To ensure correct operation and service please read these instructions before installing and operating the TPMS

TPMS MANUAL

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TABLE OF CONTENTS

Tire Pressure Monitoring Systems, TPMS

Tire Pressure Monitoring Systems (TPMS) improves safety while driving. Once installed in your vehicle, the system will automatically monitor your tires in real-time for pressure and temperature. When any tire's pressure and/or temperature appear abnormal, the system will, in real-time, transmit signals to active an alarm and show a digital figure to warn the driver of a problem. The system aids safety, can extend the tire life and help reduce fuel consumption.

NOTICE

FCC Notice

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 or more of the factoring 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

Caution: Any changes or modifications in construction of this device which are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

To comply with the FCC RF exposure compliance requirements, this device and its antenna must not be co-located or operating to conjunction with any other antenna or transmitter.

System Scope of Use and Warnings

Tire Pressure Monitoring System, TPMS

This system is a sensing device designed to measure and display tire operation and / or activate an alert to the driver when pressure and temperature irregularities are detected. It is the responsibility of the driver to react promptly and with discretion to alerts. Abnormal tire inflation pressure should be corrected at the earliest opportunity.

Caution: the system is wireless RF product; therefore, it may not receive a signal due to the poor environment or incorrect operating or incorrect installation. When the system continually cannot receive any signal from any tire sensor more than 10 minutes since the system be switch on power for monitoring, the system will shown " " and turn on the RED abnormal tire LED light and alert sound. In this case, it may cause by a RF interference environment, a driver need to drive the vehicle and leave this place. If the display still cannot receive any correct signal from tire sensor, then, a driver need to find a nearby qualified tire maintain service for checking and maintain. It may cause by a tire sensor damages or battery power consumption. (Battery in normal condition can be used more than 7 year, but in abnormal condition, the tire sensor will continually send warning signal for driver, thus it wills consumption the battery quickly than normal prediction.)

System Installation and Usage

Use of the TPMS requires that qualified personnel according to the instructions here have properly installed it. This system is suitable for use on a passenger car, SUV and 4X4 tires, with up to maximum cold inflation pressure of 76 Psi (Guage) or 90psi (Absoulte), below instruction is Guage value mentioned.

Reacting to Alerts

When an alert or warning is received, reduce vehicle's speed and proceed to a safe location to stop where the tire can be inspected and /or serviced.

The low-pressure alert indicates that the air pressure has dropped to a selected minimum and a high-temperature alert indicates that the temperature of the tire content has surpassed the threshold value set.

Use of Chemicals

Temporary resealing or re-inflation products containing internal sealants or propellants in any tire assembly may adversely affect the operation of the sensor/transmitter.

Specifications of TPMS

1. SENSOR AND TRANSMITTER SPECIFICATIONS	
Battery life	More than 7 years, nominal.
Storage temperature	-40°C to 125°C
Operating temperature	-30°C to 120°C
Operating humidity	95%
Operating frequency	433.92MHz
Pressure monitoring range	0~76 psi
Pressure reading accuracy	At Normal condition ± 1psi at normal pressure range
Temperature reading accuracy	± 4°C in normal environmental condition
Transmission power	Max 5 dBm
Battery	3.6V
Sensor weight	35g
2. RECEIVER SPECIFICATINS	
Operating voltage	12V DC
Operating current	200mA
Monitored temperature range	-30°C to 125°C
Operating temperature	-30°C to 85°C

The System Installation

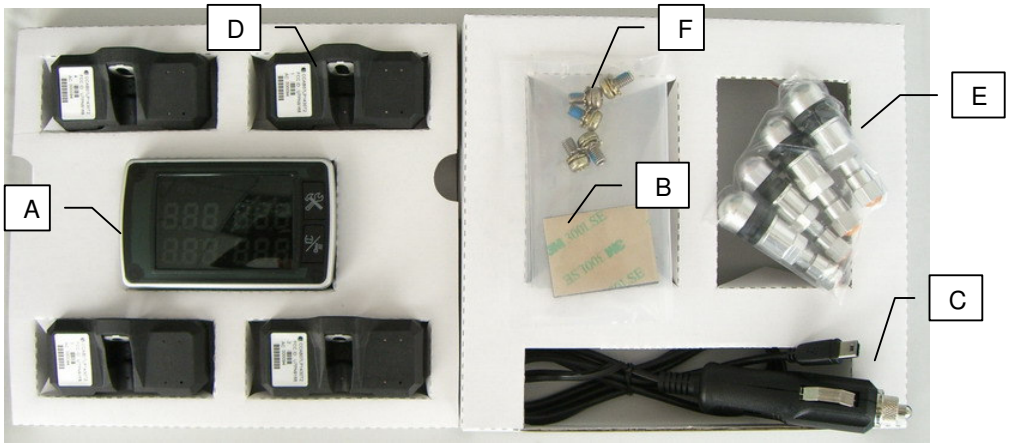
There are two parts of system installation
1. Setting up the display unit in the vehicle
2. Installing the transmitter unit sensor in each tire.

