FOBO Wheely

User Manual

Version 1.0

(For iOS 13 and Android 8.0 or later)

Contents

1 Introduction

FOBO Wheely is a Tire Pressure Monitoring System (TPMS) for wheelchairs with air filled pneumatic tires, using the latest Bluetooth 5.0 technology that works directly with your smart device using Android 8.0 and iOS 13 or later. With its patented technologies, it provides the following features/functions:

- View on demand tire pressure & temperature
- Monitors tire pressure in real time while using wheelchair or when within Bluetooth range.
- Detects slow or fast leak and alerts users to anomalies.
- Sends instant audio, haptic and text alerts on a smartphone and smart watch.
- Easy to install without running wires, drilling holes, and tedious programming

FOBO Wheely uses Bluetooth 5.0 technology for connectivity to compatible smart phones and smart watches. With low power consumption of Bluetooth 5.0, the sensor is designed to last up to 1 year on a CR1632. **(NOTE: Battery life may vary according to usage and climatic temperature. Operating under extreme cold may drastically reduce battery life).** The TPMS also uses award winning automotive grade pressure sensor that is sensitive to finer pressure change.

Please ensure that your smartphone has Bluetooth Smart Ready (Bluetooth 4.0 or above) capability in order to use FOBO Wheely. Currently FOBO Wheely works best with iOS 13 and Android 8.0 or later.

Before starting to use FOBO Wheely, please download FOBO Wheely App onto your smartphone from Google Play Store or Apple AppStore.

FOBO Wheely is a product designed and produced by Salutica Allied Solutions Sdn. Bhd. (“Salutica”), a Malaysian company with its address at No. 3, Jalan Zarib 6, Kawasan Perindustrian Zarib, 31500 Lahat, Ipoh, Perak, Malaysia.

2 About FOBO Wheely

FOBO Wheely monitors wheelchair tires non-stop around the clock. Most wheelchair users have encountered situations where they stranded by a flat tire. With FOBO Wheely, you will get an alert as soon as the tire pressure drops below a certain pre-set level and as long as your smartphone is within the Bluetooth range (~30m) and App is running in the background. This alert gives you time to get the deflated tire fixed before you need to use your wheelchair.

FOBO Wheely system consists of 2 sensors, and the FOBO Wheely App. It requires a compatible smartphone and the FOBO Wheely App for installation.

Replace your wheelchair tire valve caps with the FOBO Wheely sensors and pair them according to the App's simple on-screen instruction.

The sensors will measure tire pressure of individual tires and transmit via Bluetooth to your smartphone. In the event of a problem with your tire pressure or temperature, the FOBO Wheely App on your smartphone will alert you. FOBO Wheely App offers concurrently monitoring of multiple wheelchairs. You will receive data from the tire pressure sensors for all your wheelchairs through a touch of your finger.

FOBO Caretaker feature allows caretaker to remotely check tire pressure of wheelchair tires to ensure the wheelchair user is protected by properly inflated tires.

DISCLAIMER: FOBO WHEELY IS NOT A DEVICE THAT PREVENTS ACCIDENTS. IT IS ALSO NOT A DEVICE THAT PREVENTS TIRES FROM BECOMING DEFLATED OR OVERINFLATED. FOBO WHEELY IS NOT A SUBSTITUTE FOR SAFE TIRE MAINTENANCE PRACTICES. PLEASE CONTINUE TO TAKE PRECAUTIONARY MEASURES WHILE USING WHEELCHAIR AND TAKE FULL RESPONSIBILITY OF YOUR WHEELCHAIR'S TIRE CONDITION TO ENSURE SAFETY WHILE USING THE WHEELCHAIR. YOU SHOULD CONTINUE TO PRACTICE PROPER TIRE CARE AND SCHEDULED TIRE MAINTENANCE.

3 Importance of Tire Care

It is extremely important to ensure wheelchair tires are properly inflated for safety while using a wheelchair. However, many users tend to neglect proper tire care and maintenance. The wheelchair tires are the only contact points between the wheelchair and the road. The weight of the wheelchair and user are supported by the air pressure inside the tires.

Proper air pressure in a tire helps to distribute the weight of wheelchair and user evenly across the tires tread pattern, so the tire (and the wheelchair) is at its most stable and agile. When a tire is under-inflated or over-inflated, it loses rigidness, negatively affecting handling, cornering, and stopping. Eventually the tire will also start to wear unevenly. Under-inflated tires tend to show wear on the outside edges of the tread, while over-inflated tires show wear down the middle of the tread.

What is the optimum tire pressure? There are a lot of information about this subject in internet forums and web articles. A quick guide for better understanding of tire pressure below:-

1) Wheelchair manufacturers recommend the optimum tire pressure for their wheelchair models. These recommended pressures usually meant for comfort riding and optimum performance of the wheelchair. It is not advisable to go below the recommended pressure level. To know how much pressure, you'll have to give to your tires, the pressure is normally printed somewhere on the wheel itself.

2) The recommended tire pressure is “cold pressure”. When you ride your wheelchair, the friction on the road will heat up your tires within a few minutes. Typically, there will 1 psi (~7kPa) increase in air pressure for every 10 deg F (5.6 deg C) rise in temperature, and vice versa for decrease in air pressure. It is advisable to inflate the tire pressure with this compensated pressure above the recommended pressure.

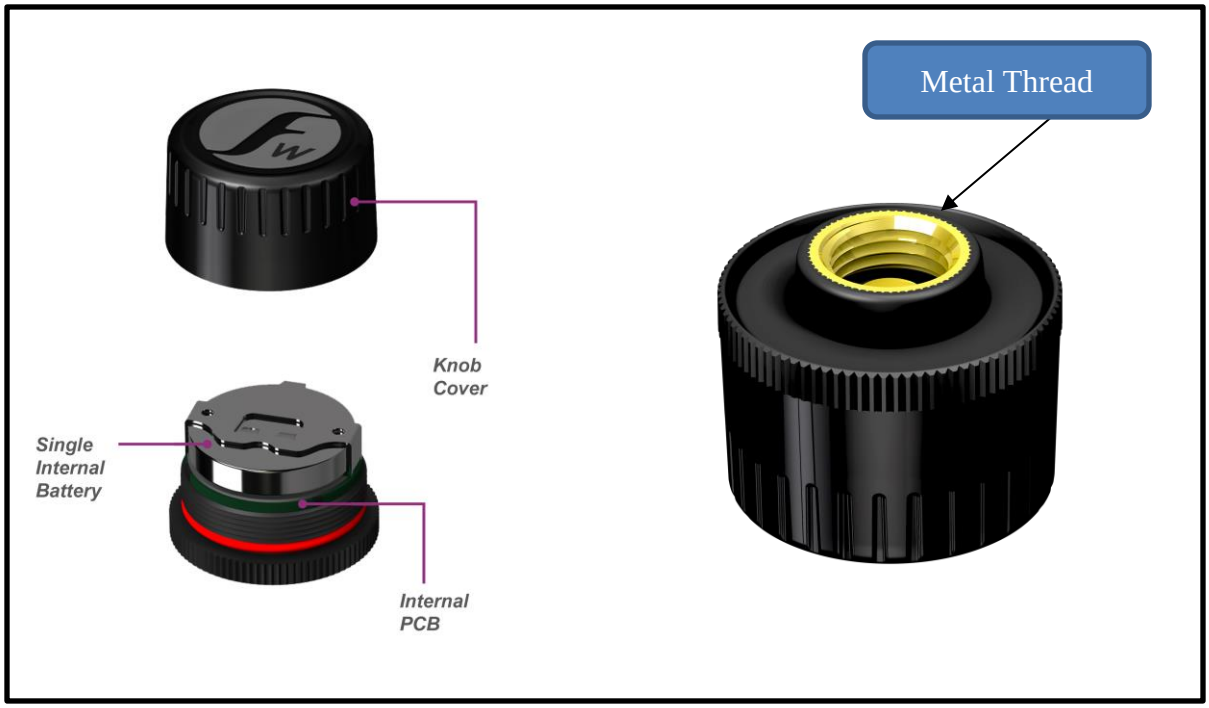
3) Air pressure in tires is affected by changes in temperature. Check and adjust your tire pressure whenever there is a drastic change in environment temperature, e.g. change of seasons.

4) A tire will normally lose its pressure through natural causes unless accelerated by a puncture, faulty valve or damaged wheels. It is advisable to change the tire valves or at least check the valves condition every time you change a new set of tires. Under normal condition, a set of tires could deflate at a rate of up to 2 psi per month. It is good practice to check your tire pressure regularly and top up to the optimum pressure.

5) Every wheelchair tire has a maximum inflation pressure. It is not advisable to inflate to the maximum inflation pressure of the tire. Follow the wheelchair manufacturer’s recommended tire pressure instead.

4 Product Description of FOBO Wheely

4.1 Tire Sensor Unit



Knob cover - Waterproof cover. Please ensure the red silicon ring is intact to prevent water from getting into electronics compartment.

Single internal battery - CR1632 coin cell battery. When replacing battery, please ensure the "+" sign of the battery is facing up, away from PCB.

Internal PCB - Internal electronics circuit (The pressure sensor chip is mounted within this PCBA, and it senses the tire pressure against a built-in vacuum, resulting in an Absolute Pressure reading. The internal firmware will then subtract the sea-level pressure of 101.3 Kpa (14.7 psi) from this reading. This final reading which will be shown in the app can be termed as i) Tire **Absolute Pressure minus sea level pressure**, or ii) Gage Pressure reference to sea-level altitude. With this formulation, FOBO Wheely sensor will read the same pressure value for any given time, irrespective of altitude (assuming a constant temperature).

As a corollary, a tire with a Fobo reading of, say 40 psi at an altitude of 5000ft, will read the same 40 psi when get to sea-level, given a constant temperature. In reality, it will read higher due to the warmer temperature at sea-level, and may need some air release if the temperature difference is great. Tire pressure generally will increase 1 psi (~7kPa) for every 10 deg F (5.6 deg C) rise in temperature.

Fobo wishes to highlight the above formulation is for usage at sea-level and above, and will not be accurate for use otherwise. In practice, this should not be an issue as the lowest area on earth will result in an insignificant error of 0.3 psi (~2 Kpa).

FOBO Wheely sensor units are designed to be robust and operate reliably 24x7 to provide tire information around the clock. It is designed to be water proof (IP57) and by our special use of custom engineering plastics.

Our designers have designed the sensors to ensure that there is no air leakage as it replaces the tire's original valve cap. There is no need to screw on the sensor extremely tight. Apply a reasonable hand twist force to ensure the sensor is securely installed and should be able to be removed by hand with ease.

Note that the sensor position is fixed during installation. When installing the sensors, please follow the on-screen prompt of the FOBO Wheely App. Do not screw on the tire sensors until instructed by the FOBO Wheely App.

A missing or damaged sensor can be replaced easily, through the FOBO Wheely App. You will need to purchase a replacement sensor which you can do so online at www.my-fobo.com.

NOTE: Battery life span up to 1 year is an estimate based on normal use at 23 °C. Battery life may vary according to usage and climatic temperature.

Battery life span will change due to the following reasons:

1) Frequent change of pressure threshold setting in the App.
2) Disabling & enabling of sensors.
3) Release & pairing.
4) Removal & screw-on of sensors.
5) Operating under extreme cold/hot temperature.
6) Testing of product.
7) Rotation.
8) Trigger alert or let activated alerts unattended.
9) Multiple removal and screw-on of sensors for equalizing all tire pressures.

All these activities will drain a battery very fast and affect the battery life span.

4.2 Sensor Lock nuts and wrench

FOBO Wheely sensors are tied to a FOBO account after installation. They are not re-usable or transferable without the owner consent. This is a theft deterrent feature to discourage theft.

As an additional anti-theft feature, all FOBO Wheely package comes with lock-nuts and a special wrench. FOBO Wheely sensor functionality is not affected if you do not use the lock-nuts. The lock nuts and wrench are made of custom engineering.

In order to use the lock nuts, you must first install the lock nut to the tire valve (with the bump facing tire rim). Screw in the lock nut all the way down and ensure that there is still a **minimum of 5 thread count** on the tire valve for the sensor unit to be screwed on. If there is insufficient thread for the tire sensor, it may lead to air leakage. A solution for this would be to change the tire valve to one with a longer thread. Next, screw in the tire sensor unit until it is reasonably tight. Then use your finger to unscrew the lock nut outwards (i.e., anti-clockwise) until it pushes against the bottom of the sensor unit. Use the wrench to tighten the lock nut. The resultant friction force will make it difficult to remove the sensor unit without loosening the lock nut. Hold the valve stem with one hand and tighten the lock nut with the wrench on another hand. This is to avoid the valve from twisting making it unable to tighten the lock nut.

