SAFE-T-TYRE™
Tyre Pressure Monitoring System

User Manual
Model No.: ST-3000

HOW TO AVOID DAMAGING YOUR TPMS MONITOR

Please do not leave your TPMS monitor on continuous charge whilst in use. (over charging the battery will cause damage to the internal battery)

Please note that the monitor only requires approx. 2 hours of charge to provide you with 80 hours of driving time. The battery on the lower right-hand corner of your monitor will show your battery charge capacity and will also notify you when it requires charging up again.

TABLE OF CONTENTS

1. MAIN FEATURES

Improve Fuel Economy

Modern tyre designs make visual inspection of deflated tyres very difficult. A 30% under-inflated tyre can look like a fully inflated one. A Safe-T-Tyre TPMS will ensure your tyre pressure is at its optimal operating measure. A 9PSI drop in tyre pressure will cause around a 4% increase in fuel consumption.

Prolong Lifetime of Tyres

The following table shows a simple relationship between tyre pressure and tyre lifetime:

Tyre Pressure	Tyre Lifetime
20% under inflated	30% less
30% under inflated	45% less
20% over inflated	10% less

2. PRODUCT FEATURES

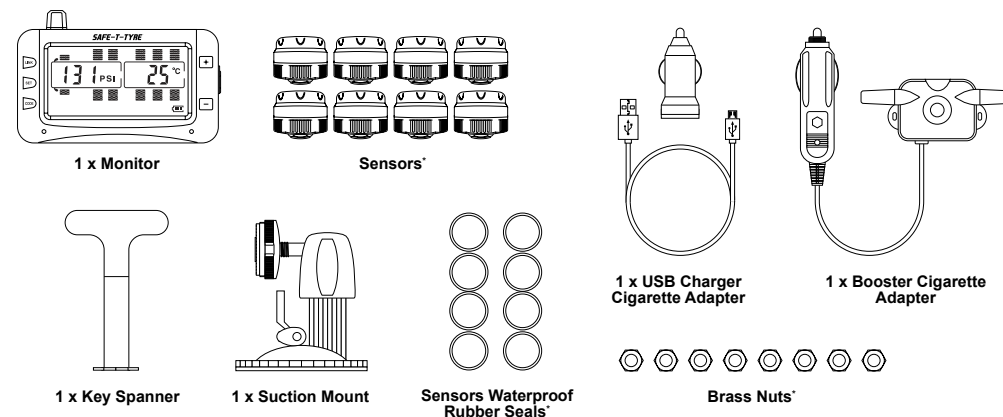### 2-1.   Monitor Features

Easy to install.

Large 3.5 Inch LCD screen.

Built-in rechargeable lithium battery.

Automatic backlight.

Configurable high/low pressure warnings.

Configurable high temperature warnings.

Visible and audible alerts.

Selectable pressure units

Monitors up to 22 tyres

Per axle measurements can be configured on the prime mover/trailer.

Up to a 200m operating range between the sensors and monitor/receiver.

2-2.   Sensor Features

Reliable cap sensors, easy to install.

Water resistant.

Replaceable sensor batteries.

Fast leakage alert.

Individually coded sensors

Anti-theft design.

Protective Sensor Cap

3. SYSTEM COMPONENTS

1 x Monitor   Sensors*

1 x USB Charger Cigarette Adapter   1 x Booster Cigarette Adapter

1 x Key Spanner   1 x Suction Mount   Sensors Waterproof Rubber Seals*   Brass Nuts*