We strongly suggest installing the display unit first, and then install the tire transmitters.

Note: Warranty does not cover “Tire Valves” and “Screws for Tire Valves”, all the Tire valves and the Screws will need to be replaced with New Tire Valves and Screws when rotating tires, changing of tires, and changing of Wireless Transmitter sensors. (Whenever a Wireless Transmitter Sensor is installed or reinstalled a new Tire valve” and “Screws for the Tire Valve” must be used).

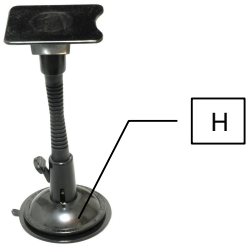
Accessories for Tire Pressure Monitoring System

NO.	Accessory Name	Quantity
A	Wireless Receiver and Display Unit	1
B	Velcro for Display	2
C	Power Connection for Cigarette Lighter	1
D	Wireless Transmitter Sensor (Remote Sensing Module)	4
E	Tire Valves	4
F	Screw for Tire Valves (Nylok screw)	5
G	Manual	1



Optional Accessory Part

NO.	Accessory Name	Quantity
H	Magnetic windshield holder	1

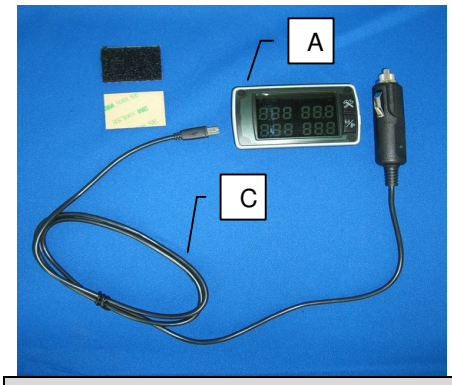


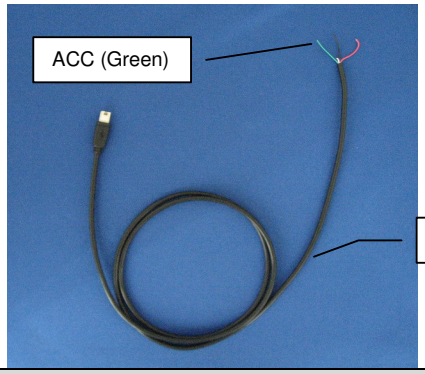
Display Unit Installation

1. Plug in one side of C the power cable connection into A the display located on the side.
   (or cut the cigar jet , plug the power cable with ACC, VCC, Negative into fuse box)

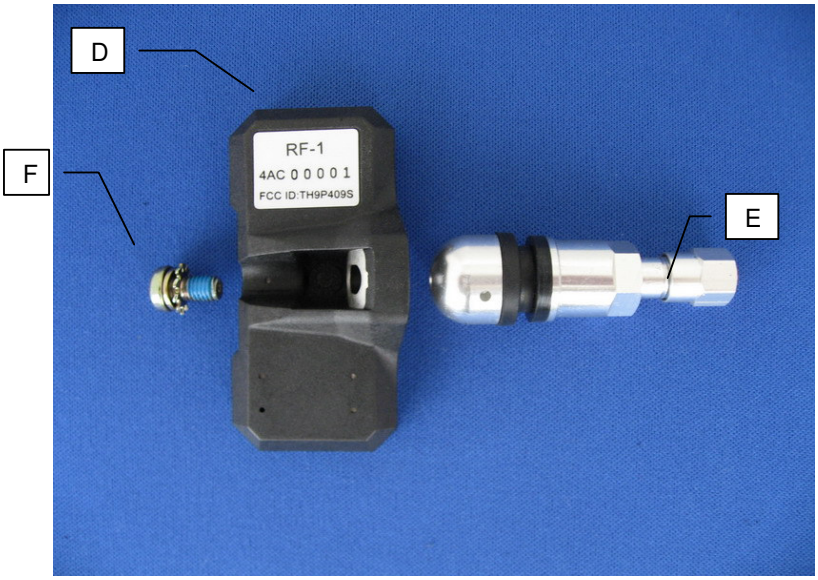
Note: Pluging the power cable with ACC, VCC, Negative into fuse box will allow the display unit to receive signals 24 hours a day , the LED light will turn on only when ACC is on and the LED light will be off when ACC is turned off.