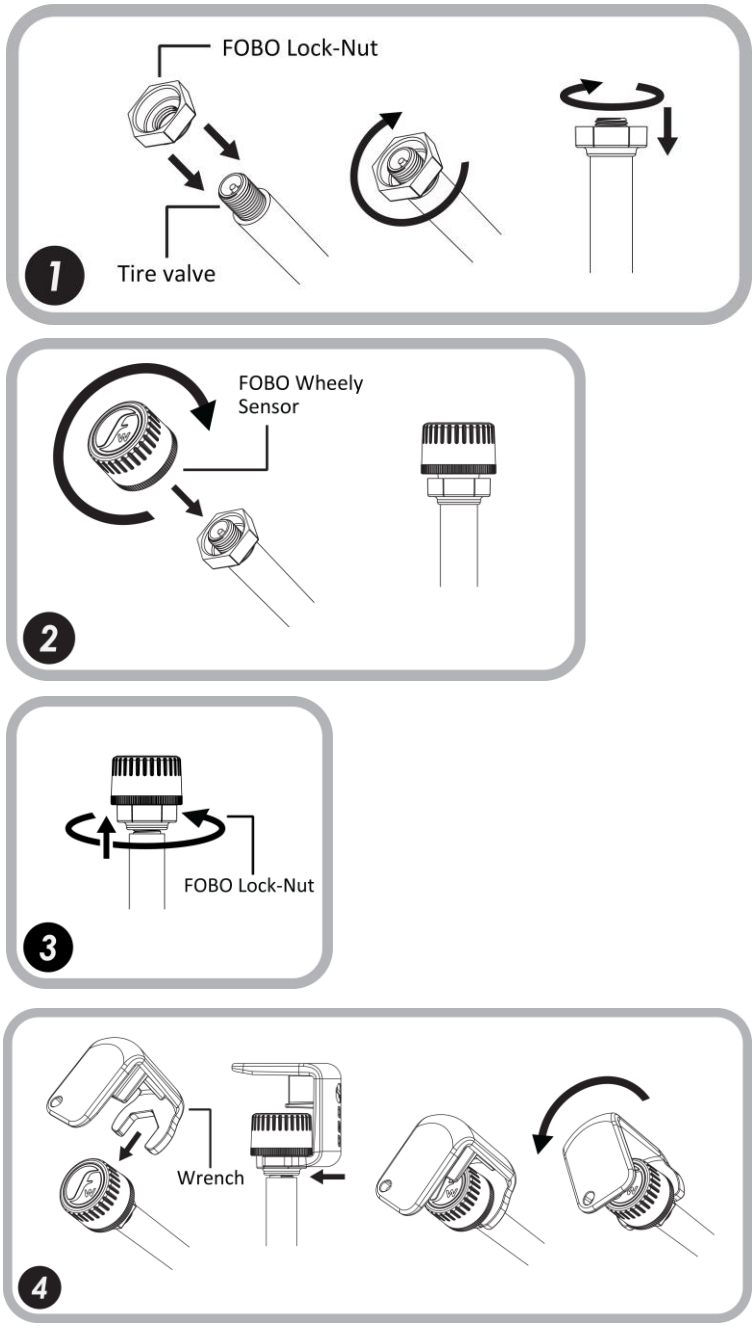
WARNING: Do not apply too much force to tighten the lock-nut. You may face difficulty to loosen the lock nut.

NOTE: If your tire valve is too short, you shouldn't use the lock nut as this will block the sensors from being completely screwed on the tire valve and causes air leak. Our sensors are designed to work on a tire valve with a minimum of 5 thread counts.

Use the key chain provided to keep the wrench together with your keys, so that you don't have to worry about misplaced wrench when you need to remove the sensors when refilling air to your tires.

It is recommended to apply some soap water (on the tire valve installed with FOBO Wheely sensor) after installing a sensor in order to check for any leakage.

Step by step diagram to use FOBO Wheely Lock-Nut and wrench



5 Using FOBO Wheely

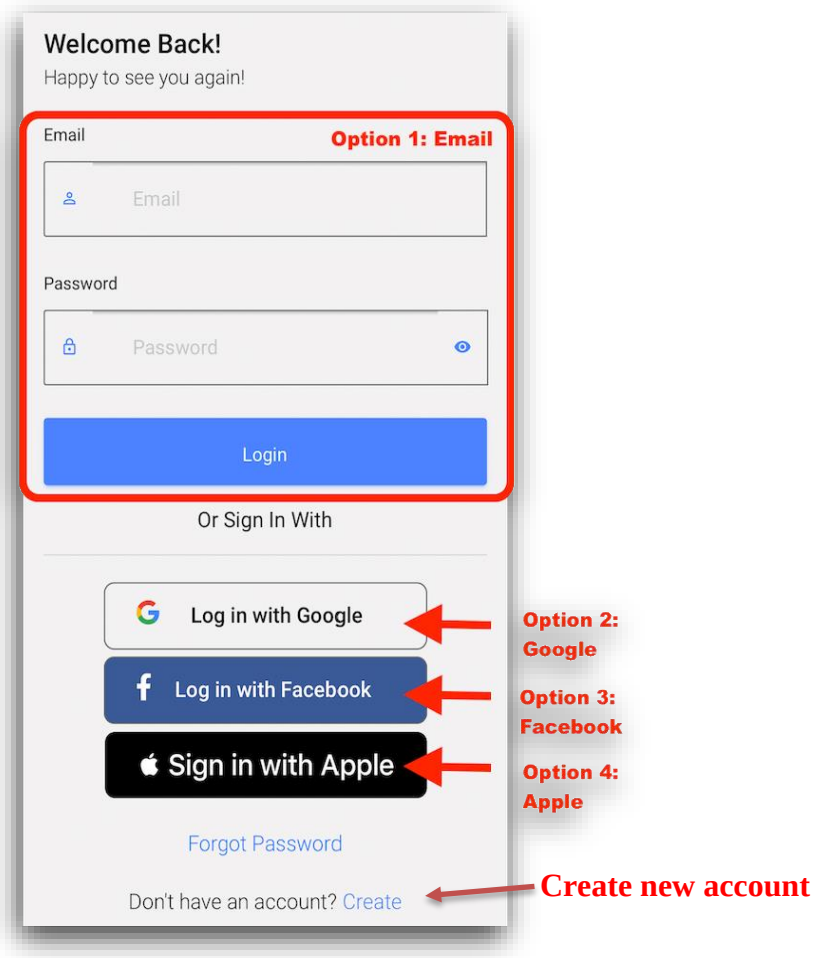
5.1 Installing FOBO Wheely App

You are required to have a smartphone with Bluetooth 4.0 (Bluetooth Smart) capability in order to use FOBO Wheely product. The smartphone also must be running on iOS 13 and Android 8.0 or later. Follow the steps below to install FOBO Wheely:-

Step 1: Download "FOBO Wheely" App onto your smartphone

- For iPhone users, download from Apple's AppStore. For Android users, download from Google Play store. Search for "FOBO Wheely".

Step 2: Launch FOBO Wheely App and sign in using your email address or social media accounts.



Note:

- Please remember the password you entered while creating an account. You can click on "Forgot password" option on sign in page to get instructions on how to reset password.
- If you do not receive any email (to reset password) from FOBO Admin after 15 minutes (with a good internet connection), please write in to fobo@salutica.com.my. FOBO representative will be in touch with you to solve the issue.

By submitting your information to sign up as a new user account, you acknowledge your acceptance to the terms and conditions of our Software Licensing Agreement and Privacy Policy.

IMPORTANT:

FOBO Wheely sensors are locked to your FOBO account as an anti-theft deterrent. Stolen sensors cannot be used by anyone else other than the FOBO account owner. Allow all the permissions when requested by the App, such as;

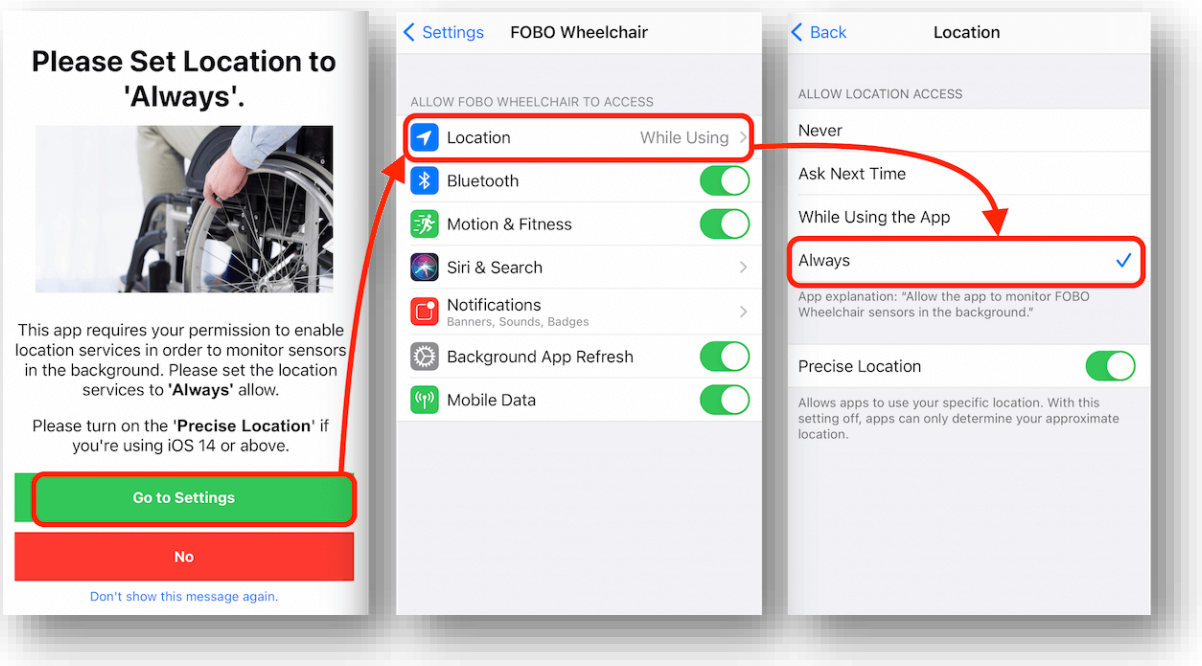
Bluetooth Permission – This permission is required to let the App to monitor the sensor in the background.

Notification Permission – This permission is required to let the App receive and display notifications.

Camera Permission – This permission is required to let the App take a photo (or access your device photo gallery) and replaced the default wheelchair photo with your own personalized profile image.

Motion & Fitness Activity Permission – This permission is required to let the App detect if your wheelchair is moving (via your device gyroscope and accelerometer).

Location Permission – This permission is required to let the App determine its proximity to the sensor when the app is in the background or is terminated. This permission will also be used in an event when you want to share your profile to caretaker and let the caretaker tracks your location. You need manually set the permission to 'Always' from the app Settings as shown above.



5.2 Installing FOBO Wheely sensors

NOTE:

Do not install the sensors to the wheelchair tire valves until prompted by the FOBO Wheely App's on-screen instruction.

To minimize the risk of potential electrostatic discharge (ESD) attack, please hold the tire rim when screwing the sensors on to the tire valves. ESD may cause damage to the sensor or impair its function.

Installing FOBO Wheely sensors on more than one wheelchair which are closely parked may cause cross interference to the Bluetooth signals. Please install FOBO Wheely on one wheelchair at a time.