*Sensor and seal quantity dependent on customer requirements

3-1. MONITOR COMPONENTS AND ICONS

Power Switch
↑ ON
↓ OFF

USB Power Port

Antenna

Link

Set

Code

TEMP HIGH   LOW PRESSURE   HIGH   FAST LEAKAGE
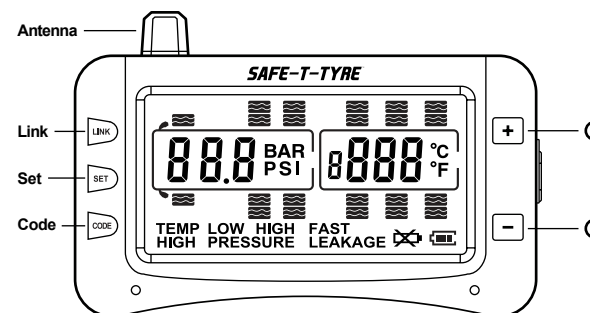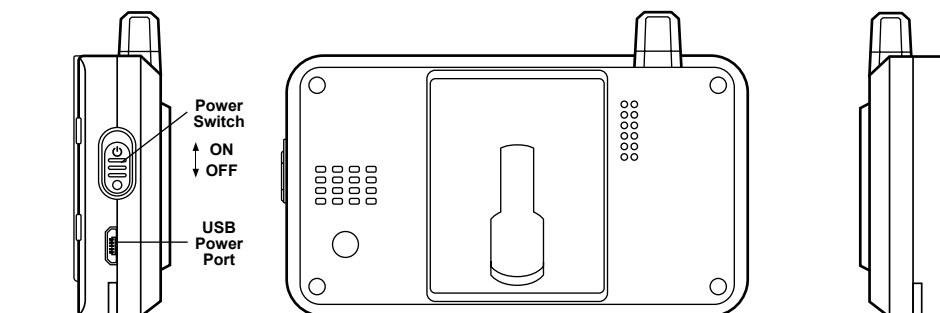
Icon	Description
≋	Tyre Indicator
TEMP HIGH	High Temperature
LOW PRESSURE	Low Pressure
HIGH PRESSURE	High Pressure
FAST LEAKAGE	Fast Leakage
⬭	Low Battery Indicator (10min)
▭	Monitor Battery Indicator

Pressure Unit : BAR or PSI, user-selectable
Temperature Unit : °C or °F, user-selectable

4. INSTALLATION

4-1.   Sensors

Tyre Pressure Locations
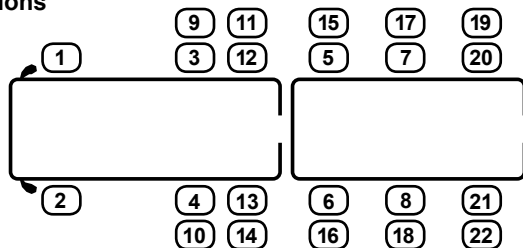
Placing sensors on to tyres

1. Screw (brass coloured) nut onto the valve stem (optional), Fig 1.

2. Screw sensor onto tyre.

3. Using the key spanner provided, tighten the brass nut towards the sensor (which will lock onto sensor)

4. May use protective caps (optional)

Attaching the ST-3000 sensors onto your tyres

The sensors come supplied with "optional protective caps". The "protective caps" are a two (2) piece item. If space permits, place base cap onto the valve after the brass nut has been attached to the valve stem then screw sensor onto tyre valve. Finally place top cap over the sensor and screw into the base cap. See Fig 2.
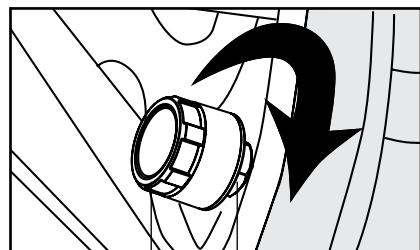
Fig 1   Sensor   Brass Nut
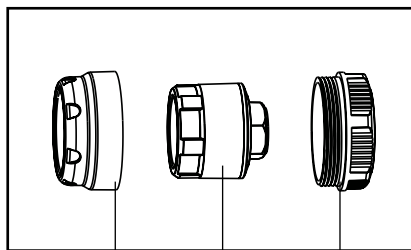
Fig 2   Top Cap   Sensor   Base Cap

4-2.   Monitor

1. Install the Monitor inside the vehicle cabin without obstructing the driver's vision of the road

2. Mount the Monitor onto the windscreen using the suction mount provided or place the Monitor in your centre console in a secured position.

