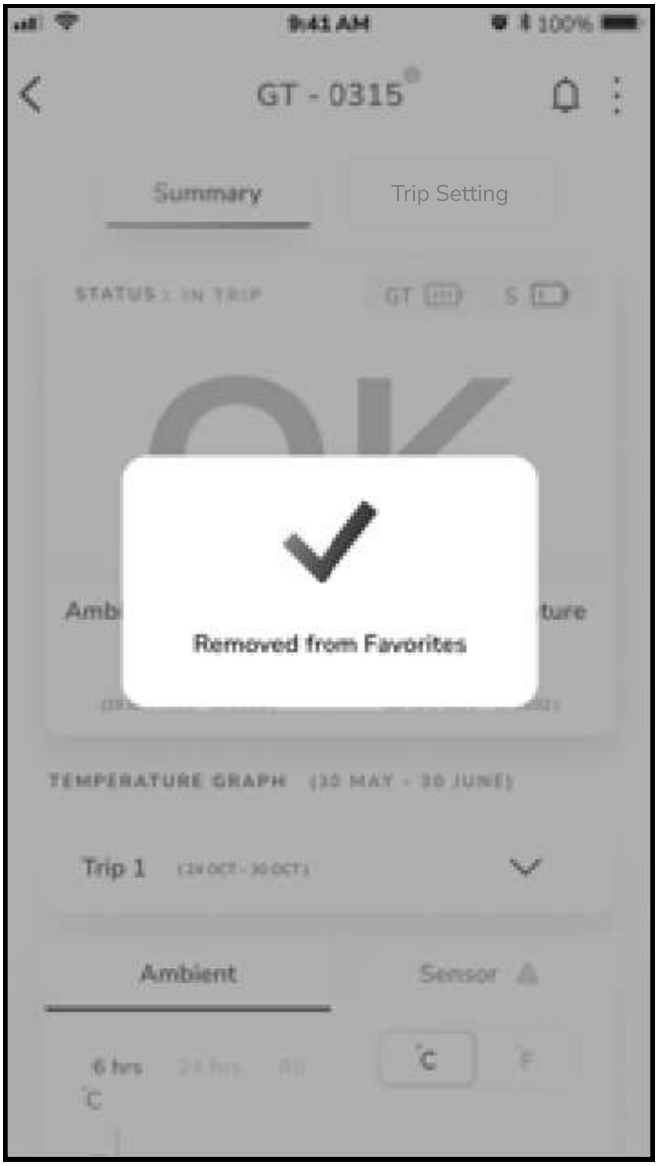
After tapping on menu, you will have a few options.

Please select **‘Remove from Favourites'**.



STEP 5

You will receive confirmation of GT Mini removed from favourites.



STEP 6

After removing GT Mini from favourites, you will no longer see any GT Mini information on home screen. If you wish to see all information again, please try connecting it by scanning the QR Code.

Update Device

STEP 1

Tap on the desired GT ID which is available on Home screen to connect. If you have not added GT Mini to favourites, please tap on ‘+' button to scan QR code and connect.

STEP 2

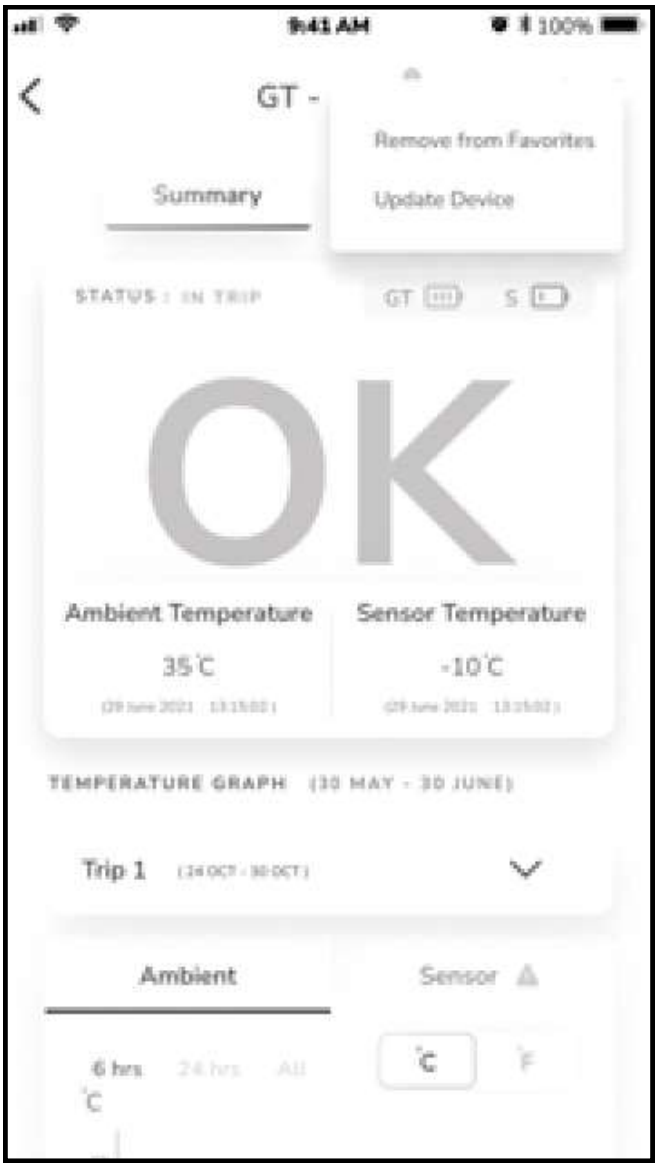
You will be provided two options. Please select ‘Connect’ and press the button on GT Mini as shown earlier.

STEP 3

Summary screen will be displayed once you are connected to GT Mini. Tap on the menu available at the upper right corner of the screen.

STEP 4

After tapping on the menu, you will have a few options. Please select **‘Update Device’.**



STEP 5

Application will ask your confirmation before updating. Tap on ‘Upgrade’ to proceed.

STEP 6

Once confirmation is done, device will start updating. You can see the progress from the screen. Upon completion, you will see ‘Device is up-to-date’.

Trip Management (Start Trip)

STEP 1

Tap on the desired GT ID which is available on Home screen to connect. If you have not added GT Mini to favourites, please tap on ‘+' button to scan QR code and connect.

STEP 2

You will be provided two options. Please select ‘Connect’ and press the button on GT Mini as shown earlier.