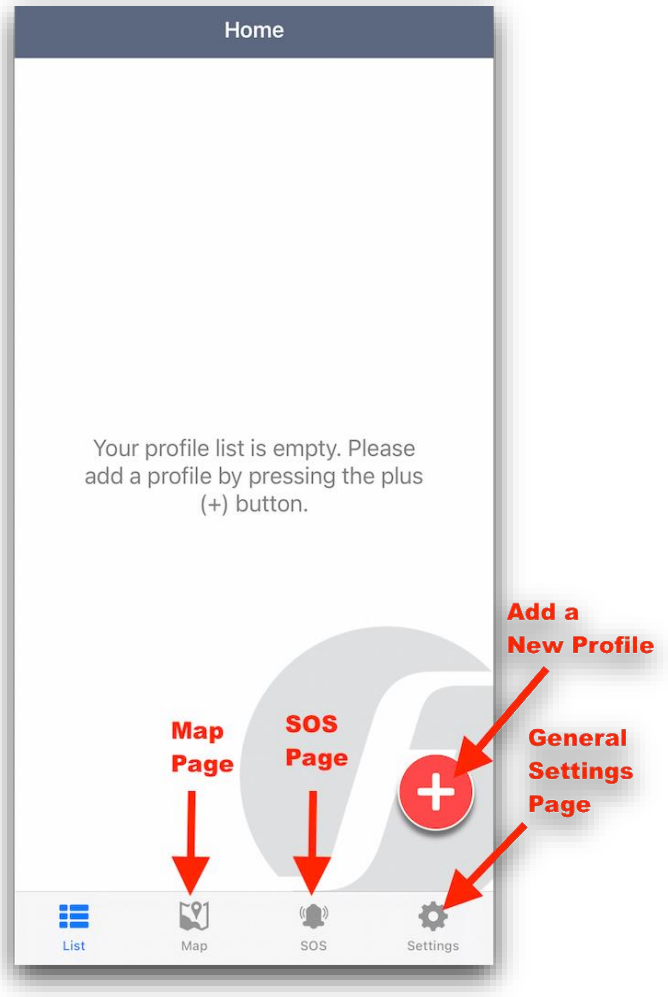
WARNING!

Please ensure sufficient clearance between installed FOBO Wheely sensor and any part of the wheelchair. There is a risk of damage to the sensor or ripping off valve from the rim or sudden air leak if clearance is insufficient; the valve may deflect under strenuous vibration. Do check the valve is not degraded and valve condition is good.

To begin using FOBO Wheely, firstly ensure that the FOBO Wheely App is downloaded and you have already login to the App (see section 5.1 above for installation and login).

Follow the steps below to pair FOBO Wheely sensors to your smartphone: -

1) Turn on your smartphone's Bluetooth and internet connection.
2) Open FOBO Wheely App.
3) Allow all the permissions when prompted by the App.
4) Click on Add button "+" to create new wheelchair profile.



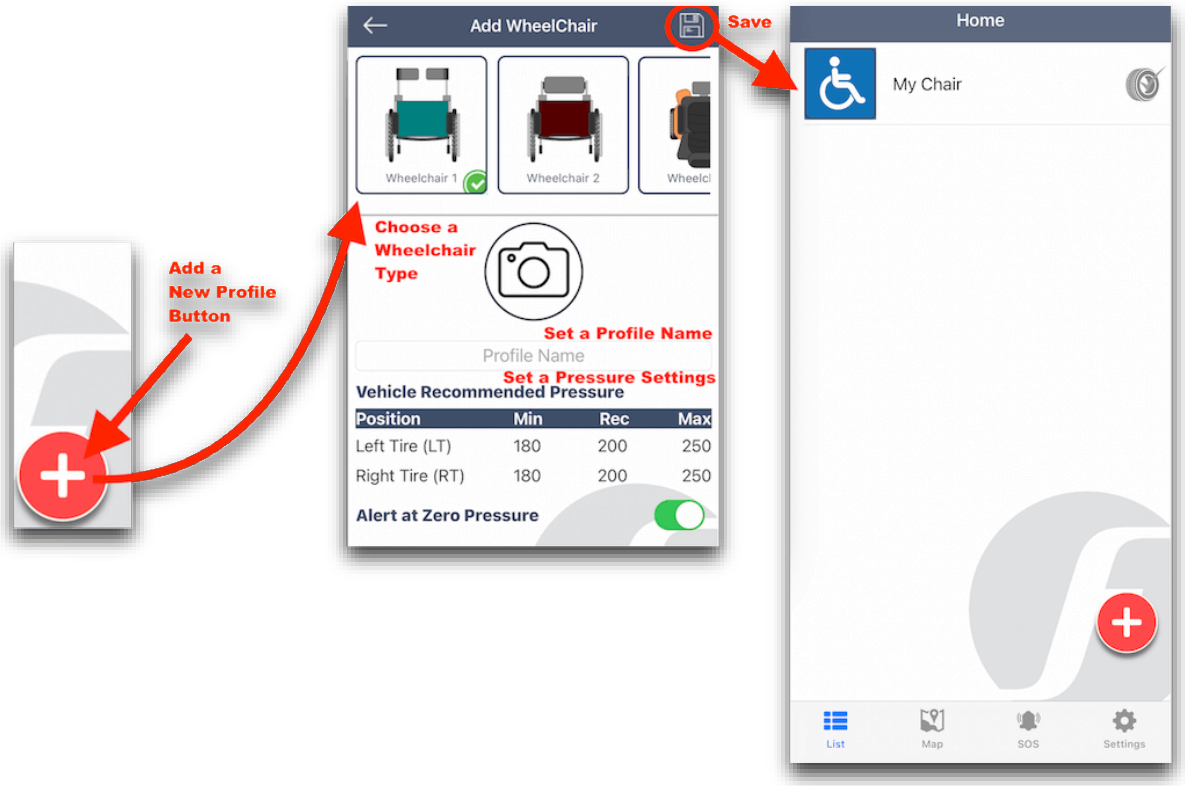
Add New Profile – Pressing the '+' button will allow you to add a profile by bringing you to the profile setup page.

Settings Page – This tab button will open the General Settings page.

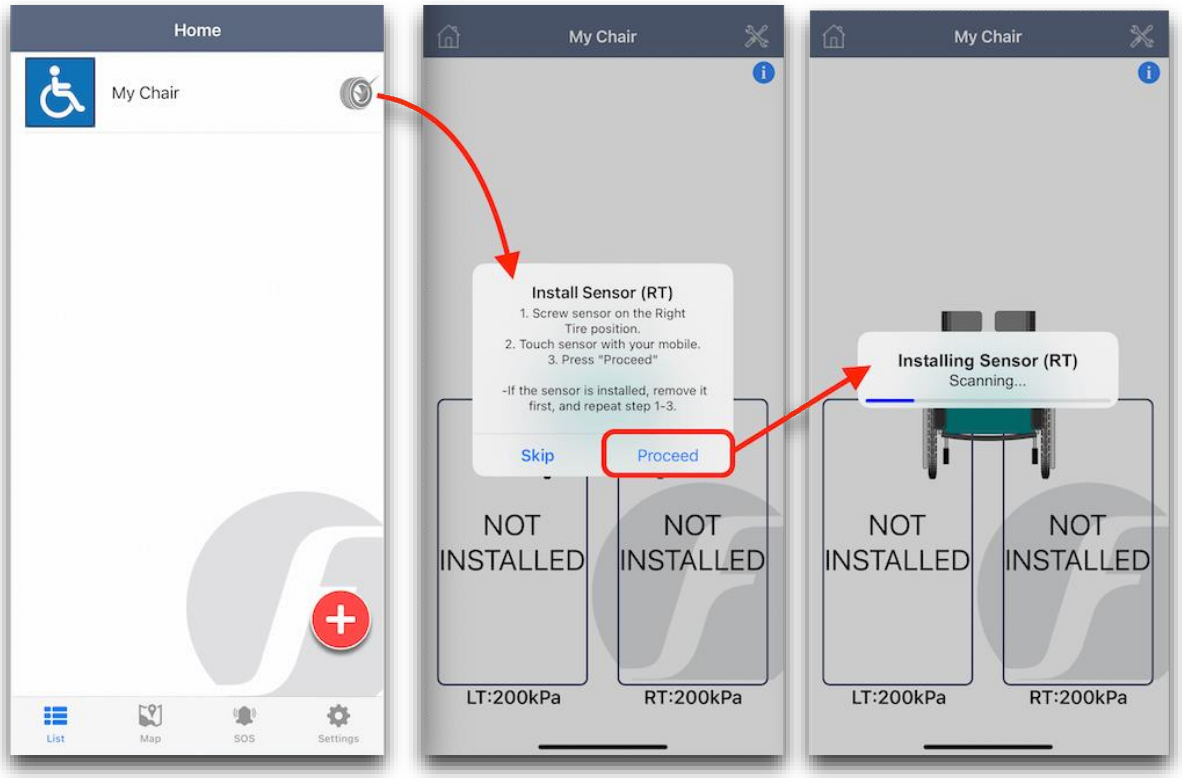
SOS Page – Pressing this tab button will open the SOS page which will allow you to send SOS (provided you have a profile and the profile is shared with a caretaker).

Map Page – Pressing this tab button will open the map page which will show your own wheelchair location and other wheelchair users' location on the map.

5) Choose wheelchair profile, tap on the profile picture box and take a picture of your wheelchair (Optional) or choose from the Gallery, key in the name you would like to identify your wheelchair, set pressure settings and hit save. **The wheelchair type setting is permanent and cannot be changed after the profile is saved.**



6) Click on the newly created wheelchair profile, you will be prompted to install sensor. Follow the instruction on the screen. Screw FOBO Wheely sensor on to tire valve only when you are prompted. Make sure your smartphone is nearby or touching the sensor to detect signal from the sensor unit. If you had screwed in the sensor before instructed by the App, remove the sensor completely and screw it back in again. Keep other sensors far while installing a sensor on tire valve.


Home
My Chair
List
Map
SOS
Settings
My Chair
Install Sensor (RT)
1. Screw sensor on the Right Tire position.
2. Touch sensor with your mobile.
3. Press "Proceed"
-If the sensor is installed, remove it first, and repeat step 1-3.
Skip
Proceed
NOT INSTALLED
NOT INSTALLED
LT:200kPa
RT:200kPa
My Chair
Installing Sensor (RT)
Scanning...
NOT INSTALLED
NOT INSTALLED
LT:200kPa
RT:200kPa

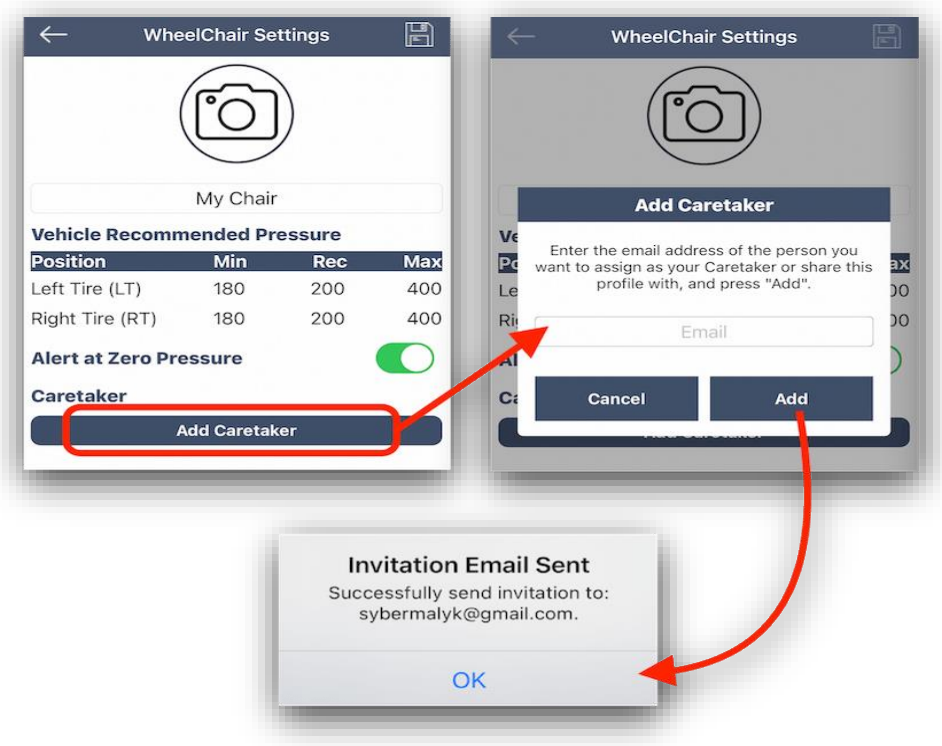

Turning the TPMS unit clockwise / counterclockwise to attach / detach it from the tire valve
Tire Valve

5.3 Setting up Caretaker

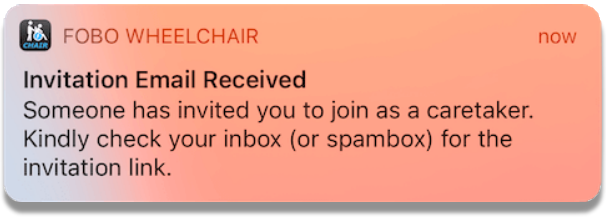
FOBO Wheely data is easy to share with your caretaker. You can perform this by using the App's **"Add caretaker"** function. All required is that caretaker must download the FOBO Wheely App (they will also need an iOS/Android smartphone with Bluetooth 4.0 that is running on iOS 13 and Android 8.0 or later) on their smartphone and activate the account.