2 Install the display unit in front of driver at an appropriate position.
   Stick the Velcro B into the bottom of the display unit A, and Stick the unit into the convenient place.
3. Connect the power cable C into the vehicle's cigarette lighter socket for power connection.
4. After set up the monitor please take off the protection film from the panel of monitor.





Wireless Transmitter Sensor Installation



Step	Operation Process	Photograph
1	Use a jack to raise the vehicle and place jack stands underneath the vehicle for safety. Refer to vehicle owner's manual for full service advice. Seek the assistance of a qualified motor mechanic if required.	
2	Take off the tires and bleed the air. Then take off the air valve of the tire from the wheel. (NOTE: You must change the valve to TPMS valve). This part of the process will normally require the service of a tire fitting service or mechanic.	
3	Recognize the number on each sensor (D) with position of tire on the vehicle. (VERY IMPORTANT) **a. RF – 1 = Right Front, No. 1** **b. RR – 2 = Right Rear, No. 2** **c. LR – 3 = Left Rear, No. 3** **d. LF – 4 = Left Front, No. 4**	

4	Set up the new TPMS special valve E in the wheel.	
5	Use the new TPMS special Nylok screw F to tighten the transmitter sensor into the valve on the wheel.	 
6	Adjust the transmitter sensor angle so that the transmitter fits tightly on the wheel and then tighten the screw for the transmitter's sensor so that it is fixed on the wheel.	
7	Clean inside the tire to prevent the tire from damaging the transmitter sensor.	
8	**Inflate the tires**. Balance the tire a. Balance tires using a balance machine b. A lead tire weight may need to be added for balancing. c. Balance until the tire balance shows balance as "**OK**" The Steps above will require the assistance of a tire fitting service or a mechanic. It is important that the wheels are balanced after the fitting of the TPMS sensors in order to ensure the safe operation of the tire when refitted to the vehicle.	  
I	Set up the other three tires in the same manner.	
J	Turn the ignition key of the vehicle until the power is activated on the cigar lighter, this may be first or second position depending on the car manufacturer. The in-car display will be activated. The function button of the display unit can be switched to pressure and temperature depending on the customer's need.	

The System Operation

Once installed the system will automatically monitor the tires when power is applied. When the power of the vehicle is switched on, the display unit will show, in real-time, the pressure of all the tires simultaneously.

Note: Warranty does not cover “Tire Valves” and “Screws for Tire Valves”, all the Tire valves and the Screws will need to be replaced with New Tire Valves and Screws when rotating tires, changing of tires, and changing of Wireless Transmitter sensors. (Whenever a Wireless Transmitter Sensor is installed or reinstalled a new Tire valve” and “Screws for the Tire Valve” must be used).

System Alarm

When the system detects any unusual pressure from tires, the abnormal tire on the display screen will turn **red** and show the tire pressure on the display unit.

When the system detects any unusual temperature from the tires, the display unit will turn **red** and show the temperature in the display unit.

Statement

The alarm will continue to sound until the abnormality is solved.

If the temperature is too high and pressure too low simultaneously, the system will show the pressure too low signal first and then show the temperature too high signal. (The abnormal signal of the display is shown priority sequence as in the following description.

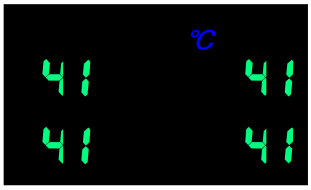
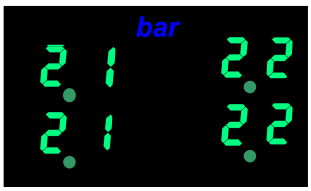
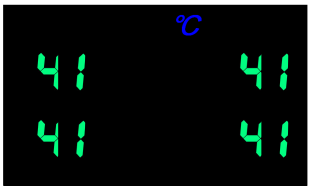
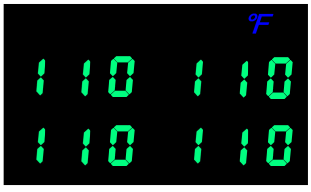
Press the Set-up key (The upper button) for over 3 seconds to enter into the setup up mode. If you do not want to change the figure, then just press the setup key 3 times, and return to operating mode. At this moment the system will clear all the alarm signal light. If the abnormal condition continues, the display will sound the abnormal alarm and display the faults again. Even when the car is parked and not in use, the system will continually monitor the tires, when driver starts the vehicle, the display unit will show the previous tire pressure or temperature.