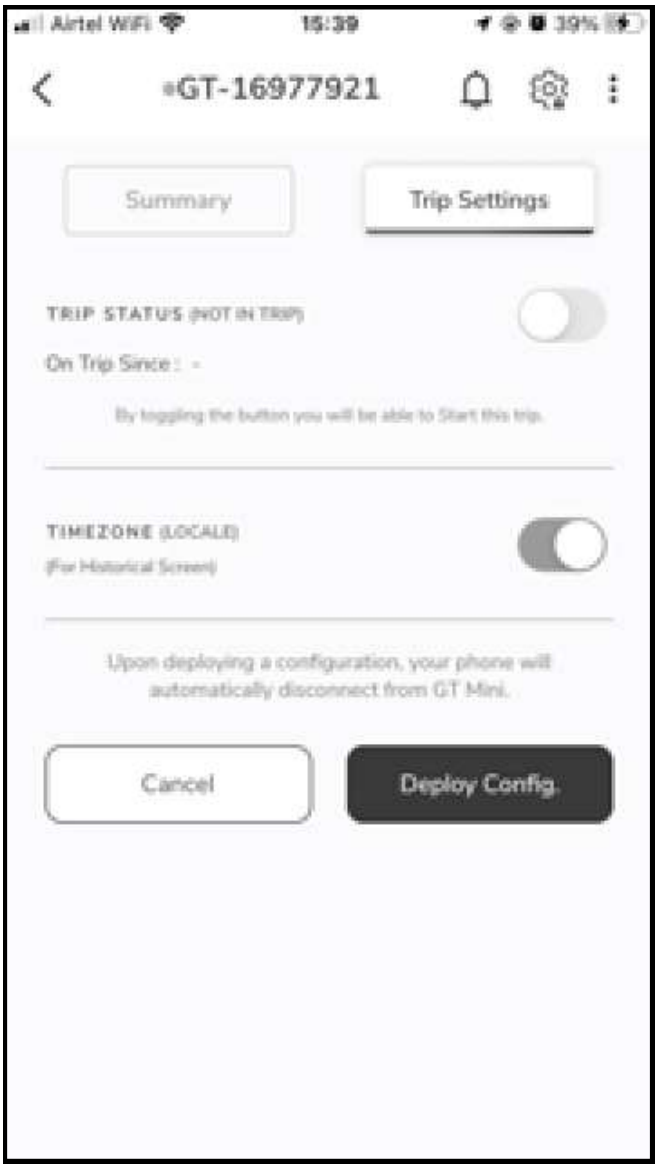
STEP 3

Summary screen will be displayed once you are connected to GT Mini. Tap on the **‘Trip Settings’** section.

STEP 4

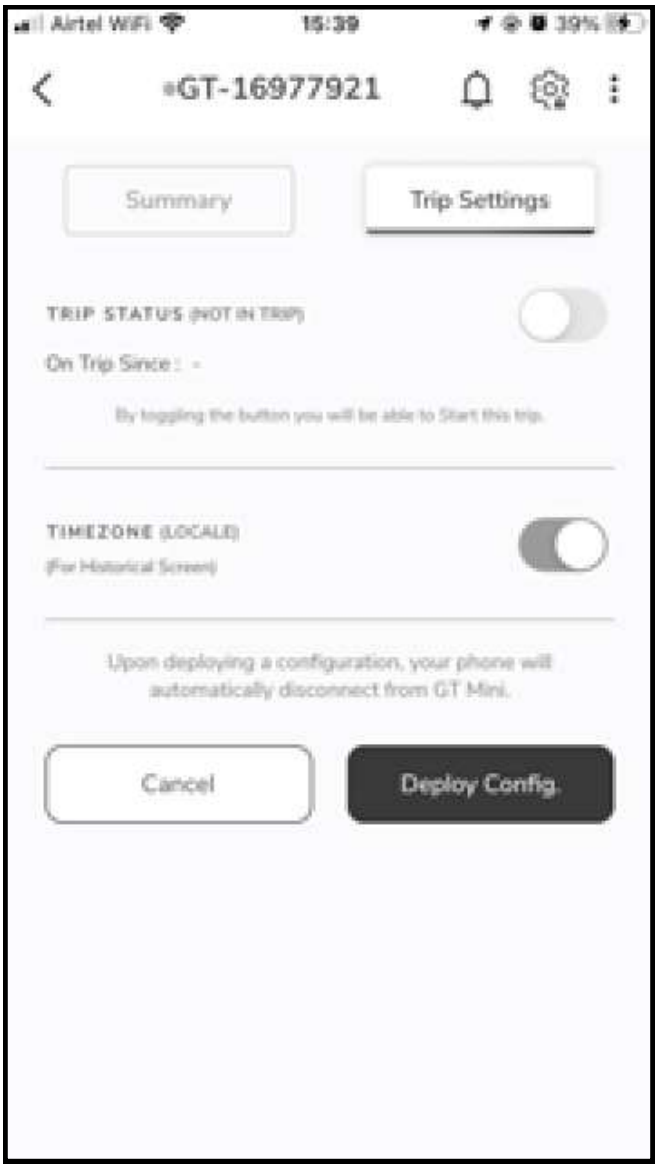
Toggle the slider to change the **‘Trip Status’** to **‘In Trip’**.

On the Trip setting screen, you can manage certain parameters according to your need.



STEP 5

Once you are ready please tap on **‘Deploy Config.’** to confirm your configuration.



STEP 6

After successfully deploying configuration, you can see the ‘Status’ on the summary screen changed to **‘ON TRIP’.** The symbol will appear on the GT Mini screen upon refresh.

Trip Management (Stop Trip)

STEP 1

Tap on the desired GT ID which is available on the Home Screen to connect. If you have not added the GT Mini to favourites, please tap on ‘+' button to scan the QR code and connect.