Follow the below steps to add caretaker:

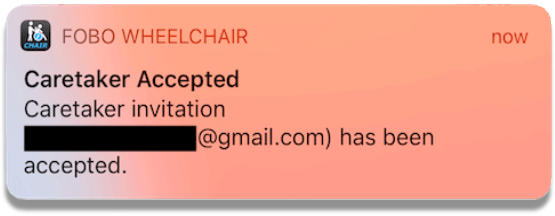
1. Ensure that the caretaker to be added has downloaded the FOBO Wheely App and activated the account.
2. Ensure that the caretaker's smartphone has Bluetooth and internet connection turned on.
3. On your wheelchair status screen, click on the settings icon, click on "Add Caretaker" button.



Caretaker notification



Wheelchair user notification



4. After clicking on the link, shared profile will appear on caretaker smartphone under FOBO Wheely App. Caretaker would be able to receive all the data from shared FOBO Wheely sensors.

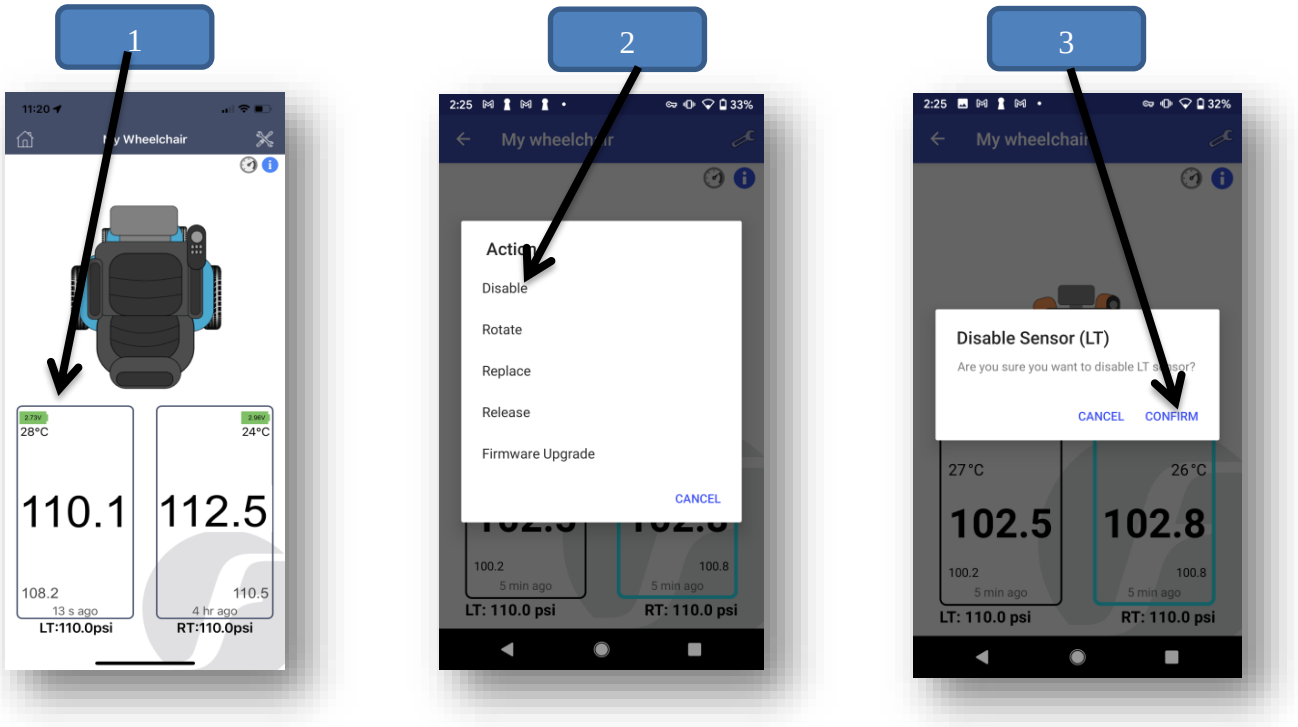
NOTE: Please ensure good internet connection for FOBO Wheely App to connect to the FOBO cloud server.

5.4 Disable, Release, Replace and Rotate sensor

You may want to disable a sensor in the App due to physically missing sensor or damaged sensor. Disabling and releasing the missing or damaged sensor in the App will stop monitoring the sensor.

To disable a sensor: -

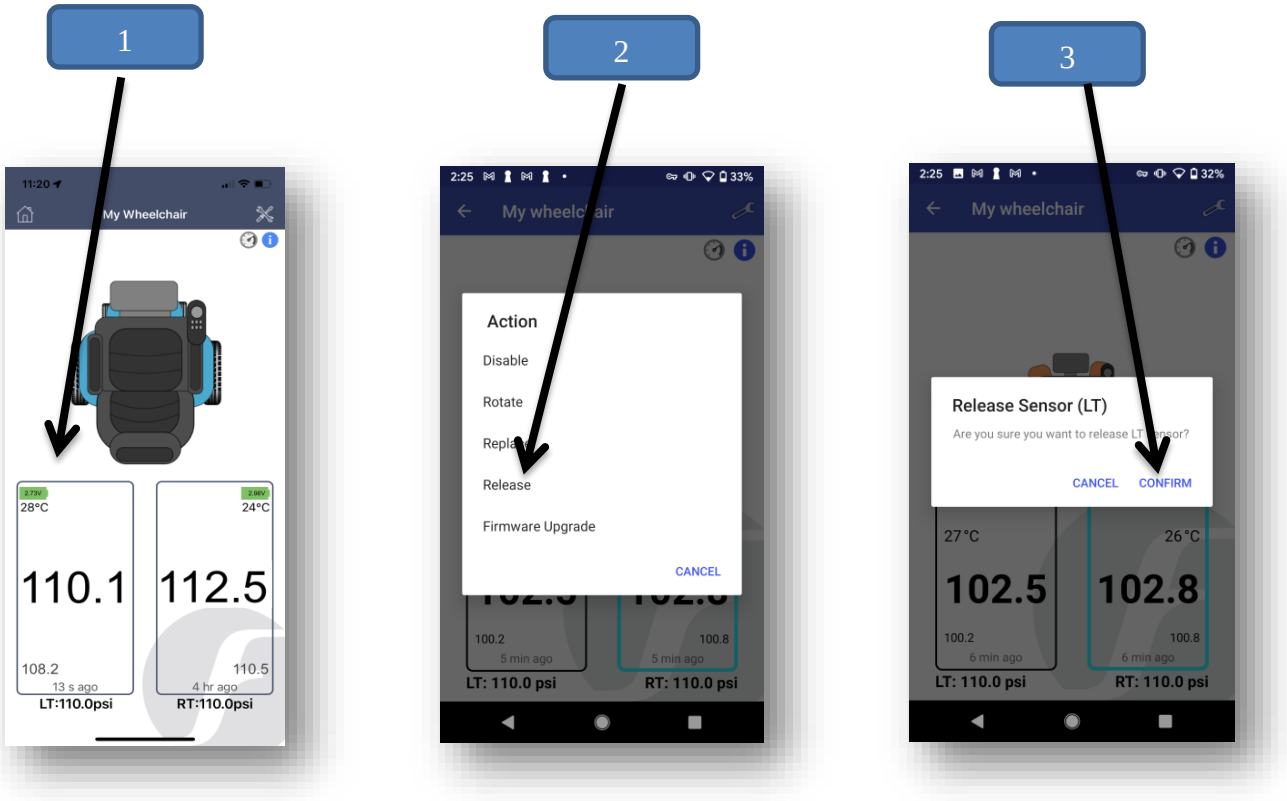
1) Click on the box corresponding to the tire position you want to disable.
2) Click on the "Disable Sensor" option.
3) Click on confirm.



Note: Please ensure you are connected with good internet connection otherwise App will not perform the action and it will display the error message. You can enable back the same sensor by using the same option.

To release a sensor: -

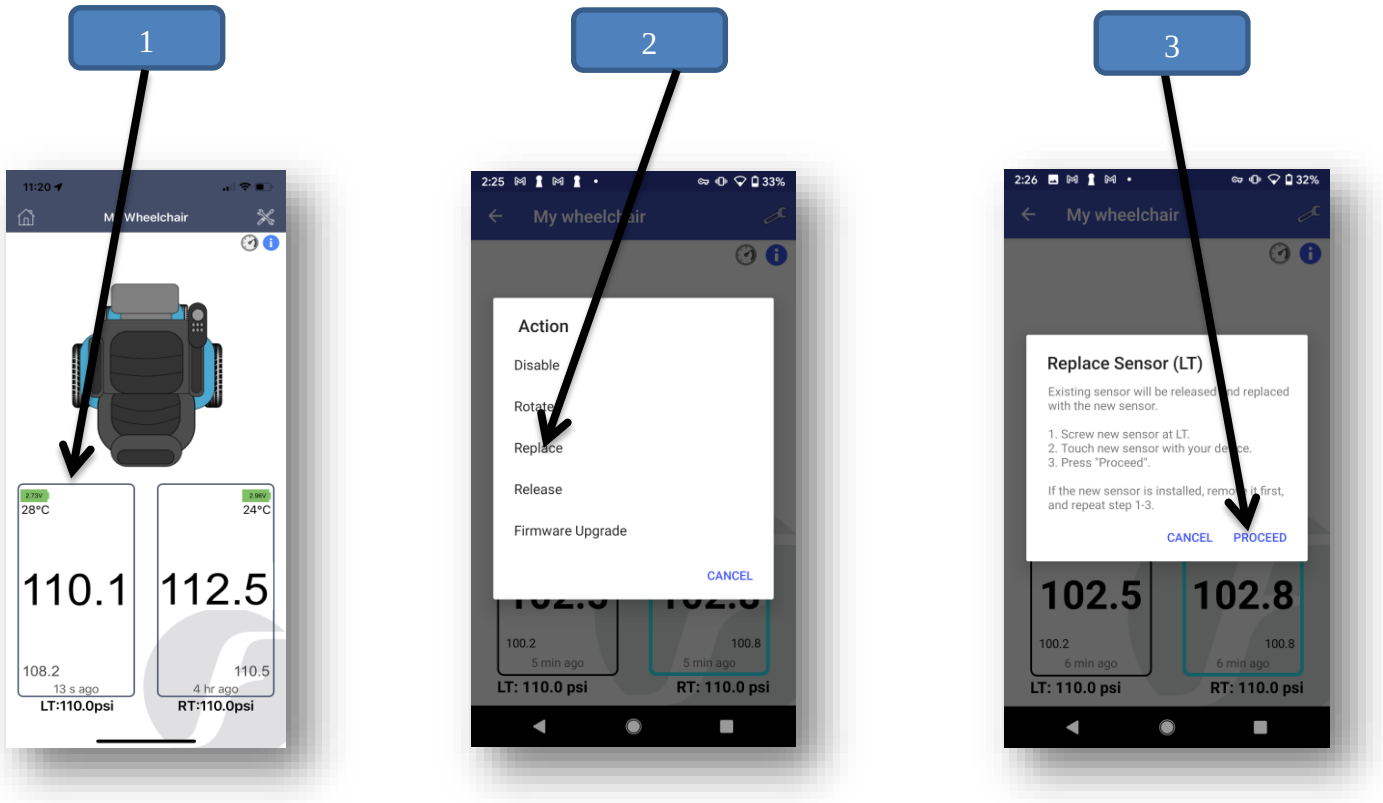
1) Click on the box corresponding to the tire position you want to release.
2) Click on the “Release Sensor” option
3) Click on confirm



Note: Please ensure you are connected with good internet connection otherwise App will not perform the action and it will display the error message.