Setup Method

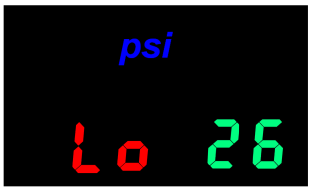
The driver can follow the steps to adjust the system of pre-loaded values

(Notice: the system has been pre-set with alert figures. If the driver wants to change the figure, then follow the professional tire technician's instruction).

Choosing preferred Pressure Units and Temperature Units

Step	Operation process	Photograph
1	By pressing the **function key** , it will switch among displaying the pressure unit, displaying the temperature unit, and displaying both pressure unit and temperature unit back and forth repeatedly. The operator can choose which one to set up first.	 
2	If the pressure unit is chosen. By holding the **function key** for 3 seconds, it will switch to kPa, psi, bar in turn. Once the preferred unites are chosen release the **function key**	  
3	If the temperature unit is chosen. By holding the **function key** for 3 seconds, it will switch to ℃ and ℉ in turn. Once the preferred unites are chosen release the **function key**	 

Tire Under Pressure Warning

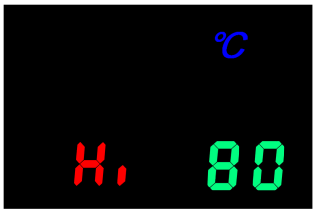
Step	Operation process	Photograph
1	Pressing the **setup key** for over 3 seconds can change to the low pressure set up mode.	
2	The wireless receiver and display unit will now show the high tire pressure factory default value (26 psi) shown in green light and the blue light indicates the "psi". or pre-selected units (kPa or bar)	
3	By pressing the **function key** once, the psi value will add 1 unit; and the unit value will return to 18 (psi) when it has reached 35(psi). The system will use this setting as the standard value for low tire pressure monitoring, which means when the tire has deflated to a pressure value lower than this setting, the system will automatically start to warn the driver.	
4	The user may adjust this setting (from 18 psi to 35psi) to meet specific requirements from different tire categories. Note, Before adjusting the low tire pressure warning value by yourself, please consult the tire specialists to see if there is any special requirement from your tires which needs to be put into consideration when making adjustments to this value.	
5	Press the **setup key** to exit the low tire pressure warning value setup mode. The system will automatically enter the high tire pressure set up mode.	

Tire Over Pressure Warning

Step	Operation process	Photograph
1	After setting up the low pressure figure, the system will automatically enter into the high tire pressure set up mode.	
2	The wireless receiver and display unit will now show the high tire pressure factory default value (50 psi) shown in green light and the blue light indicates the "psi". or pre-selected units (kPa or bar).	
3	Press the **function key** to adjust the high tire pressure warning value. When the tire pressure exceeds this setting, the system will generate warning signals.	

4	The high pressure figure set up range is from 40psi to 60psi, the driver can continually push the function key (the lower button) to adjust the appropriate low pressure figure; **the factory default value is 50 psi.**	
5	Push the **setup key** 设定键 to complete the low pressure setting operation. The system will automatically enter into the high tire temperature setup mode.	

Tire Over Temperature Warning

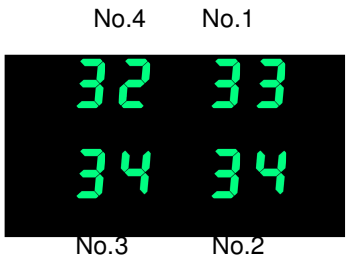
Step	Operation process	Photograph
1	After setting up the low pressure figure, the system will automatically enter into the high tire pressure set up mode.	
2	The first shown figure is the tires factory default high temperature value (**80°C) for the tires.** The green light indicates the tires factory default value (**80°C)**, the blue light indicator for "C", and the directive character indicator for "Hi".	
3	Press the **function key** to change the high temperature figure. When the tire temperature exceed this setting, the system will generate the warning signals.	
4	The high temperature figure set up range is from 60°C to 99°C, the driver can continually push the **function key** to adjust the appropriate high temperature figure; **the factory default value is 80°C.**	
5	Push the **setup key** to complete the high temperature setting operation.	