3. Plug the power adapter into the cigarette lighter or USB port to charge up the internal battery, only when required.

USB Power Port

USB Charger

USB Power Port
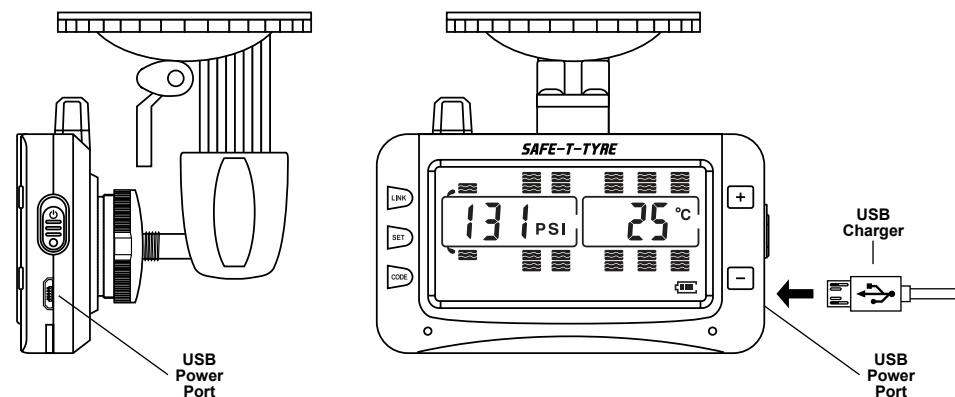
5. PRESSURE & TEMPERATURE RANGE SETTINGS

1. In standby mode, press and hold the **SET** button for 3 seconds, release it after the beep.

2. The first Unit of Measure to adjust is for the Tyre Pressure. The default setting is **PSI**, this can be changed to **BAR** by using the **+** or **–** buttons, then press **SET** to save and go to the Temperature unit of measure setting.

Pressure Unit

PSI   Flash

BAR   Flash
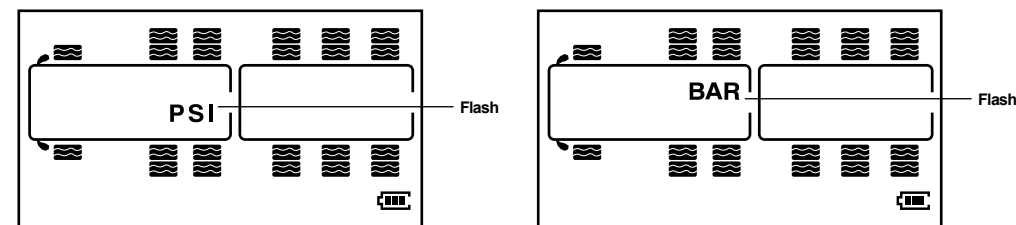
3. The next unit of measure is for Temperature. The default setting is **°C**, this can be changed to **°F** using the **+** or **−** buttons, then press **SET** to save and move to the high/low pressure alert setting.

Temperature Unit

4. The next setting is the parameters for the high/low pressure alert of each axle on the tow vehicle and caravan. By default, the factory preset range is 20PSI – 175PSI:

High Pressure Alert

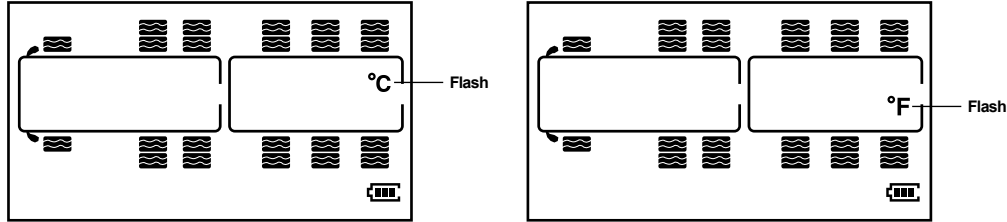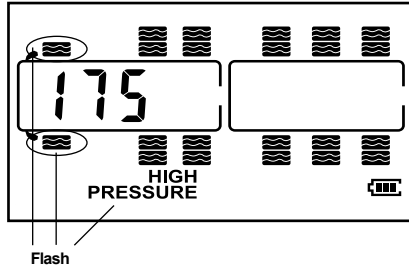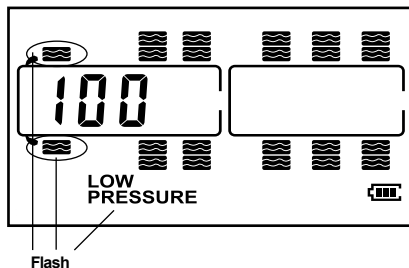While both tyres on the selected axle and the **HIGH PRESSURE** icons are flashing, press the **+** or **−** button to adjust. Press **SET** to save and move to the **LOW PRESSURE** Alert Setting.