To replace a new sensor: -

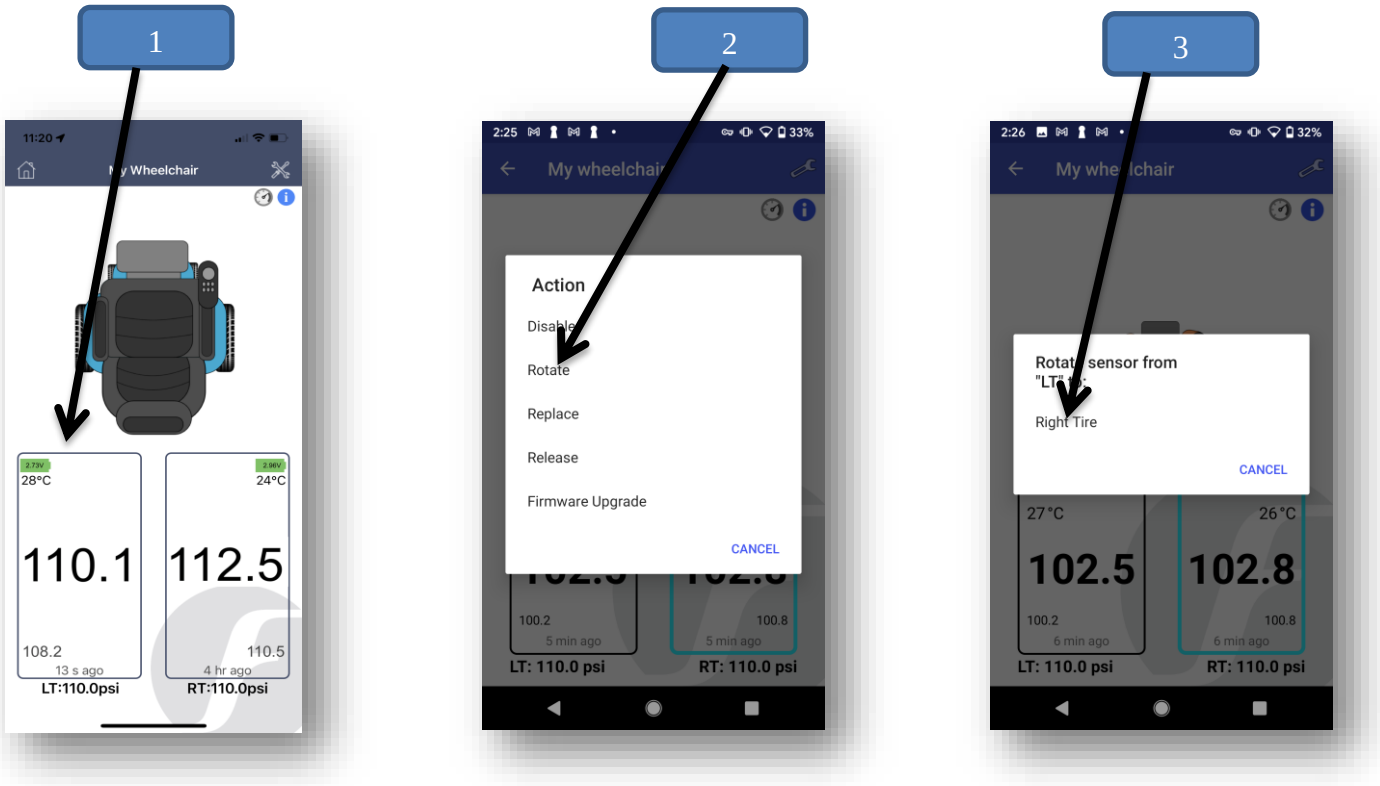
1) Click on the box corresponding to the tire position you want to replace.
2) Click on the “Replace sensor” option.
3) Follow the onscreen instructions and click Proceed to confirm the action.



Note: Please ensure you are connected with good internet connection otherwise App will not perform the action and it will display the error message.

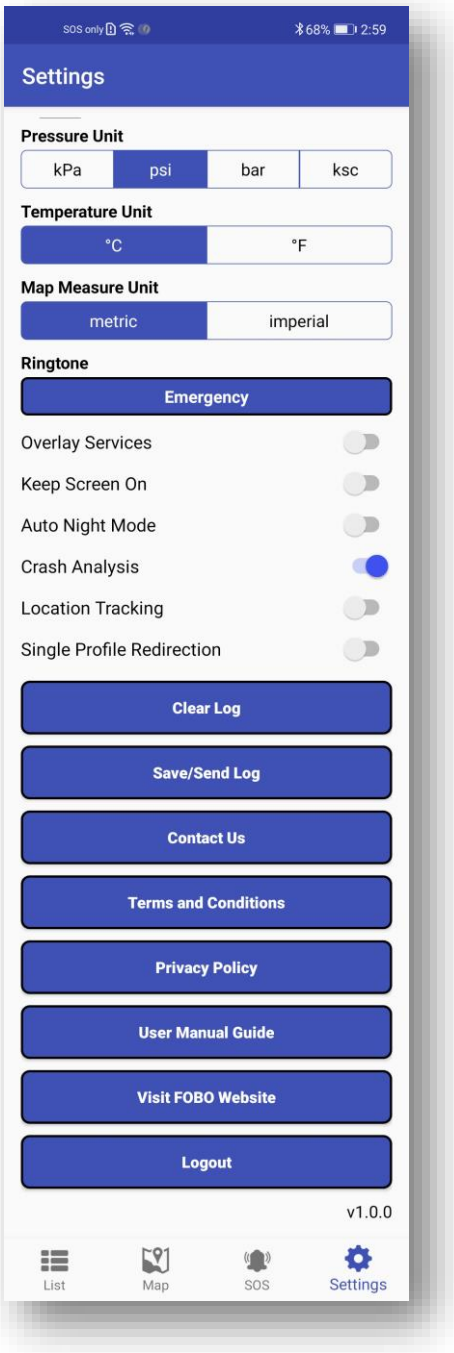
To Rotate a sensor: -

1) Click on the box corresponding to the tire position you want to rotate.
2) Click on the “Rotate sensor” option.
3) Choose new position of a sensor from the list (in the below screenshots we are rotating Front tire sensor with Rear tire sensor).
4) Click Proceed to confirm the action.



Note: Please ensure you are connected with good internet connection otherwise App will not perform the action and it will display the error message.

5.5 General settings Page



Pressure Unit – Allows you to choose your preferred pressure unit.

Temperature Unit – Allows you to choose your preferred temperature unit.

Map Measure unit – Allows you to choose your preferred Map measure unit

Ringtone – Allows you to choose your preferred alarm tone.

Overlay service (Android only) – Turning on this feature will **a**llow user to get FOBO readings while another App running in foreground.

Keep Screen On – Turning On this feature will prevent the app from turning off the screen or go to the 'Sleep' state when the Wheelchair Details page is open.

Auto Night Mode – Turning On this feature will change the overall app appearance to a 'Dark Mode' when it detects that it is a night time.

Crash Analysis – Turning on this feature will send the crash report to the server.

Location Tracking – Turning On this feature will make the app periodically send your location to the server every 1 minute in order to let your caretaker track your whereabout.

Single Profile Redirection – Turning On this feature will cause the app to automatically open your profile if there is only one profile is available.

Clear Log – Pressing this button will clear all the recorded logs (sensor log, beacon log, document log, etc.) from your app.

Feedback – Pressing this button will allow you to send feedback and log files to FOBO customer service. If you wish to view your log files, change the recipient email address to your email.

Terms and Conditions – Pressing this button will open the 'Terms and Conditions' page.

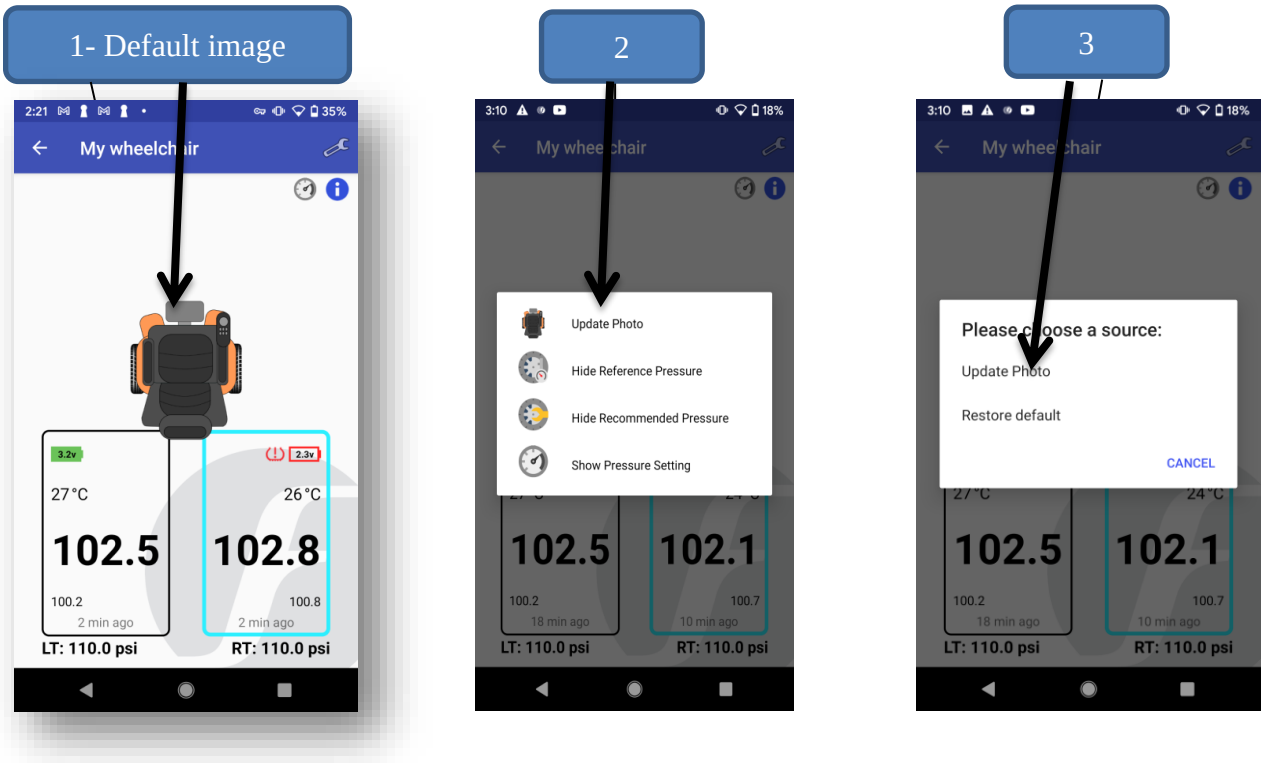
Privacy Policy – Pressing this button will open the 'Privacy Policy' page.

Visit FOBO Website – Pressing this button will open the FOBO website.