Reset for Tire Changes and Rotation

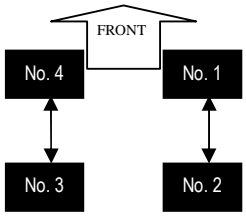
The rotation is necessary to prolong the life of your tires. The system requires resetting the tire position to ensure the transmitter sensor can indicate the right position of your tires on display unit. TPMS provides three modes of tire rotation methods and one mode for random repositioning and single sensor replacement.

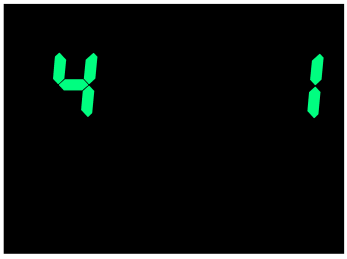
Mode 1: Front to Rear tires exchanged
Mode 2: Tires diagonal exchanged
Mode 3: Front tires diagonal exchanged, and Rear tires parallel exchanged to Front.
Mode 4: Random tire repositioning
Mode 5: Single sensor replaced

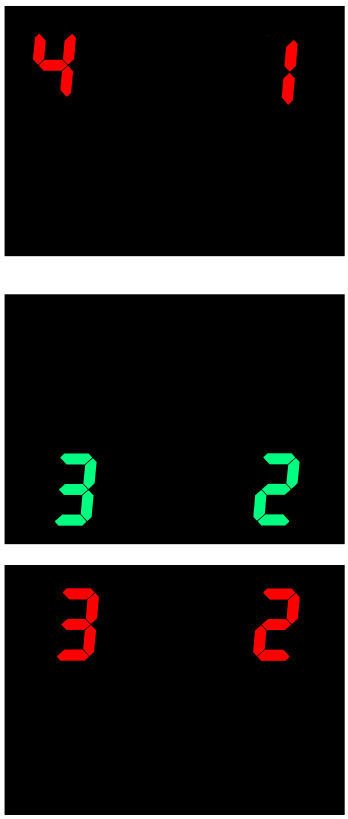
No.1 → Front-right tire
No.2 → Rear-right tire
No.3 → Rear-left tire
No.4 → Front-left tire



Mode 1: Front to rear tires exchanged



Step	Operation process	Photograph
1	Rotate the tires. Front to Rear, and Rear to Front. To prevent incorrect positioning, mark the tires.	
2	Push and hold the **setup key** first, then within 3 seconds push and hold **function key** keeping both buttons pressed simultaneously for 5 seconds. The display will flash green and red, and a "beep" sound will be heard. You can release the buttons, and the system will have entered into mode 1.	 —— Setup key  —— Function key
3	3-1 After entering mode 1, the display will show " 1", 3-2 LED lights will flash green for front tires, rear tires will flash red. (Green means tires position before changing, Red means after changing, it is to show that the front to rear tires have been exchanged.) 3-3 The operator only needs to press the **setup key** for 1 second and listen for the "beep". This means that mode 1 has been chosen and will exchange all four sensors ID positions and will automatically return the monitoring status to normal.	 

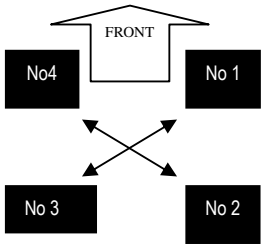
		

Warming

1.Do not turn off the vehicles power during this process. Doing so will immediately interrupt the repositioning setup process. The ignition can either be in the on or start position.