STEP 2

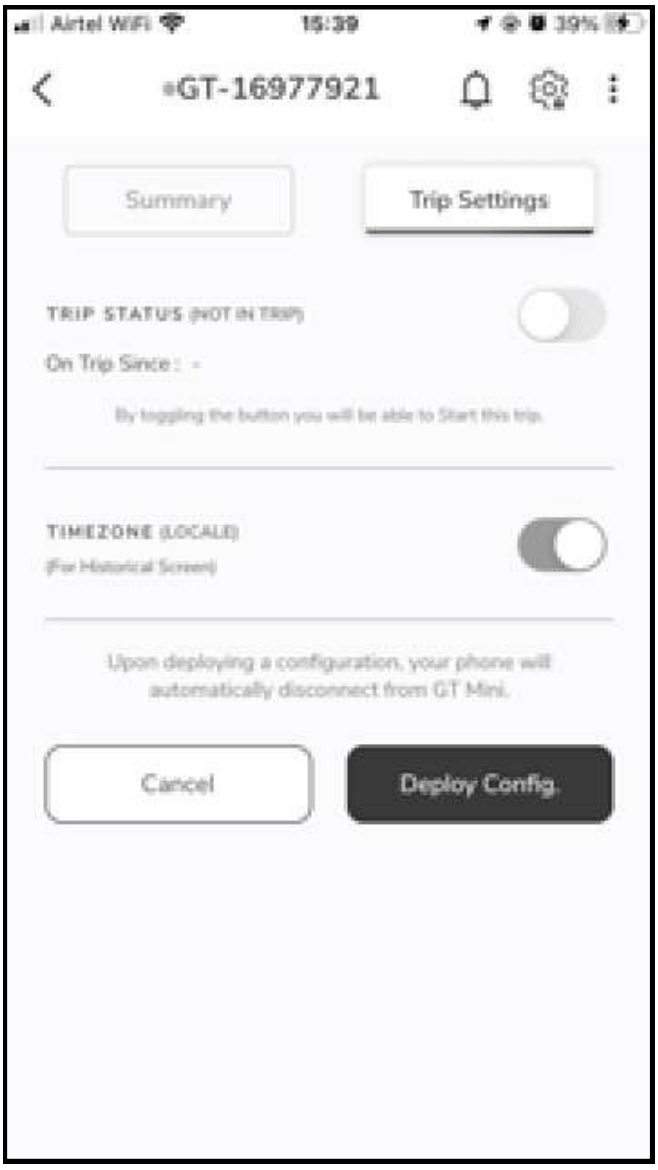
You will be provided two options (View Data and Connect). Please select **‘Connect’** and press the push button on the GT Mini as shown earlier.

STEP 3

Summary screen will be displayed once you are connected to the GT Mini. Tap on the **‘Trip Setting’** section.

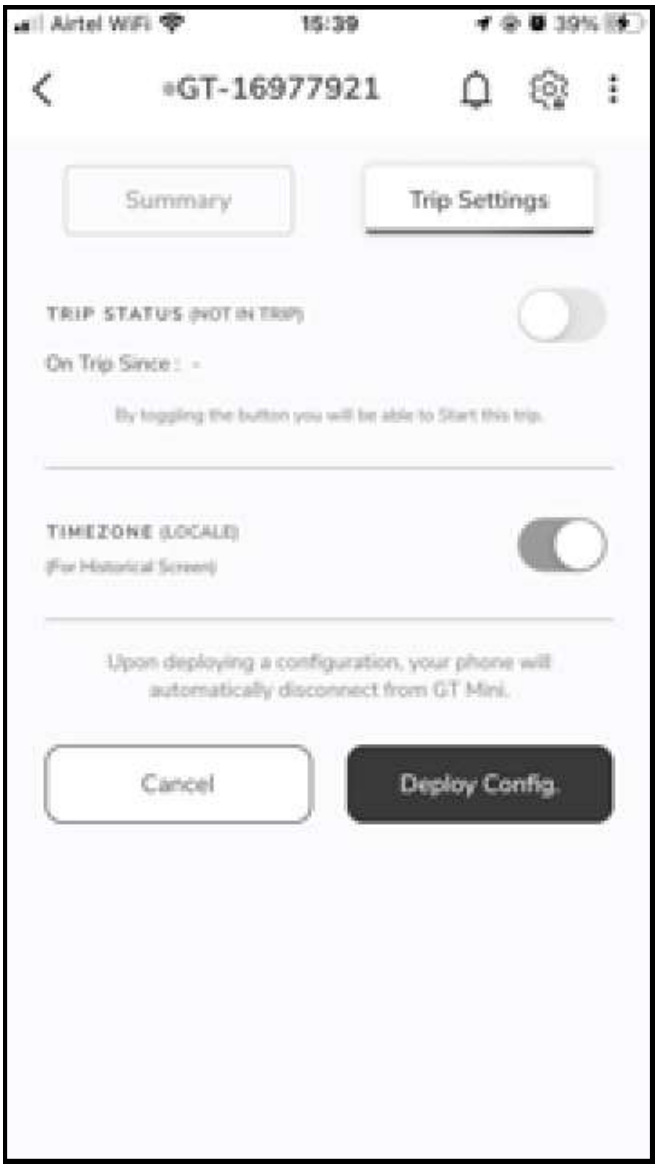
STEP 4

On the configuration screen, toggle the slider to change the **‘Trip Status’.**



STEP 5

Tap on **‘Deploy Config.’** to confirm your configuration.



STEP 6

After successfully deploying configuration, you can see ‘Status’ on the summary screen changed to **‘NOT IN TRIP’.** The symbol indicating ‘On Trip’ will also disappear from the GT Mini Screen upon refresh.

Please note: To export the trip report you must reconnect to the GT Mini and follow the steps in the next section.

Trip Management (Trip Data)

STEP 1

Tap on the desired GT ID which is available on the Home Screen to connect. If you have not added the GT Mini to favourites, please tap on the '+' button to scan QR code and connect.

STEP 2

You will be provided with two options (View Data & Connect). Please select **‘Connect’** and press the push button on the GT Mini as shown earlier.

STEP 3

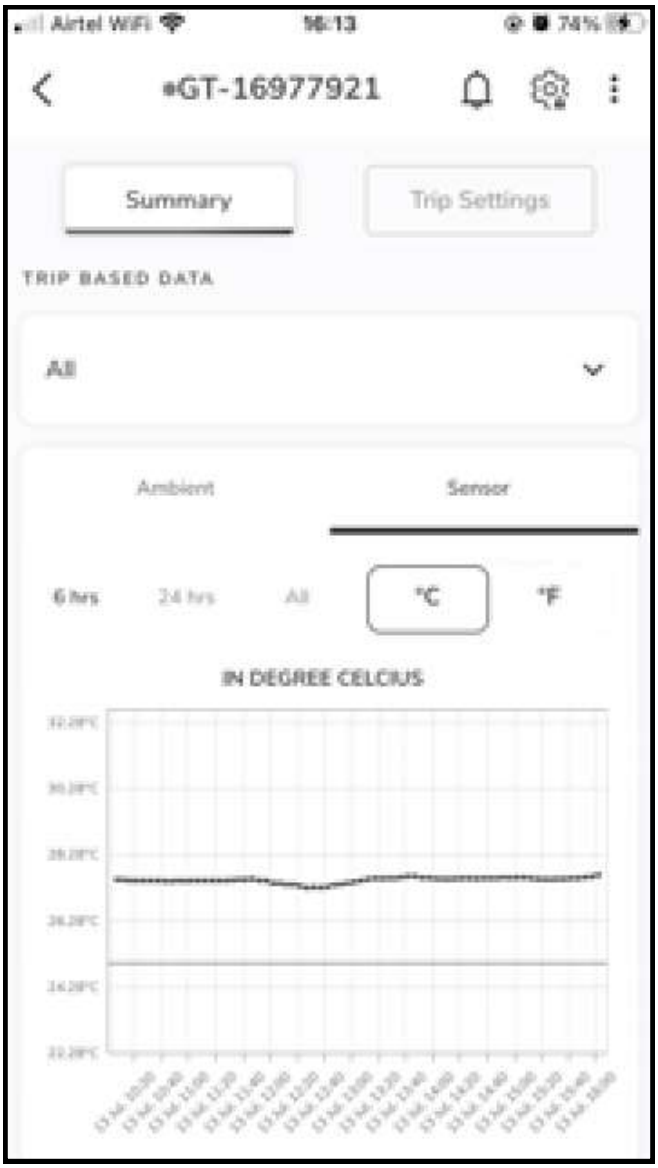
Summary screen will be displayed once you are connected to GT Mini. Scroll down to see **‘Trip Based Data’**.