5.6 How to change default Wheelchair image

User can change the default Wheelchair image with any other (within specs) image. Refer to the below steps:

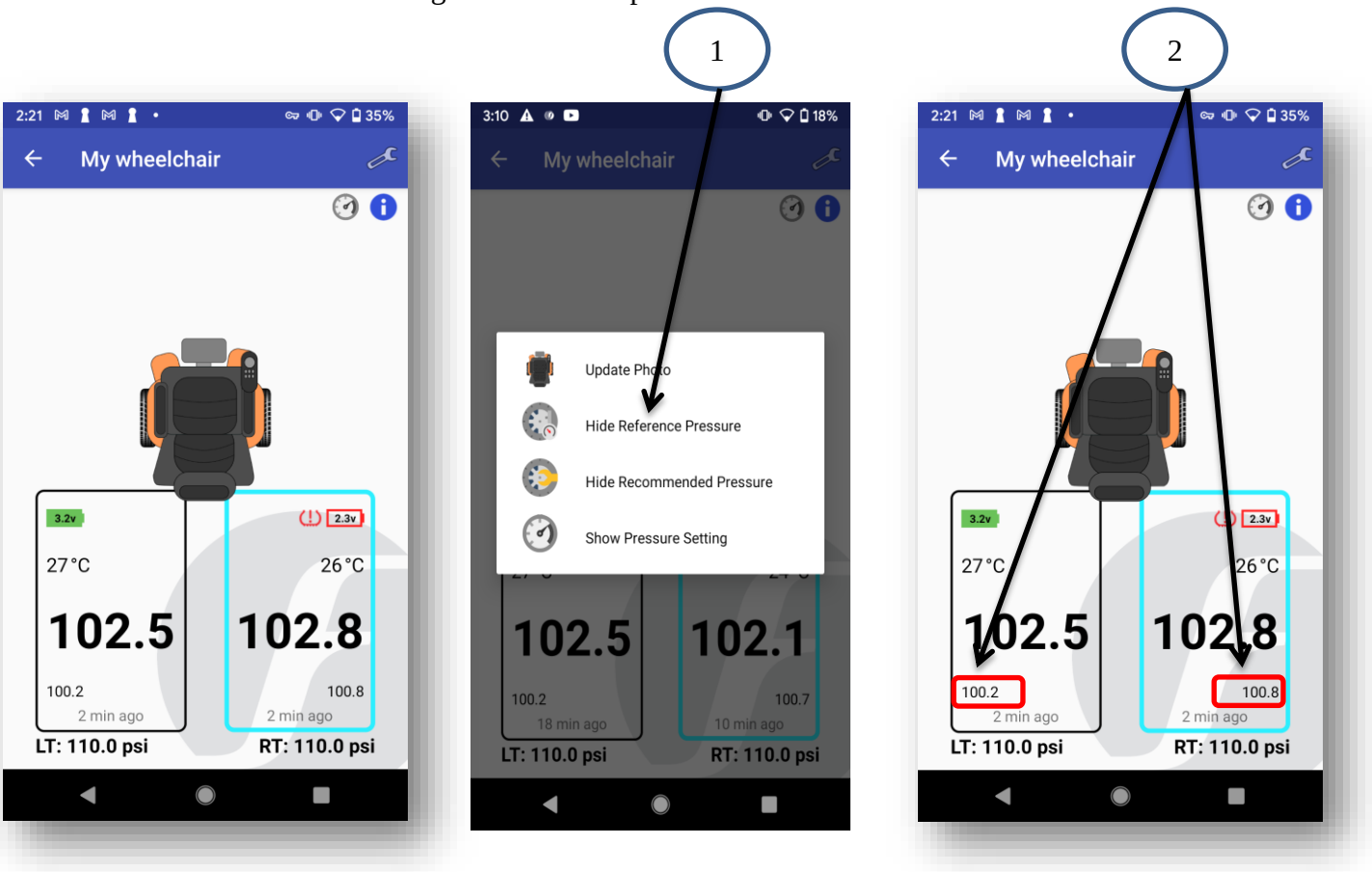
1) Long press on the default wheelchair image.
2) Click on "Update Photo"
3) Choose a source; "Update photo" to change the image or "Restore default" to restore the default image.
4) Choose an action.



5.7 Reference Pressure

Reference pressure is a temperature-compensated tire pressure referenced back to a standard temperature of 20 degree Celsius. This is useful and serves as a guide for the user to decide on the approximate amount of air needed to inflate the tire during hot season or immediately after a ride.

The reference pressure reading is located below the actual pressure reading in smaller font size. User has an option to show / hide the reference pressure reading for individual profile as shown below.



5.8 Overlay services

"Overlay services" feature is an effective approach which helps the users to get the latest pressure, temperature and battery readings just by a single click on the FOBO overlay icon which is displayed on the mobile home screen without the need of going into the FOBO Wheely App. User can use any other App in the foreground with live FOBO readings displayed on the screen. **This feature is only available on Android devices.**

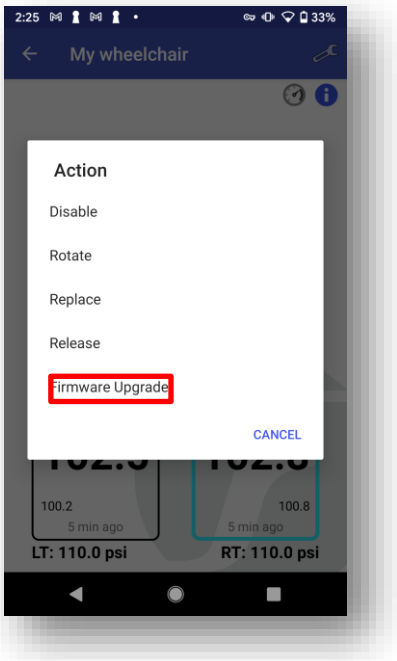
To turn on the Overlay Service:

1. Open the FOBO Wheely App.
2. Click on settings icon on the home screen.
3. Turn on the Overlay services.
4. Upon turning on the Overlay services FOBO Wheely overlay icon will appear on the screen.
5. Click on the FOBO overlay icon to get the pressure, temperature and battery readings.

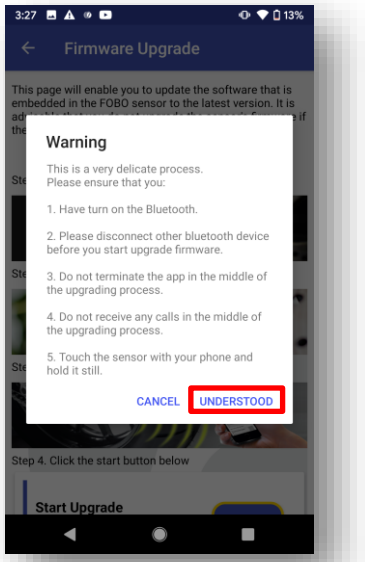
5.9 Sensor firmware upgrade

FOBO Wheely App allows you to upgrade FOBO Wheely sensor firmware. Follow the below steps to upgrade sensor firmware:

1. Click on desired sensor position (LT or RT) and then click “Upgrade firmware”.



2. Read and follow the instructions carefully on next page and click Understood.

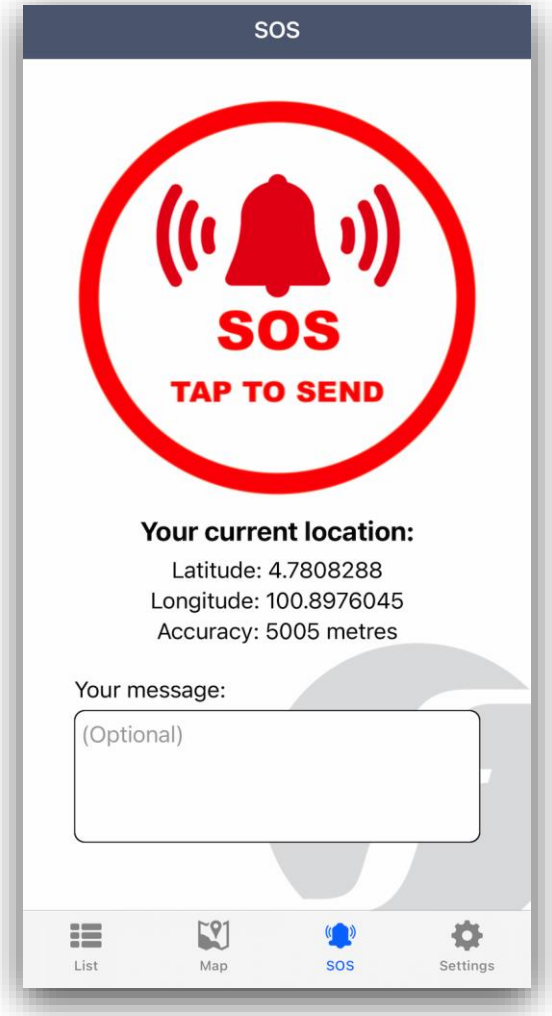


3. Click on start button and follow the instructions.

Note: If there is no upgrade available then App will display a message.

5.10 SOS Page

SOS allows wheelchair user to send an emergency alert to caretaker.



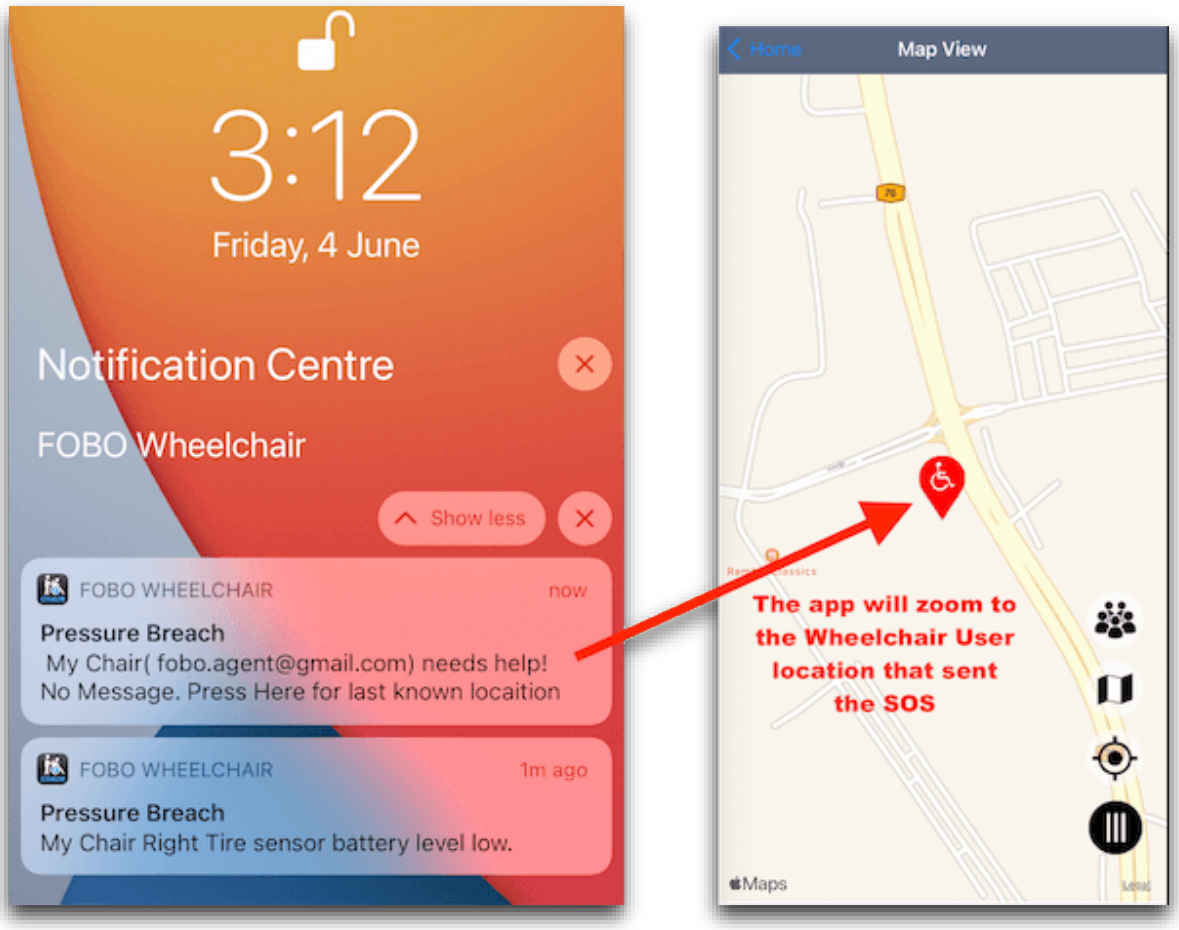
Please ensure that you have assigned a caretaker to your profile so that he or she can receive the SOS alert when the SOS button is pressed.

If you have many profiles linked to a multiple Caretakers, the app will send the SOS to the latest coordinates saved in the server (the nearest sensor to your device).

Press the big red circle button to send the SOS. Once pressed, the bell image will be animated to indicate the SOS is active. The app will then send your latest location (latitude, longitude, accuracy) to your Caretaker. Additionally, you can also send a customized emergency message.