Low Pressure Alert

While both tyres on the selected axle and the **LOW PRESSURE** icons are flashing, press the **+** or **−** button to adjust. Press **SET** to save and move to the next axle..

Following the above instructions, adjust and set the **HIGH** and **LOW** pressure alerts on each required axle.

5. The next setting is for the High Temperature Alert. By default, the factory preset is 70ºC.

High Temperature Alert
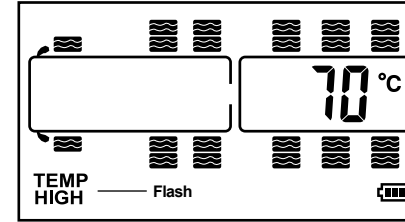
While the **TEMP HIGH** icon is flashing, press the **+** or **− button to adjust.**

6. Press and hold the **SET** button for 3 seconds then release it after the beep to save the settings.

   Note: If no action is taken for more than 60 seconds, the system will return to standby mode without saving any changes.

<u>Shortcut TPMS Programming</u>

To Set Pressures

1. Turn on power on side of the monitor.
2. Press and hold the set button until "beep" is heard.
3. You will see icons for all programmed sensors.
4. PSI will appear and be flashing (if on **PSI** leave, if on **BAR** press **+/−** to move to **PSI.**
5. Press **SET**. C (Celsius) will appear.
6. Press **SET**.
7. The first axle will be flashing showing "**HIGH PRESSURE**" (bottom of display) Press **+/−** to adjust the pressure to +15 **PSI** above the pressure you run in your tyres.
8. Quick press on **SET** (do not hold).
9. The sensor will be flashing "**LOW PRESSURE**" (bottom of screen).
10. Press **+/−** to adjust **-15 PSI** below the pressure you run in your tyres.
11. Press **SET** to move to the next axle and repeat steps 7-10. Press **SET** for 3 seconds until beep is heard to save and complete pressure parameter settings.

6. ALERTS

The sensors send pressure and temperature readings to the monitor. If any reading is out of the pre-defined values, you will notice 3 things:

1. An audible alarm;

2. The red light on the monitor will flash;

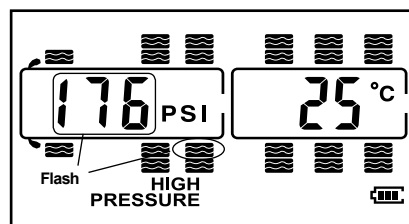3. The corresponding icon on the monitor will flash.

Press any button to switch the audible alarm off. However, the red light will not be turned off until the correct pressure and temperature settings are restored to within range.

1. High Pressure Alert

When the sensor detects high pressure in a tyre, it will send an alert to the monitor immediately.

The **HIGH PRESSURE** will show on the monitor and the corresponding tyre icon will flash. The audible alarm will be on together with the flashing red light. Press any button to turn off the audible alarm.

The flashing red light and icons will continue until the problem is corrected.
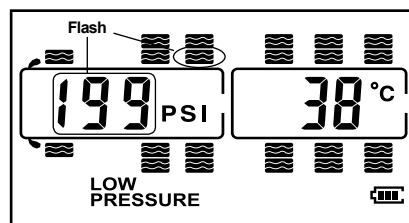
Flash
176 PSI   25°C
HIGH PRESSURE
Red Light Flash —— ●

2. Low Pressure Alert

When the sensor detects low pressure in a tyre, it will send an alert to the monitor immediately.

The **LOW PRESSURE** will show on the monitor and the corresponding tyre icon will flash. The audible alarm will be on together with the flashing red light. Press any button to turn off the audible alarm.

However the flashing red light and icons will continue until the problem is corrected.

Flash
**199 PSI   38°C**
LOW PRESSURE
Red Light Flash —— ●

3. High Temperature Alert

When the sensor detects high temperature in a tyre, it will send an alert to the monitor immediately.
The **TEMP HIGH** will show on the monitor and the corresponding tyre icon will flash. The audible alarm will be on together with the flashing red light.