STEP 4

Tap on the drop down menu to select the trip.

STEP 5

You can view and analyse the data from graphs after selecting the trip from the drop down menu. You can Zoom In / Out on a temperature chart for more detailed visualisation.



Trip Management (Export Data)

STEP 1

Tap on the desired GT ID which is available on the Home Screen to connect. If you have not added the GT Mini to favourites, please tap on ‘+' button to scan the QR code and connect.

STEP 2

You will be provided with two options (View Data & Connect). Please select **‘Connect’** and press the push button on the GT Mini as shown earlier.

STEP 3

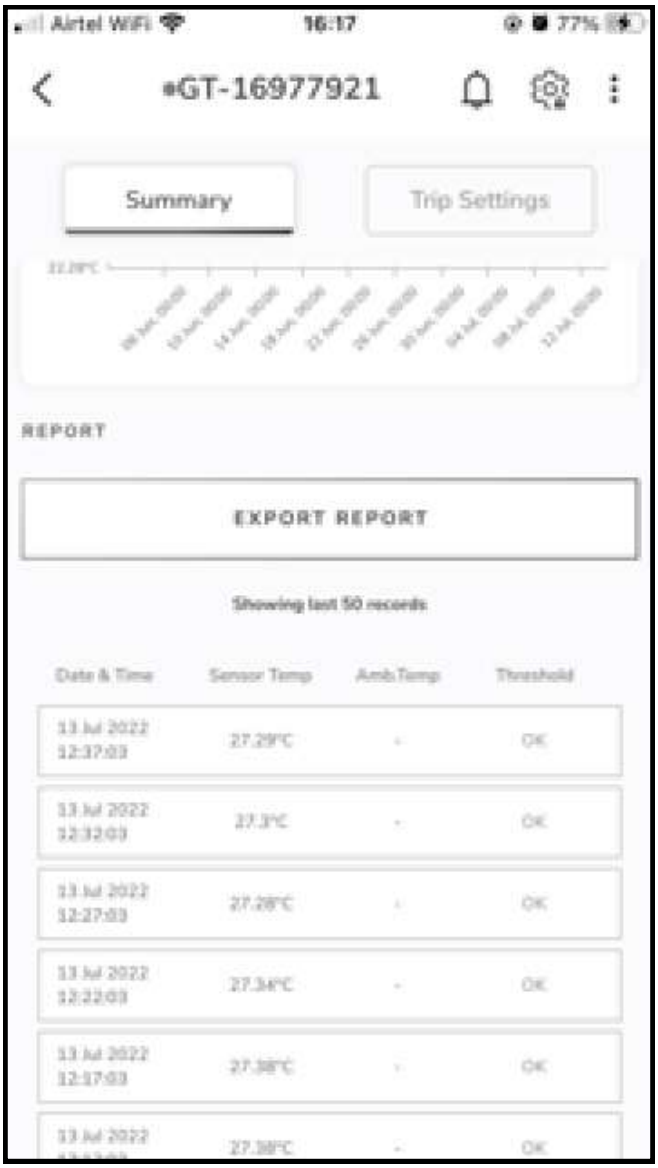
Summary screen will be displayed once you are connected to GT Mini. Scroll down to see **‘Trip Based Data’**.

STEP 4

Tap on the drop down menu to select the trip for which you want to export data.

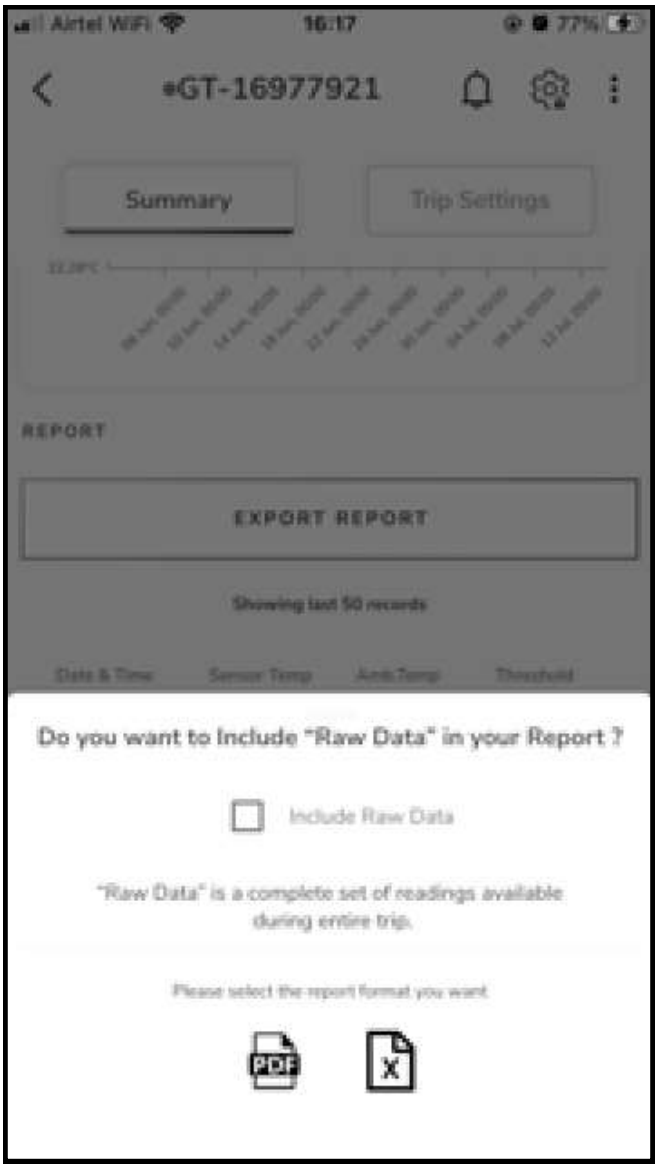
STEP 5

Scroll down to **‘Report’** and tap on **‘Export Report’**



STEP 6

Tap on the desired output format to download the report on your phone. Tap on check box to include “Raw Data” if you want.



STEP 1

Tap on the desired GT ID which is available on the Home Screen to connect. If you have not added GT Mini to favourites, please tap on ‘+' button to scan the QR code and connect.