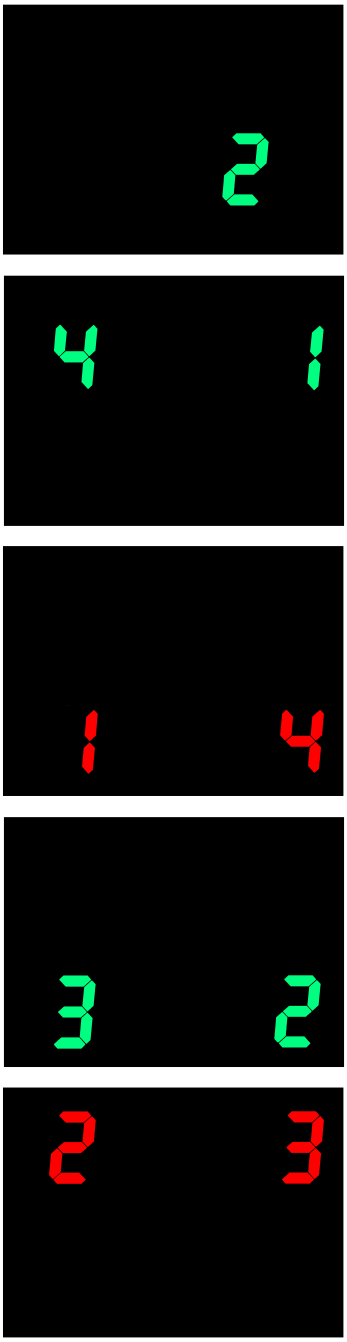
2.After repositioning, check the display is detecting all tire pressures correctly. If the system cannot work normally, please reset it and follow the instructions again.

Mode 2: Tires diagonal exchanged



Step	Operation process	Photograph
1	Rotate the tires diagonally. To prevent incorrect positioning. To prevent incorrect positioning, mark the tires.	

2	Push and hold the **setup key** first, then within 3 seconds push and hold **function key**. Keeping both buttons pressed simultaneously for 5 seconds. The display will flash green and red, and a “beep” sound will be heard. You can release the buttons, and the system will have entered into mode 1. Re-press **function key** for 1 second and wait for “beep”, then the LED will show”2” and system will have entered into mode 2.	 —— Setup key  —— Function key

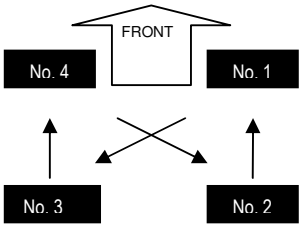
3	3-1 After entering mode 2, the display will show “2”. 3-2 Tires No1.and No.4 with green LED lights will turn red, and Tires No.2 and No.3 with green lights first and then turn red. (This means Tires are exchanged diagonally). 3-3 The operator only needs to press the **setup key** for 1 second and listen for the “beep”. This means the mode 2 has been chosen and will exchange all four sensors ID positions and will automatically return the monitoring status to normal.	

Warming

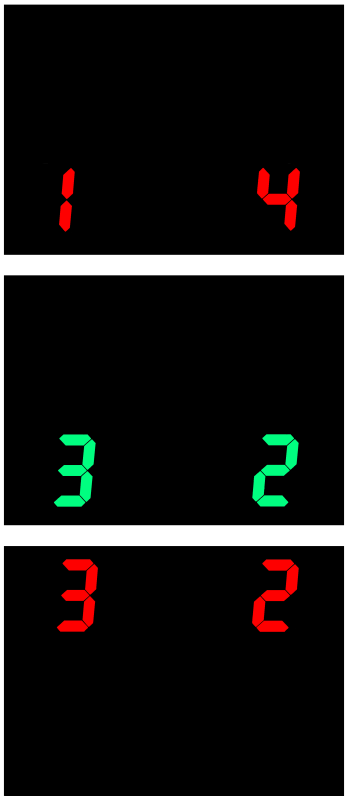
1.Do not turn off the vehicles power during this process. Doing so will immediately interrupt the repositioning setup process. The ignition can either be in the on or start position.

2.After repositioning, check the display is detecting all tire pressures correctly. If the system cannot work normally, please reset it and follow the instructions again.

Mode 3: Front tires diagonal exchanged, and Rear tires parallel changed to Front.



Step	Operation process	Photograph
1	Rotate the front tires diagonally to the rear, and the rear tires parallel to the front. To prevent incorrect positioning, mark the tires.	
2	Push and hold the **setup key** first, then within 3 seconds push and hold **function key** keeping both buttons pressed simultaneously for 5 seconds. The display will flash green and red, and a "beep" sound will be heard. You can release the buttons, and the system will have entered into mode 1. Re-press **function key** for 1 second and wait for "beep" then the LED will show "2", re-press the **function key** again, and wait for "beep", you will then see "3", the system will have entered into mode 3.	 —— Setup key  —— Function key
3	3-1 After entering mode 3, the display will show "3" 3-2 LED will flash diagonally for front to rear and parallel rear to front in red. 3-3 The operator only needs to press the **setup key** for 1 second and listen for the "beep". This means that mode 3 has been chosen and will exchange all four sensors ID positions and will automatically return the monitoring status to normal.	 