Press any button to turn off the audible alarm. However the flashing red light and icons will continue until the problem is corrected.
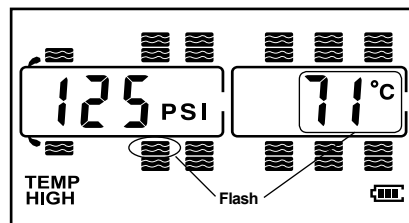
125 PSI   71°C
TEMP HIGH   Flash
Red Light Flash —— ●

4. Fast Leakage Alert

When the sensor detects abnormal loss of tyre pressure, it will send an alert to the monitor immediately.
The **FAST LEAKAGE** will show on the monitor and the corresponding tyre icon will flash. The audible alarm will be on together with the flashing red light. Press any button to turn off the audible alarm. However the flashing red light and icons will continue until the problem is corrected.
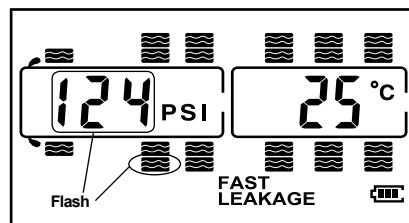
124 PSI   25°C
Flash   FAST LEAKAGE
Red Light Flash —— ●

7. OTHER FUNCTONS

7-1. Normal Scrolling Display

During normal operation, the Monitor will scroll through and display each tyre reading for 5 seconds. You can manually scroll through and select the tyre by pressing the **+** or **−** button. A manually selected tyre will be displayed for 10 seconds. The scrolling display will go into a sleep mode if no vehicle movement has been detected after 20 minutes. When you recommence driving, it may take 5-10 minutes for the Sensor data to be read by the Monitor.

7-2. Backlighting

The Monitor self illuminates automatically. The Monitor will be in sleep mode to conserve battery life if the motion sensor detects the vehicle has stopped for a while. It will turn on again when it detects the vehicle is moving again. Press any button on the monitor to turn on the backlight manually, to turn it off, press and hold the **+** button for 3 seconds.

7-3. Connecting/Disconnecting the Caravan

To delink van, Press the **LINK** and **−** buttons at the same time, the caravan and its tyre icons will be removed temporarily. When re-hitching up to your caravan, press the **LINK** and **−** buttons at the same time. The caravan and its icons will re-appear.

To delink vehicle, Press **LINK** and **+** buttons at the same time, to retrieve vehicle icons, Press **LINK** and **+** buttons at the same time. The vehicle tyre icons will re-appear.

7-4. Charging the Monitor

The lithium-ion battery inside the monitor, when fully charged, is capable of running for 80 hours. When the 🔋 appears, a recharge is required.

8. MAINTENANCE

Recommended inspection and maintenance:

- It is recommended to remove sensors every 3 months for general inspections and cleaning.
- Please ensure to check the batteries *'ONCE'* a year to make sure battery is 3 volts or above. (This is located in the sensor. Refer to page 11)
- Please ensure to change O'rings on the sensors at the same time as battery replacement.

9. HOW TO INSTALL THE SAFE-T-TYRE SIGNAL BOOSTER

Note: If Booster is supplied in your pack.

1. Plug Booster into a 12 volt cigarette lighter and/or 12 volt accessory socket.

2. The preferred location for the booster is towards the rear of the tow vehicle.

3. Once the Booster is connected to power, the Booster button light will be on as a steady red light.

4. To activate the Booster once the red light is on, Press and hold down the red button until the booster unit beeps and the red light is flashing.

5. Your Booster is now active.

10. REPLACING THE SENSOR BATTERY

When the sensor does not provide a reading the battery in that sensor needs to be replaced. A CR2032 battery cell is recommended which operates at – 40 C to + 80 C. You can buy replacement batteries from your local retailer.

1. Use the Key Spanner provided to loosen the anti-theft screw and take off the sensor

Key Spanner
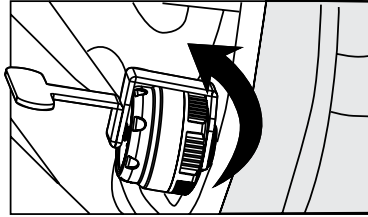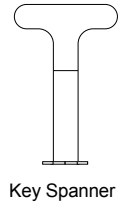
2. Unscrew the sensor cap.