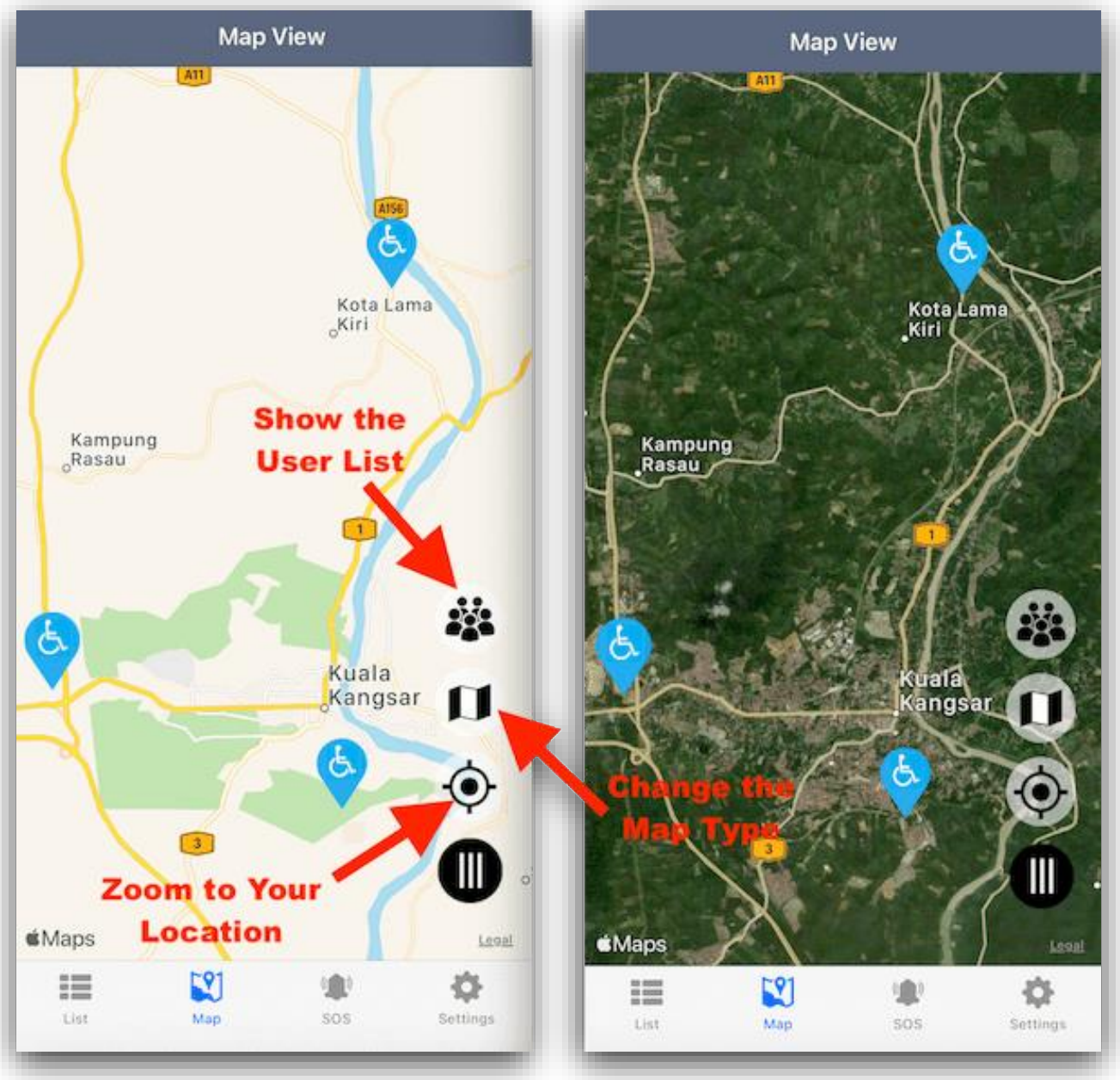
Caretaker will receive the SOS notification from the app, and when he or she pressed the notification, the app will be launched, opens the map page, and zooms to your location.

Simultaneously an email will be triggered to the caretaker registered email address, which will include a link to the location. To deactivate the SOS, press the SOS button again. The bell image will no longer move and your Caretaker will receive a notification indicating that you no longer need his or her help.



5.11 Map Page

The Map Page allows Caretaker to monitor Wheelchair Users movement. In order to use this feature, the "Location Tracking" option at the General Settings page needs to be turned on. The app periodically sends the wheelchair location to the server every 1 minute.



Show the User List – Pressing this button will display the user list. The map will zoom to the selected user location when you press any one from the list.

Change the Map Type – Pressing this button will change the map type to the satellite view.

Zoom to Your Location – Pressing this button will cause the map to zoom to your current location.

6 FOBO Wheely Alert Messages

You will get the following alert messages on your smartphone during the operation of FOBO Wheely under different breached conditions. When you receive an alert, please find a safe location and check the alert messages on the smartphone.

6.1 Pressure below preset limit

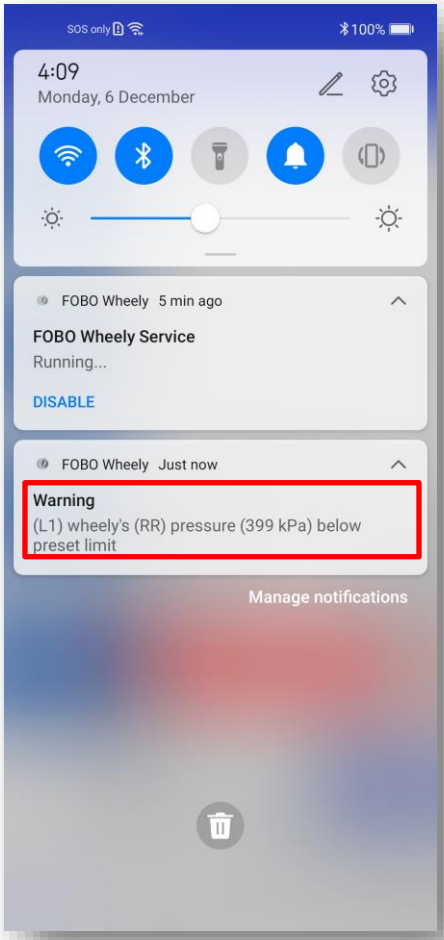
You will receive an alert when the tire pressure drops below 8 %(first level alert – L1) or 15% (second level alert – L2) or 25 % (third level alert – L3) of the Recommended pressure that you have set or at and below 30kPa (0.3bar/4.35psi). For optimum tire performance, it is recommended to maintain this 8% range so that you can keep your tires inflated optimally. If you find the reminder is too frequent, you may want to check your tire for any leakage. Note that drastic temperature drop may also cause tire pressure drop. Please check your tire pressure and re-inflate during change of seasons.

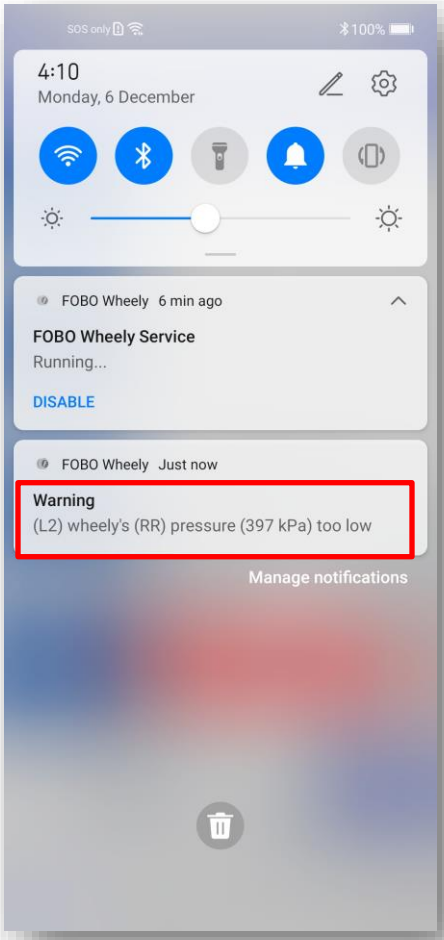
6.2 Pressure above preset limit

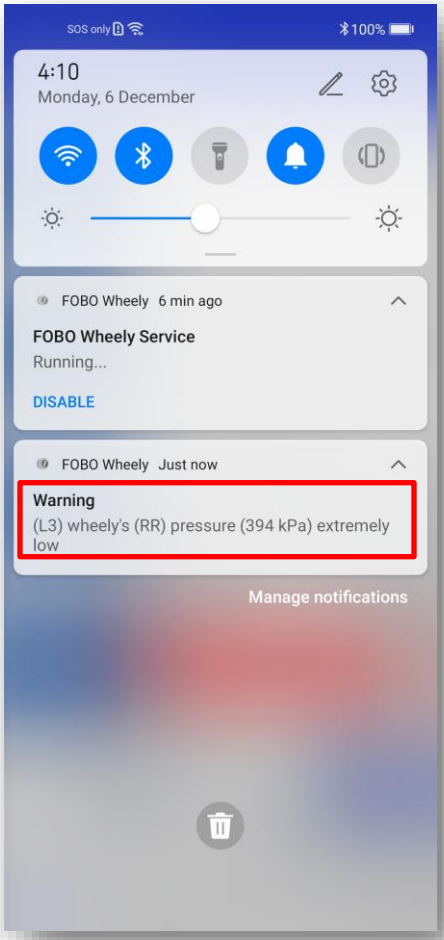
You will receive an alert when the tire pressure increases beyond 25 %(first level alert – L1) or 35% (second level alert – L2) or 45 %(third level alert – L3) of the Recommended pressure that you have set or at and below 900kPa (9bar/130psi).
For optimum tire performance and grip, you should not overinflate your wheelchair tires. Note that the tire pressure will naturally increase as the tires heat up due to friction. However, you should check your tire in the event of an abnormal rise in the tire pressure.

NOTE: IT IS DANGEROUS TO RIDE WITH LOW TIRE PRESSURE AND IT MAY LEAD TO A BLOW-OUT. PLEASE STOP AND HAVE THE TIRE CHECKED WHEN YOU RECEIVE THIS ALERT.

L1, L2 & L3 Alert Notification for pressure below pre-set limits





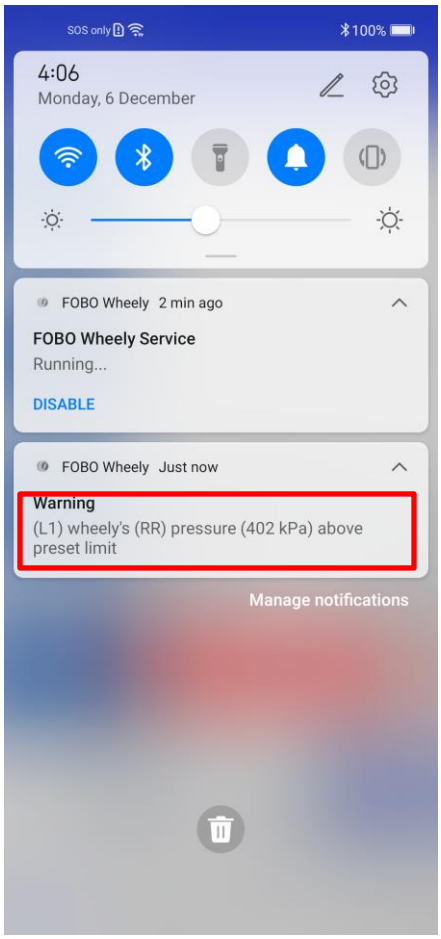


L1

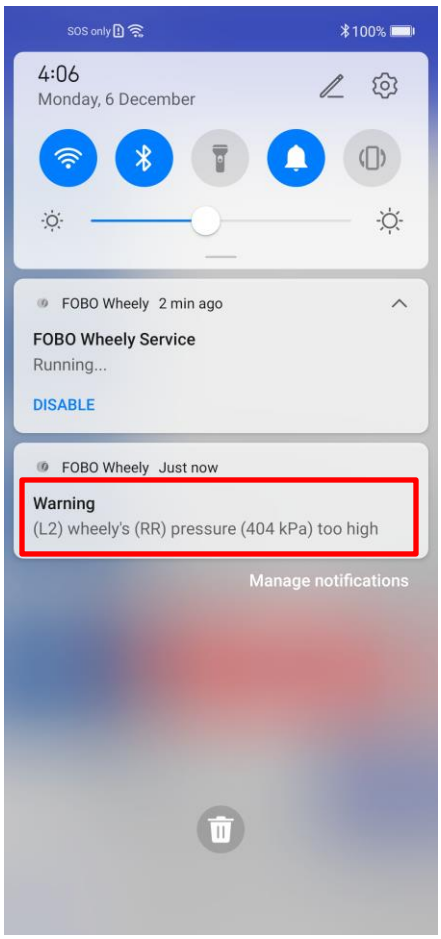
L2

L3

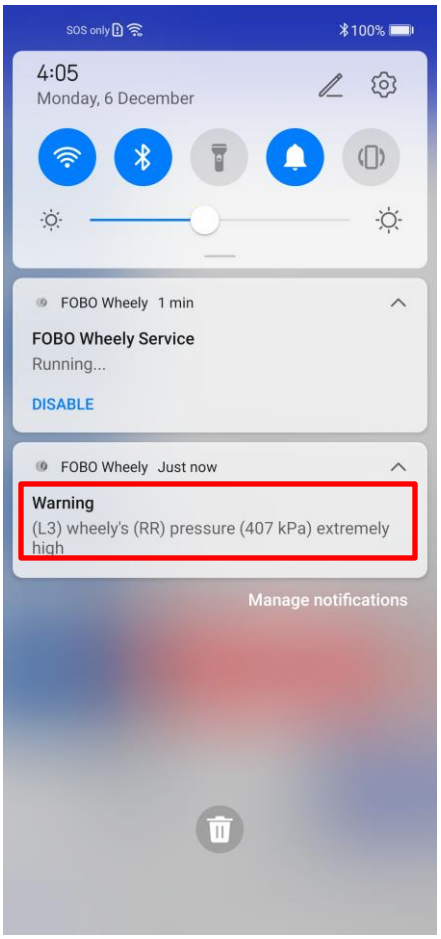
L1, L2 & L3 Alert Notification for pressure above pre-set limits