STEP 2

You will be provided two options. Please select ‘Connect’ and press the button on GT Mini as shown earlier.

STEP 3

Summary screen will be displayed once you are connected to GT Mini. Tap on the **‘Configuration’** icon.

STEP 4

Please enter passkey to access configuration settings.

1234 is hardcoded passkey.

STEP 5

After entering passkey you will be able to see configuration screen. Please change settings according to your requirements and deploy the configuration.

Pairing with another TempSense

STEP 1

Tap on the desired GT ID which is available on the Home Screen to connect. If you have not added GT Mini to favourites, please tap on ‘+' button to scan the QR code and connect.

STEP 2

You will be provided two options. Please select ‘Connect’ and press the button on GT Mini as shown earlier.

STEP 3

Summary screen will be displayed once you are connected to GT Mini. Tap on the **‘Configuration’** icon.

STEP 4

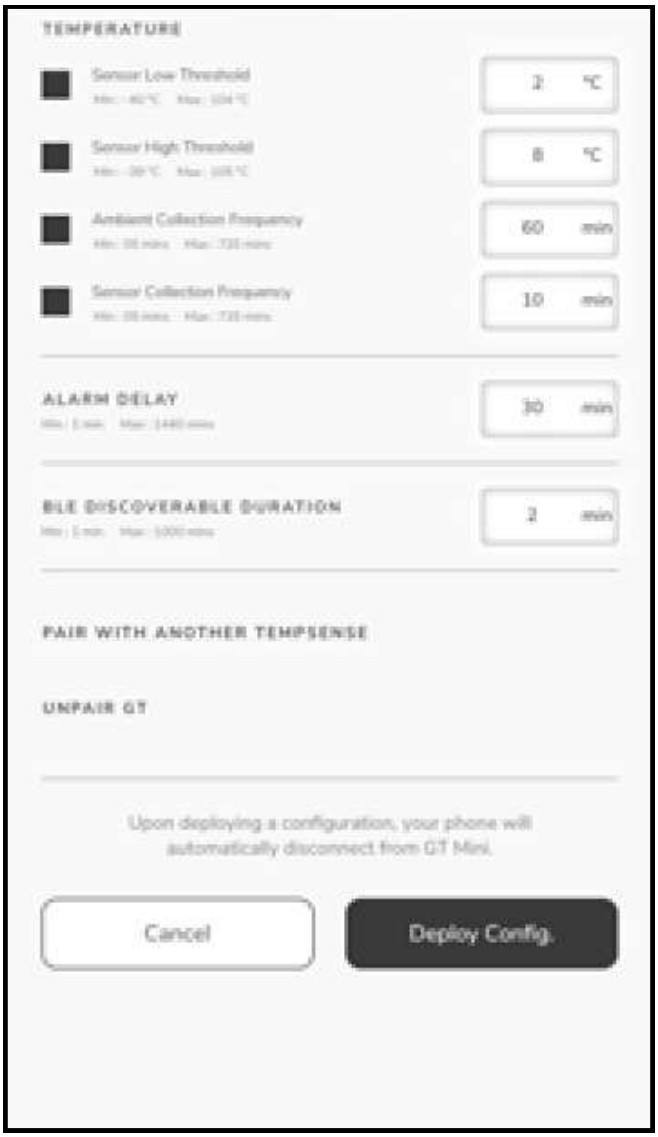
Please enter passkey to access configuration settings.

1234 is hardcoded passkey.

STEP 5

After entering passkey you will be able to see configuration screen.

Click on “ Pair with another Tempsense”.



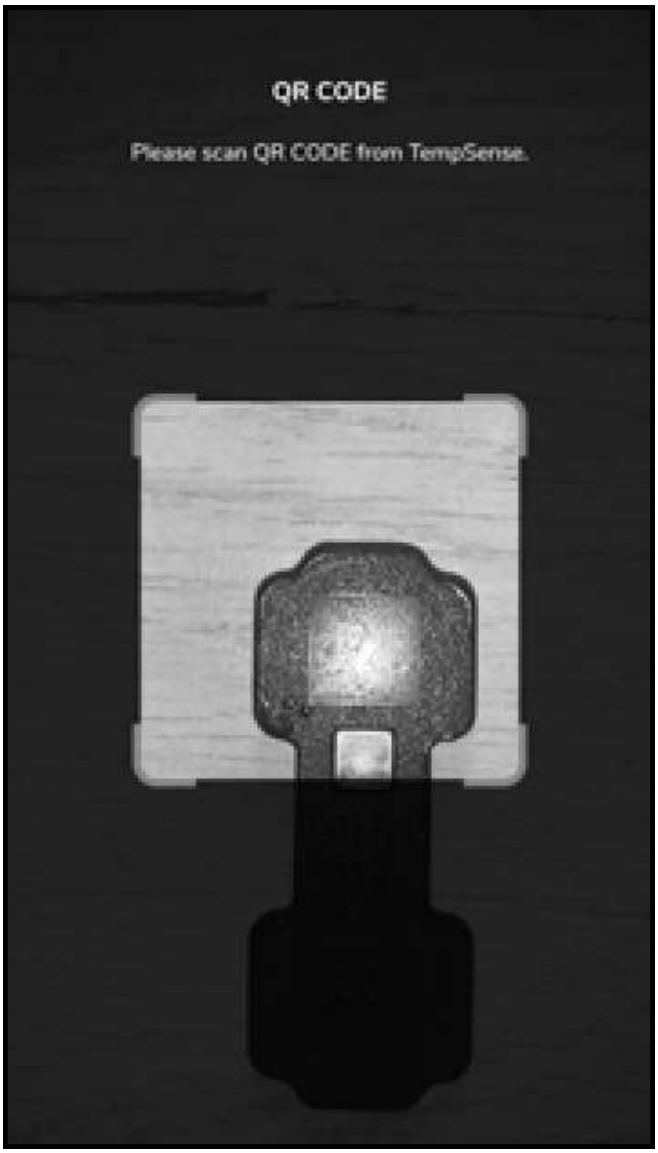
NOTE : The pairing and unpair buttons will only be visible if the GT- Mini that you have connected has firmware version **1.6.1 or above.**

STEP 6

Application will ask your confirmation before pairing. Tap on ‘Yes’ to proceed.