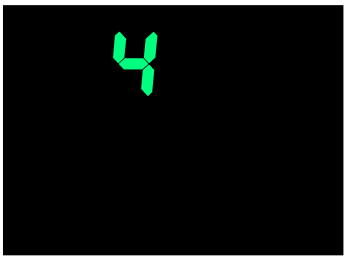
Warming

1.Do not turn off the vehicles power during this process. Doing so will immediately interrupt the repositioning setup process. The ignition can either be in the on or start position.

2.After repositioning, check the display is detecting all tire pressures correctly. If the system cannot work normally, please reset it and follow the instructions again.

Mode 4: Random re-position tires

Step	Operation process	Photograph
1	The tire shop will check the tire for abrasion and rotate tires into the appropriate position.	
2	Push and hold set **setup key** first, then within 3 seconds push and hold **function key** keeping both buttons pressed simultaneously for 5 seconds. The display will flash green and red, and a “beep” sound will be heard. You can release the buttons, and the system will have entered into mode 1. Continue to press the function key (the lower button), each time for one second and each time wait for the beep until the display shows”4”., After entering into mode 4 the LED will show “4” and the tire LED light will be on tire :”1”. If sensor on Tire	 —— Setup key  —— Function key

	No. “1” remains at the same position and need no reconfiguration, please press the setup button to enter into Tire No. “2” setup configuration.	
3	When Tire No. “1” needs to be reconfigured, deflate tire No.1 until 18 psi, and wait for the receiver to receive the signal. When tire No. 1 receives the signal, you will hear “beep”. Then, start inflate the tire No.1, it will keep on “beeping” till Tire No. 1 is completely inflated to normal pressure. Tire No.1 LED will turn from red to green when Tire No.1 is inflated to normal pressure, and now wait for tire No. 2.	    

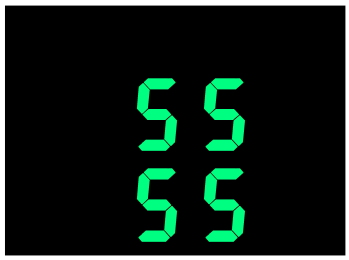
4	Repeat the above steps for tire No.2, No.3 and No.4	

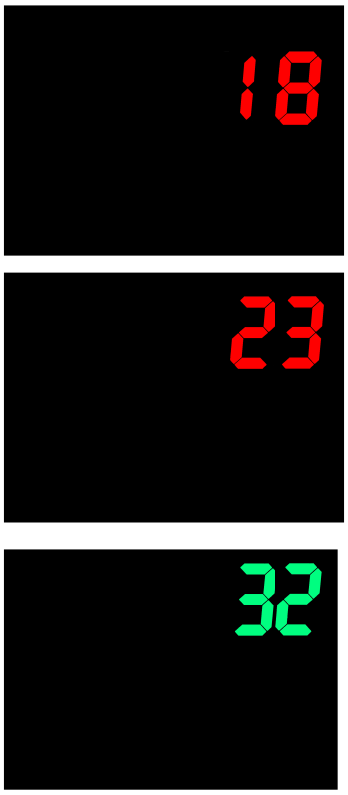
Warming

1.Do not turn off the vehicles power during this process. Doing so will immediately interrupt the repositioning setup process. The ignition can either be in the on or start position.

2.After repositioning, check the display is detecting all tire pressures correctly. If the system cannot work normally, please reset it and follow the instructions again.

Mode 5: Single sensor replaced

Step	Operation process	Photograph
1	Take off the broken sensor and replace it with a new sensor. (if you are only checking for a signal problem from Mode 4 instructions, there is no need to take off the sensor, start from step 2 if this is the case)	
2	Push and hold **setup key** first, then within 3 seconds push and hold **function key** keeping both buttons pressed simultaneously for 5 seconds. The display will flash green and red, and a "beep" sound will be heard. You can release the buttons, and the system will have entered into mode 1. Continue to repress the function key, each time for one second and each time wait for the beep until the display shows "5", Which means that mode has been chosen and now preparation can be made to exchange the replaced sensor's ID position. Tire No. 1 will show a green LED, which means to prepare for tire No. 1 set up.	 —— Setup key  —— Function key
3	When Tire No. "1" (Front-Right) needs to be replaced, deflate tire No.1 until 18 psi, and wait for the receiver to receive the signal. When Tire No. 1 receives the signal, you will hear "beep". Then, start inflate tire No.1, it will keep on "beeping" till Tire No. 1 is completely inflated to normal pressure. Tire No.1 LED will turn from red to green, and return to normal operation mode. This means that the sensor ID setting is now finished.	 