3. Take the battery out.

4. Replace a new CR2032 battery cell, ensure the positive + is facing upwards

⊖
CR2032 Lithium Battery

⊕
CR2032 Lithium Battery

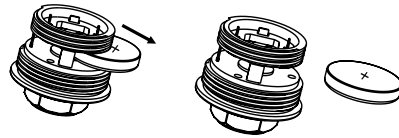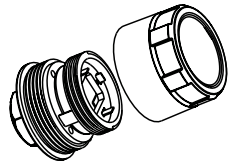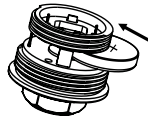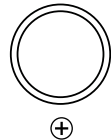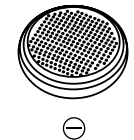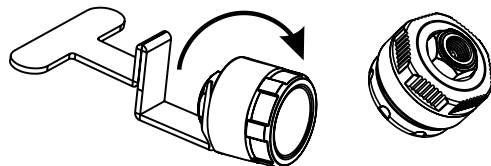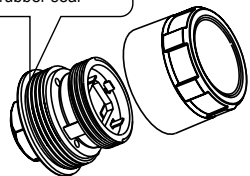5. Check that the water-proof rubber seal is in its proper position. Screw the sensor cap back on.

Water-proof rubber seal

11. SENSOR PROGRAMMING

If you need to replace or move a sensor, you first need to delete the programming from its current location, then re-program into the new location.

Removing a Sensors Programming
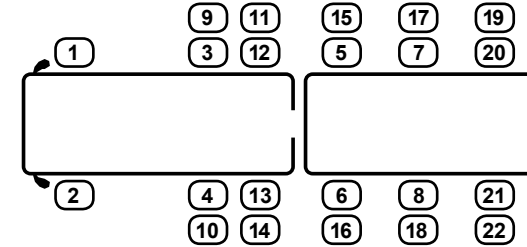
To Delete Sensors

1. Turn on power on the side of the monitor.

2. Hold **CODE** button down until audible "Beep" sounds.

3. Press **+/–** to move to desired sensor location.

4. Press **SET** for 3 seconds to delete sensor (beep can be heard).

5. Once **FFF FFF** appears, the sensor has been deleted.

6. Press **CODE** button until "beep" is heard to save settings.

Programming a Sensor to the monitor

To Code Sensor

A. Turn on power switch on the right hand side of the monitor.

B. Hold down **CODE** button until 'Beeps', then let go.

- If un-Coded you see x6F (**FFF FFF**)

- Press **+/–** to scroll to the desired position required to be coded.

- Place sensor on the centre of the Monitor screen to be coded.

Note: Ensure other sensors are **NOT** within 1 Metre of the monitor when coding each sensor.

- Quick Press the **CODE** button, red light will appear at bottom left hand corner Monitor.

- A Coded sensor will display a unique ID Code. E.g. (4F3 3A5) along with a beep.

- Press **+/–** to move to the next location on the monitor to be coded if required. Repeat Steps mentioned above to code additional sensors.

Note: If coding is unsuccessful an error will appear (ID-Err). Try coding again, (ensure the battery is 3V or above in the sensor).

- Hold **CODE** button down for 3 seconds to save and exit, wait for 'Beep' to be heard.

12. SPECIFICATIONS

10-1. Monitor

Operational Temperature	-20 °C ~ 80 °C
Storage Temperature	-30 °C ~ 85 °C
Charger Input Voltage	DC 8 ~ 30V
Transmission Frequency	433.92MHz
Size	116(L) x 68(W) x 25(H) mm
Weight	148g

10-2. Sensors

Operational Temperature	-40 °C ~ 80 °C
Storage Temperature	-40 °C ~ 80 °C
Pressure Range	8~218 PSI
Pressure Accuracy	± 1.5 PSI (± 0.1 bar)
Temperature Accuracy	± 3 °C
Transmission Power	<10dBm
Transmission Frequency	433.92MHz
Battery Life	2 years (CR2032 -40 °C~80 °C)
Size	24mm(diameter) 29mm(height)
Weight	15g

13. CAUTIONS

1. The monitor should be installed inside the vehicle where it does not affect normal driving.

2. The monitor should be well fixed to avoid falling off during driving.

3. After the sensor installation, it is highly recommended to check for any air leakage.

4. Your Safe-T-Tyre TPMS can effectively monitor tyre pressure and temperature however regular tyre inspection and maintenance is still required for optimal performance and safety .