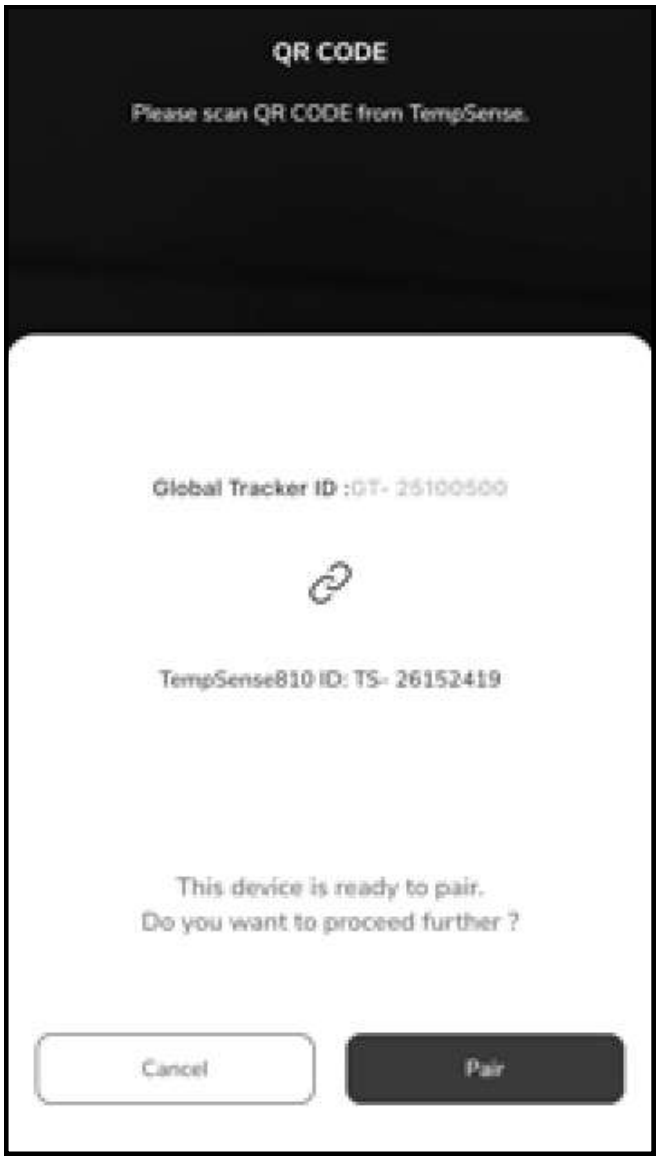
STEP 7

Application will open camera to scan QR Code on TempSense.



STEP 8

Application will scan & show you TempSense ID you wish to pair. tap on “Pair” to proceed further and it will get paired successfully.



Unpair Global Tracker

STEP 1

Tap on the desired GT ID which is available on the Home Screen to connect. If you have not added GT Mini to favourites, please tap on ‘+' button to scan the QR code and connect.

STEP 2

You will be provided two options. Please select ‘Connect’ and press the button on GT Mini as shown earlier.

STEP 3

Summary screen will be displayed once you are connected to GT Mini. Tap on the **‘Configuration’** icon.

STEP 4

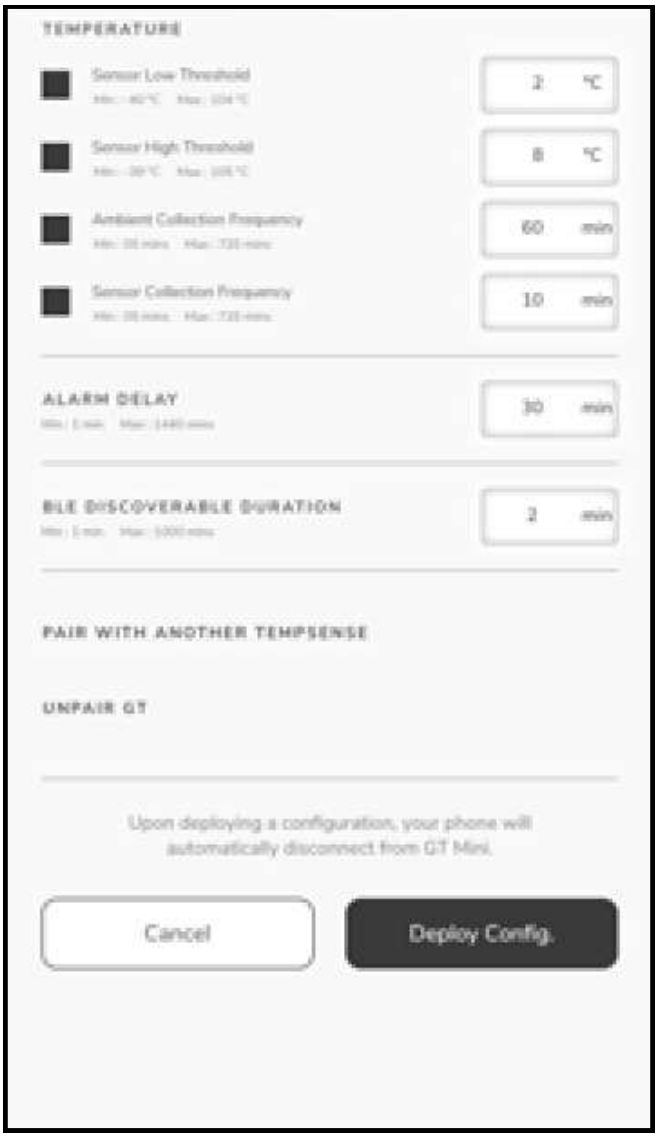
Please enter passkey to access configuration settings.

1234 is hardcoded passkey.

STEP 5

After entering passkey you will be able to see configuration screen.

Click on “ Unpair GT”.



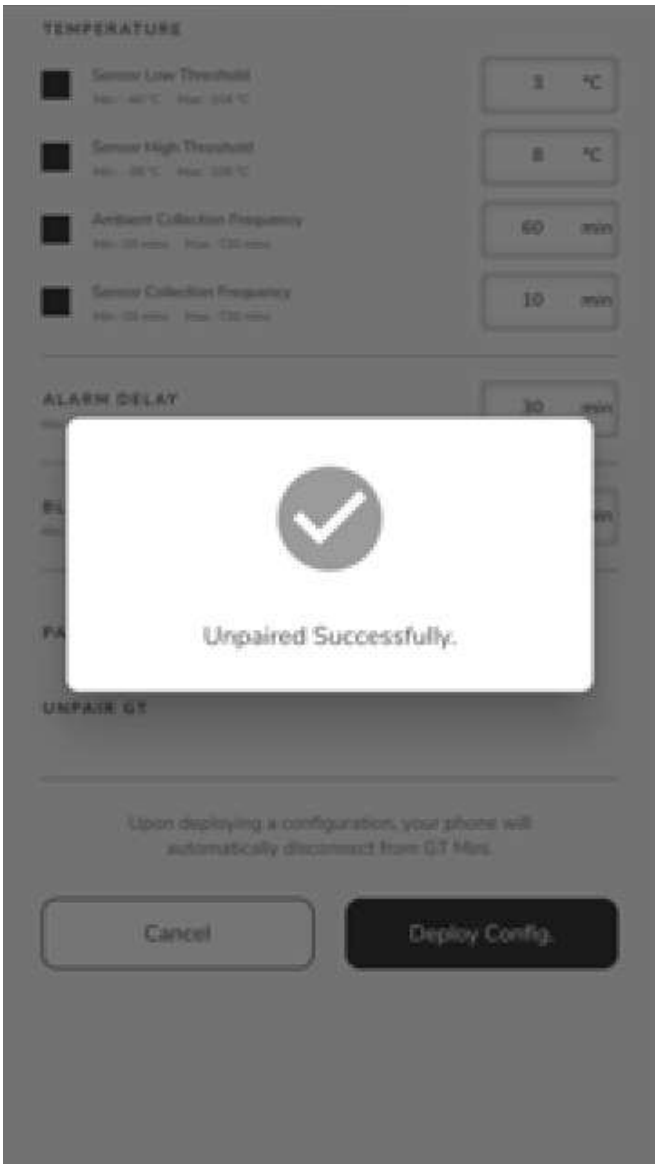
NOTE : The pairing and unpair buttons will only be visible if the GT- Mini that you have connected has firmware version **1.6.1 or above.**