		
4	If the replaced sensor is not No.1 , then just click **function key** to choose which tire is going to need a replaced sensor. The tire LED will follow in order No1, No2, No3, No4 for tire choosing (with green LED).	

Warming

1.Do not turn off the vehicles power during this process. Doing so will immediately interrupt the repositioning setup process. The ignition can either be in the on or start position.

2.After repositioning, check the display is detecting all tire pressures correctly. If the system cannot work normally, please reset it and follow the instructions again.

Appendix

Glossary

kPa	Pressure reading in Kilo Pascal
psi	Pressure reading in pound per square inch
Bar	Pressure reading in bar
℃	Temperature reading in degrees Celsius
℉	Temperature reading in degrees Fahrenheit
Inflating Pressure environment	Recommended inflation pressure of a tire at ambient temperature of 25℃ by vehicle manufacturers.

Low Pressure Alert	Visual and audible warning, this is activated when the tire's pressure goes below the preset level. Initial low pressure alert is 26 psi
High Pressure Alert	Visual and audible warning, this is activated when the tire's pressure goes higher than the preset level. Initial High pressure alert is 50 psi
High Temperature Alert	Visual and audible warning, this is activated when the tire's temperature goes higher than the preset level. Initial High temperature alert is 80 ℃.
Display / Receiver Module	The electronic module mounted inside the vehicle that alerts the driver of any tire irregularities.
Sensor / Transmitter Module	The electronic module mounted on the wheels that measure the air pressure and temperature of the tire.

Annexes

Annex 1

kPa , psi, bar Conversion Table

kPa	psi	bar	kPa	psi	bar	kPa	psi	bar
10	1	0.1	210	31	2.1	410	60	4.1
20	3	0.2	220	32	2.2	420	61	4.2
30	4	0.3	230	34	2.3	430	63	4.3
40	6	0.4	240	35	2.4	440	64	4.4
50	7	0.5	250	37	2.5	450	66	4.5
60	9	0.6	260	38	2.6	460	67	4.6
70	10	0.7	270	39	2.7	470	69	4.7
80	12	0.8	280	41	2.8	480	70	4.8
90	13	0.9	290	42	2.9	490	72	4.9
100	15	1.0	300	44	3.0	500	73	5.0
110	16	1.1	310	45	3.1			
120	18	1.2	320	47	3.2			
130	19	1.3	330	48	3.3			
140	20	1.4	340	50	3.4			
150	22	1.5	350	51	3.5			
160	23	1.6	360	53	3.6			
170	25	1.7	370	54	3.7			
180	26	1.8	380	55	3.8			
190	28	1.9	390	57	3.9			
200	29	2.0	400	58	4.0			

Annex II

℃ To ℉ and ℉ To ℃ Conversion Table

℃	℉		℃	℉		℃	℉
-40	-40		20	68		80	176
-30	-22		30	86		90	194
-20	-4		40	104		100	212
-10	14		50	122		110	230
0	32		60	140		120	248
10	50		70	158		125	257

Warranty Policy

We warrant our products for one year (365 days) from the date of original purchase to be free from defects in materials and workmanship. If, during this period, the product fails under normal usage, because of a manufacturing defect, we will replace or repair the item. To obtain repair or replacement under the terms of this warranty, please return the product to the place of purchase. Proof of purchase and date of purchase are required to validate the warranty claim.
All implied warranties, including the warranty of merchantability, are limited to this same ninety-day period from date of original purchase. We are not liable for any direct or consequential loss or property damage arising from any use of this product. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state.
This does not affect your statutory rights.

Note: Warranty does not cover “Tire Valves” and “Screws for Tire Valves”, all the Tire valves and the Screws will need to be replaced with New Tire Valves and Screws when rotating tires, changing of tires, and changing of Wireless Transmitter sensors. (Whenever a Wireless Transmitter Sensor is installed or reinstalled a new Tire valve” and “Screws for the Tire Valve” must be used).

Warning **Only use TPMS sensor replacement parts (these can be purchased from Agents). TPMS cannot use other brands of TPMS sensors for replacement parts. Using other brands will be cause failure and will void the warranty.**