5. After the system is installed correctly, the driver does not need to stare at the monitor all the time while driving. Alerts will be issued when abnormal conditions are found in the tyres.

14. TROUBLESHOOTING TPMS

If sensors are not reading, we recommend the following steps:

1. Change your sensor batteries, please use 3 volt lithium CR2032 button cell batteries

2. Check that the tyre pressure set for each axle are set up correctly for your tyres, ensuring that as a rule we recommend (+/-) 15 PSI above and below the actual pressure of your tyres.

Please refer to section 5 of your TPMS manual:- 'Pressure and Temperature Settings.'

3. Any changes made in the 'pressure settings' require re-adjusting your parameters. Once sensors have been adjusted, drive your vehicle whilst in motion, allow ten minutes for the monitor to re-adjust to new settings.

Information in this manual is subject to change without notice.

15. PROGRAMMING SHORTCUTS

To Code Sensor

A. Turn on power switch on the right hand side of the monitor.

B. Hold down **CODE** button until 'Beeps', then let go.

- If un-Coded you see x6F (**FFF FFF**)
- Press **+/–** to scroll to the desired position required to be coded.
- Place sensor on the centre of the Monitor screen to be coded.

Note: Ensure other sensors are **NOT** within 1 Metre of the monitor when coding each sensor.

- Quick Press the **CODE** button, red light will appear at bottom left hand corner Monitor.
- A Coded sensor will display a unique ID Code. E.g. (4F3 3A5) along with a beep.
- Press **+/–** to move to the next location on the monitor to be coded if required. Repeat Steps mentioned above to code additional sensors.

Note: If coding is unsuccessful an error will appear (ID-Err). Try coding again, (ensure the battery is 3V or above in the sensor).

- Hold **CODE** button down for 3 seconds to save and exit, wait for 'Beep' to be heard.

To Delete Sensors

1. Turn on power on the side of the monitor.
2. Hold **CODE** button down until audible "Beep" sounds.
3. Press **+/–** to move to desired sensor location.
4. Press **SET** for 3 seconds to delete sensor (beep can be heard).
5. Once **FFF FFF** appears, the sensor has been deleted.
6. Press **CODE** button until "beep" is heard to save settings.

To Set Pressures

1. Turn on power on side of the monitor.
2. Press and hold the set button until "beep" is heard.
3. You will see icons for all programmed sensors.
4. PSI will appear and be flashing (if on **PSI** leave, if on **BAR** press **+/–** to move to **PSI.**
5. Press **SET**. C (Celsius) will appear.
6. Press **SET**.
7. The first axle will be flashing showing "**HIGH PRESSURE**" (bottom of display) Press **+/–** to adjust the pressure to **+15 PSI** above the pressure you run in your tyres.
8. Quick press on **SET** (do not hold).
9. The sensor will be flashing "**LOW PRESSURE**" (bottom of screen).
10. Press **+/–** to adjust **–15 PSI** below the pressure you run in your tyres.
11. Press **SET** to move to the next axle and repeat steps 7-10. Press **SET** for 3 seconds until beep is heard to save and complete pressure parameter settings.

SAFE-T-TYRE
Tyre Pressure Monitoring System

☎ **Free Call 1800 876 700**

WARRANTY CARD
2 YEAR WARRANTY PERIOD

Safe-T-Tyre will authorize repair (or at its option replace) any part of its Tyre Pressure Monitoring System which in its opinion needs repair or replacement due to manufacture, parts or general wear and tear during the 2 years warranty period commencing from the product's original purchase date.

Please send goods with a copy of the warranty card to:

Safe-T-Tyre, PO Box 633, Moorabbin, Victoria, 3189 | Phone: 1800 876 700

(Please store this card with your proof of purchase in a safe place)

Model Number:..

Purchase Date: ..../......./.......

Customer Name:...

Customer Address:...

....

....