STEP 6

Application will ask your confirmation before unpairing. Tap on ‘Yes’ to proceed.

STEP 6

You will receive confirmation for unpairing GT and application will take you back to home screen.



STEP 1

Tap on the desired GT ID which is available on the Home Screen to connect. If you have not added GT Mini to favourites, please tap on ‘+' button to scan the QR code and connect.

STEP 2

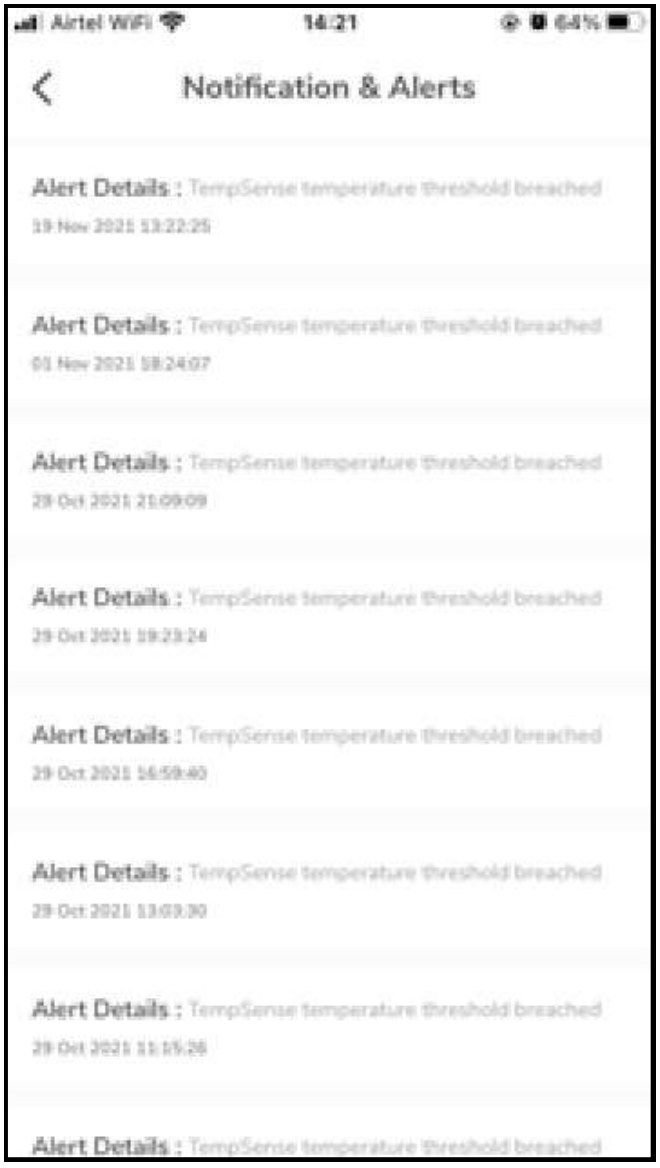
You will be provided two options. Please select ‘Connect’ and press the button on GT Mini as shown earlier.

STEP 3

Summary screen will be displayed once you are connected to GT Mini. Tap on the **bell icon** available at the upper right corner.

STEP 4

You can check all the notifications received for the GT Mini.