L1

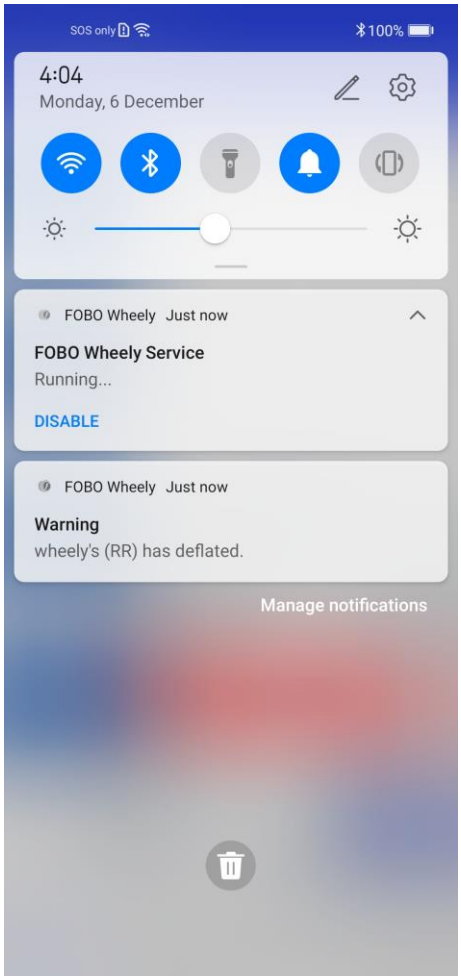


L2



L3

Alert Notification alert at Zero pressure



7 FOBO Wheely sensor Specifications

- **Bluetooth:** v5.0
- **Transmit Conducted Power:** +5.0dBm (sensor)
- **Receiver Sensitivity:** Conducted Sensitivity -97dBm @ 0.1%BER
- **Antenna Return Loss:** Typical -9dB
- **Operating Frequency:** 2.402~2.480 GHz
- **Battery Type:** CR1632 (sensor). Operating life up to 1 year. (NOTE: The battery operating life varies according to usage and climate temperature)
- **Operating Temperature**: -30°C to +85°C (sensor), -20°C to +60°C (sensor with common CR1632 batteries)
- Weight: 7.6g (sensor –with battery)
- Sensor Dimension H x D: 13.8mm x 20.2mm
- **Maximum Pressure: 900kPa (130psi)**
- **ESD:** 8kV air discharge & 4kV direct contact discharge according to CE standard
- **Dust and Water Proof:** IEC60529 compliant to IP57(sensor)
- **Sensor structural threshold:** 100N ball pressure intensity test
- **Mechanical & Environmental Reliability Testing Standards:** IEC 60068-2-2, IEC 60068-2-1, ISO 21750, IEC 60068-2-29, IEC 60068-2-5, IEC 60068-2-32, ISO 15184, ISO 2409, SAE J2657, SAEJ113/13

8 Warning

- Take note that FOBO Wheely is not meant to function as anti-accident or anti-injury device. FOBO Wheely is not a substitute for safe tire maintenance practices. Please take full responsibility of your own safety while using wheelchair. And continue to perform your wheelchair's regular tire check and maintenance.
- You shall not use the FOBO Wheely in any unlawful way that violates any laws.
- Avoid exposing the FOBO Wheely sensors to solvent, fire or extreme temperatures.
- FOBO Wheely may fail to function properly if the battery is below optimum level. Replace the battery immediately to continue enjoying full features of FOBO Wheely.

CAUTION

THERE MAY BE A RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE. DISPOSE ALL USED BATTERIES PROPERLY.

9 Regulatory Information

Federal Communication Commission Interference Statement

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.

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 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.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

FOR PORTABLE DEVICE USAGE (<20m from body/SAR needed e.g. BT dongle, smartphone)

Radiation Exposure Statement:

The product comply with the FCC portable RF exposure limit set forth for an uncontrolled environment and are safe for intended operation as described in this manual. The further RF exposure reduction can be achieved if the product can be kept as far as possible from the user body or set the device to lower output power if such function is available.

FOR MOBILE DEVICE USAGE (>20cm/low power eg. AP routers)

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 & your body.

Industry Canada statement:

This device complies with ISED's licence-exempt RSSs. 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.

Le présent appareil est conforme aux CNR d' ISED applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) le dispositif ne doit pas produire de brouillage préjudiciable, et (2) ce dispositif doit accepter tout brouillage reçu, y compris un brouillage susceptible de provoquer un fonctionnement indésirable.

FOR PORTABLE DEVICE USAGE (<20m from body/SAR needed)

Radiation Exposure Statement:

The product comply with the Canada portable RF exposure limit set forth for an uncontrolled environment and are safe for intended operation as described in this manual. The further RF exposure reduction can be achieved if the product can be kept as far as possible from the user body or set the device to lower output power if such function is available.

Déclaration d'exposition aux radiations:

Le produit est conforme aux limites d'exposition pour les appareils portables RF pour les Etats-Unis et le Canada établies pour un environnement non contrôlé.

Le produit est sûr pour un fonctionnement tel que décrit dans ce manuel. La réduction aux expositions RF peut être augmentée si l'appareil peut être conservé aussi loin que possible du corps de l'utilisateur ou que le dispositif est réglé sur la puissance de sortie la plus faible si une telle fonction est disponible.

FOR MOBILE DEVICE USAGE (>20cm/low power)

Radiation Exposure Statement:

This equipment complies with ISED radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with greater than 20cm between the radiator & your body.

Déclaration d'exposition aux radiations:

Cet équipement est conforme aux limites d'exposition aux rayonnements ISED établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé à plus de 20 cm entre le radiateur et votre corps.

European Union Regulatory Conformance

This equipment is CE marked according to the provisions of the R&TTE Directive (99/5/EC) and is in compliance with the essential requirements and other relevant provisions of the Directive 1999/5/EC. This equipment meets the following conformance standards:

EN 300 328, EN62479, EN 301 489-1&17, EN 60950-1

EU Declaration of Conformity

Hereby, Salutica Allied Solutions Sdn. Bhd. declares that this Bluetooth device is in compliance with the essential requirements and other relevant provision of Directive 1999/5/EC.

Caution: Changes or modifications to this **FOBO** device not expressly Approved by the party responsible for compliance could void the user's authority to operate it.

Bluetooth Wireless Compatibility:

This **FOBO** device supports the following Bluetooth wireless protocols and profiles:

- Bluetooth core technology v4.0
- Battery Profile (BAS)
- Proximity (PXP)
- Device Information Service (DIS)

Bluetooth Wireless Interoperability:

This **FOBO** device is designed to be interoperating with all Bluetooth wireless products that support compatible profiles and roles including:

- Bluetooth core technology v4.0
- Bluetooth master and slave roles

低功率電波輻射性電機管理辦法

- 第十二條 經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。
- 第十四條 低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。
  前項合法通信，指依電信法規定作業之無線電通信。
  低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

12 Intellectual Properties

- FOBO™ is a trademark of Salutica Allied Solutions Sdn Bhd. All rights reserved.
- FOBO™ Wheely incorporates a few patent pending technologies solely owned by Salutica Allied Solutions Sdn Bhd.
- Bluetooth® is a registered trademark owned by Bluetooth SIG Inc.
- iPhone® is a registered trademark of Apple Inc.

13 Limited Warranty & Disclaimer

13.1 Warranty

FOBO Wheely comes with a 12 months limited warranty. This Limited Warranty does not cover: 1) products purchased from an unauthorized reseller; 2) products purchased through online auctions; 3) products that are operated in combination with software, peripheral or ancillary equipment such as but not limited to batteries, chargers, adapters, headsets, connector cables, and power supplies ("Ancillary Equipment") not furnished or otherwise certified by Salutica for use with the FOBO products or any damage to the FOBO products or ancillary equipment as a

result of such use; 4) damage caused by (a) accident, fire, misuse, neglect, unusual physical or electrical stress, or modification; (b) improper or unauthorized installation, wiring, repair, testing or (c) use of the product outside Salutica's published guidelines; 5) instances in which someone other than Salutica (or its authorized service centers) tests, alters, modifies or services the products in any way; 6) products that have (a) serial numbers or date tags that have been removed or altered, or (b) nonconforming or non-FOBO housings or parts; and 7) consumable spare parts and accessories (unless they are found to be non-functional or broken upon purchase of product).

In order to obtain any warranty service, you agree to bear all shipping charges of the FOBO Wheely device to Salutica's address.

13.2 Disclaimer

SALUTICA MAKES NO OTHER EXPRESS WARRANTY WHETHER WRITTEN OR ORAL AND SALUTICA EXPRESSLY DISCLAIMS ALL WARRANTIES AND CONDITIONS NOT STATED IN THIS LIMITED WARRANTY. TO THE EXTENT ALLOWED BY THE LOCAL LAW OF JURISDICTIONS OUTSIDE MALAYSIA, SALUTICA DISCLAIMS ALL IMPLIED WARRANTIES OR CONDITIONS, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. FOR ALL TRANSACTIONS OCCURRING IN MALAYSIA, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY, SATISFACTORY QUALITY, OR FITNESS FOR A PARTICULAR PURPOSE IS LIMITED TO THE WARRANTY PERIOD AS PROVIDED BY SALUTICA IN THE MATERIALS RECEIVED AT THE TIME OF PURCHASE.

No warranty is made that the software provided by Salutica will meet your requirements or will work in combination with any hardware or Applications software products provided by third parties, that the operation of the software products will be uninterrupted or error free, or that all defects in the software products will be corrected.

13.3 Limitation of Liability

THE MAXIMUM LIABILITY OF SALUTICA UNDER THIS LIMITED WARRANTY IS EXPRESSLY LIMITED TO THE LESSER OF THE PRICE YOU HAVE PAID FOR THE PRODUCT OR THE COST OF REPAIR OR REPLACEMENT OF THAT PRODUCT OR ANY COMPONENT OR PART THAT MALFUNCTION IN CONDITIONS OF NORMAL USE. EXCEPT AS INDICATED ABOVE, IN NO EVENT WILL SALUTICA BE LIABLE FOR ANY DAMAGES CAUSED BY THE FOBO WHEELY PRODUCT OR THE FAILURE OF THE PRODUCT TO PERFORM, INCLUDING ANY LOST

PROFITS OR SAVINGS OR SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES. SALUTICA IS NOT LIABLE FOR ANY CLAIM MADE BY A THIRD PARTY OR MADE BY YOU FOR A THIRD PARTY. THIS LIMITATION OF LIABILITY APPLIES WHETHER DAMAGES ARE SOUGHT, OR A CLAIM MADE, UNDER THIS LIMITED WARRANTY OR AS A TORT CLAIM (INCLUDING NEGLIGENCE AND STRICT PRODUCT LIABILITY), A CONTRACT CLAIM, OR ANY OTHER CLAIM. THIS LIMITATION OF LIABILITY CANNOT BE WAIVED OR AMENDED BY ANY PERSON. THIS LIMITATION OF LIABILITY WILL BE EFFECTIVE EVEN IF YOU HAVE ADVISED SALUTICA OR AN AUTHORIZED REPRESENTATIVE OF SALUTICA OF THE POSSIBILITY OF ANY SUCH DAMAGES. THIS LIMITATION OF LIABILITY, HOWEVER, WILL NOT APPLY TO CLAIMS FOR PERSONAL INJURY.

13.4 What Law Governs This Warranty?

THIS LIMITED WARRANTY IS GOVERNED BY AND CONSTRUED UNDER THE LAWS OF MALAYSIA.