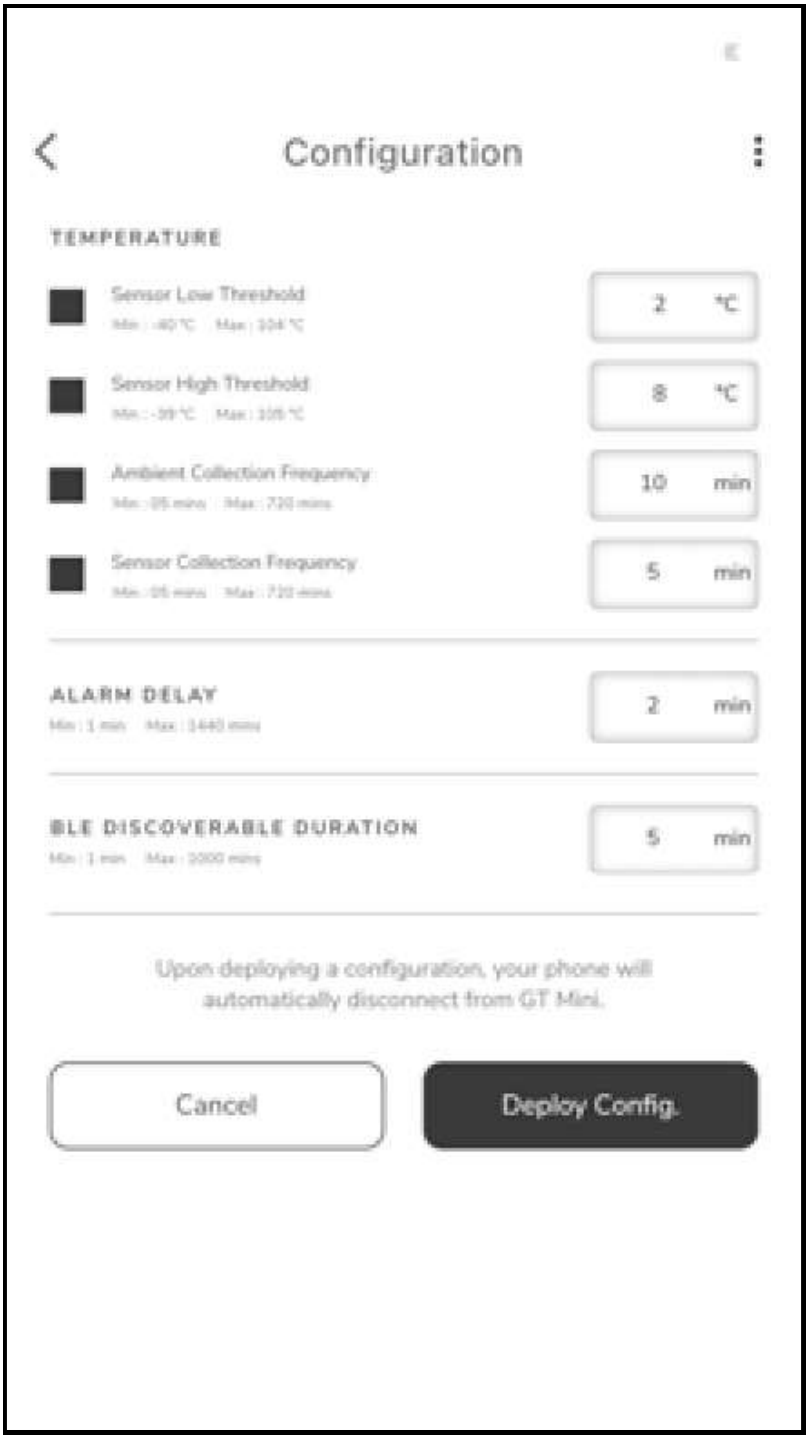
Types of Notifications & Alerts

1. Ambient temperature threshold breach
2. TempSense 810 temperature threshold breach
3. GT Mini battery low
4. TempSense810 battery low

SECTION 3

ADVANCED CONFIGURATIONS
GT MINI

Configuration



Configuration Screen

- **Trip status –** ON / OFF
- **Time zone –** Default is UTC. Turning this on configures the historical data to the time zone as that of the mobile device that has connected with the GT Mini.
- **Sensor low / high thresholds –** The upper and lower limits of the temperature sensor can be configured as per the requirements of the load being transported.

  Min / Max Value for Sensor Threshold : -39 °C to 105 °C
- **Temperature (sensor and ambient) collection frequency —** The frequency of temperature data being collected can be configured as per the customer's requirement.

  Minimum - 4 min Maximum - 720 min
- **Alarm Delay –** The time after a temperature breach at which the buzzer on the GT Mini is triggered (only if on trip) – default is set at 30 minutes.

  Minimum - 1 min Maximum - 1440 min (24 hours)
- **BLE discoverable duration –** The amount of time GT Mini stays in discovery mode for any device to connect to it without having to press the button on the device again.

  Minimum - 1 min Maximum - 1000 min

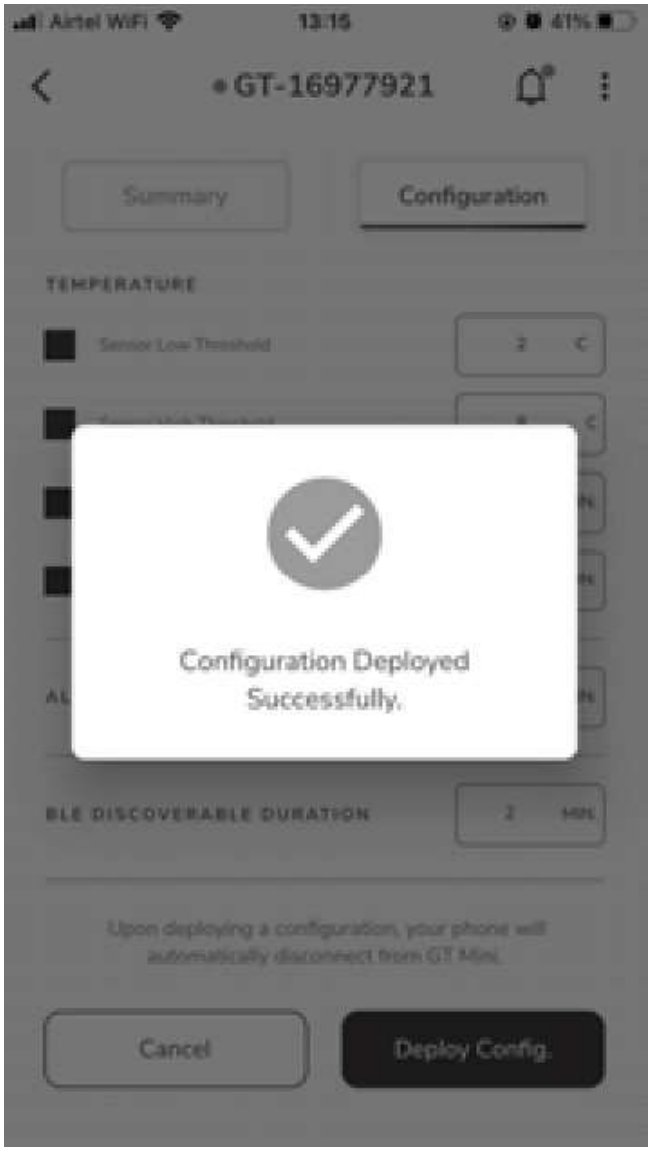
STEP 1

After making your preferred changes to the configurable features, click on the **‘Deploy Config.’** button at the bottom right of the screen.

STEP 2

You will see a confirmation text

‘Configuration Deployed Successfully’.



Important to note

Upon deploying a configuration, your phone will **automatically disconnect** from the GT Mini. To make any new changes to the configurable features you **must reconnect to the GT Mini** as per the instructions given in this manual.

SECTION 4

FREQUENTLY ASKED QUESTIONS

Frequently Asked Questions

01. **Can multiple mobile devices connect to the GT Mini at the same time?**
    No, only one mobile device may be connected to the GT Mini at any given point.

02. **How do I know the MAC ID of the GT Mini and TempSense?**
    By scanning the QR codes on each of devices.

03. **How do I know which TempSense 810 is paired with which GT Mini?**
    The last 4 digits of the MAC ID for both devices should match.

04. **How many days of historical data is available?**
    30 days from the current date.

05. **In what formats are you able to export the data?**
    Reports are available in .pdf and .xls formats.

06. Are the devices and the app CFR Part 11 compliant?

Yes.

07. Is the temperature sensor NIST traceable?

Yes.

08. Why is there an Alarm Delay?

As per WHO requirements, there must be a period of time provided for a temperature breach to “settle” back into the pre-defined thresholds.

DOWNLOAD OUR APPLICATION

Download on the App Store

GET IT ON Google Play

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Website : www.cwdin.com

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Marketed by

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Luxembourg

Contents of this manual are subject to change without prior notice.

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FCC Warning Statement: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. 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.
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.
FCC Radiation Exposure Statement
The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.