



**IMPROVE
TOWING
SAFETY** 



6 Wheel Display



Real Time
Tire Pressure &
Temperature



for Tractor
Trailer Battery



Maximum Measured
Pressure 203psi



Active Alarm

Tuson Towable Tire Pressure Monitoring System (TPMS) Installation and Operations Manual

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1. Warning

1.1 Federal Communication Commission Interference Statement

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 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.

1.2 Product Warning

1.2.1

Do not operate a TPMS receiver while driving. The company is exempt from all consequences because of driver's careless and improper operation.

1.2.2

The system adopts the wireless transmission of signals. In some special circumstances, interference or erroneous methods of operation or installation method errors may cause weaker signal or its inability to receive signals. If the insulation adhesive sticker of the windshield contains metal material, it will be likely to affect reception conditions. If the tire pressure and temperature readings on the TPMS receiver are displayed as "—", this condition represents the receiver cannot receive signals emitted by the sensors. Drive the vehicle away from the current location (nearby there may be signal interference) or drive the vehicle to a tire shop to check.

1.2.3

If the battery status of the TPMS sensors inside the tire is low (because abnormal conditions continue to occur, the battery may make the TPMS sensors continuously emit signals to warn the driver, so that battery life is shorter than the normal life), Please go as soon as possible to the specified service stations to confirm whether the TPMS Sensors need to be replaced.

1.2.4

Temporary resealing or re-inflation products containing internal sealants or propellants in any tire assembly may adversely affect the operation of the sensor/transmitter. The product manufacturer does not assume any liability as a result of these.

1.2.5

Do not leave the sensors in contact with chemicals, it may cause the sensors to fail.

1.2.6

The TPMS needs to be installed by qualified personnel in accordance with the installation manual in order for the TPMS warranty to be valid. If the TPMS sensor is improperly installed or disassembled causing damage to the sensors, the warranty will not cover this type of damage.


2. Product Parts List

NO	ITEM	Quantity
1	Sensor	6
2	Sensor Valve	6
3	Tire Pressure Monitoring Receiver	1
4	Repeater	1
5	Cigarette Lighter Cable(Vin=12~24V)	1
6	Suction Cup Holder	1
7	Cable Tie	5
8	User Manual	1

3. Product Specifications

3.1 Applied Vehicle Type: up to maximum 6-wheel trailer

3.2 Receiver Specification

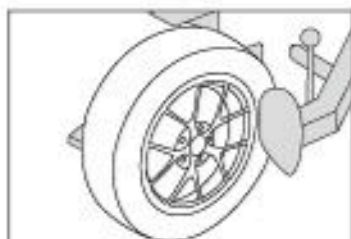
ITEM	Specification
Operating Voltage	12~24V DC 
Operating Current	120mA
Operating Frequency	433MHz
Operating Temperature	-4°F~185°F (-20°C~85°C)
Storage Temperature	-40°F~185°F (-40°C~85°C)
Pressure Monitoring Range	0~203 psi±1.5 psi (0 ~ 1400 kPa±10 kPa)
Temperature Monitoring Range	-40°F~257°F±5.4°F (-40°C~125°C±3°C)
Size	4.5"x2.1"x1"(116.5 x 53 x 25 mm)
Weight	3.4 Oz (95g)

Note: When using kPa as the unit of air pressure, the monitor will display "Hi" if the air pressure is over 999kPa. Air pressure values will be displayed normally when the unit of measure selected is in psi or Bar.

3.3 Repeater Specification

ITEM	Specification
Operating Voltage	12~24V DC ---
Operating Current	11.2mA
Operating Frequency	433MHz
Operating Temperature	-4°F~185°F (-20°C~85°C)
Storage Temperature	-40°F~185°F (-40°C~85°C)
Cable Length	90 inch (2300 mm)
Size	3.5"x3.8"x0.9" (88 x 96 x 23 mm)
Weight	6 Oz (170g)

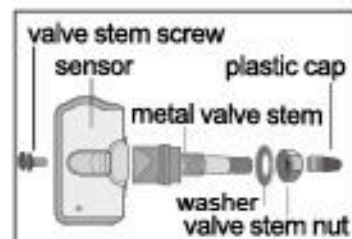
4. TPMS Sensor Installation



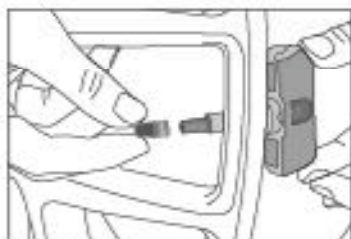
(Fig 1)



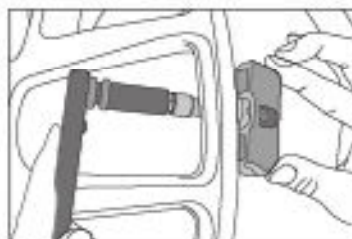
(Fig 2)



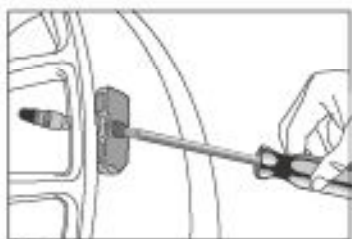
(Fig 3)



(Fig 4)



(Fig 5)



(Fig 6)

- (Fig 1) & (Fig 2) Deflate and remove the tire from the wheel using a tire mounting machine. For ease of tire removal, place the valve stem in the one o'clock position with respect to the tire press as shown in Fig 2.
- (Fig 3) Disassemble the tire pressure sensor by removing the plastic cap, valve stem nut and valve stem screw.
- (Fig 4) Install valve into the rim hole. Insert valve stem through rim hole and attach the sensor body to the inner surface of the wheel by adjusting the angle of the sensor body for the best fit.
- (Fig 5) Guide the washer onto the outside of the rim hole, then put the valve stem nut on the valve stem and tighten to 2.95 Ft-lbs (4 N-m) torque.
- (Fig 6) Install the valve stem screw into the sensor body. Tighten screw to 1.48 Ft-lbs (2 N-m) torque.

Now remount the tire back onto the wheel, being careful not to damage the tire pressure sensor during mounting of the tire.

Lastly, once the tire pressure sensors are installed, balance the wheel as you would normally adding weights if necessary to achieve rotational balance.

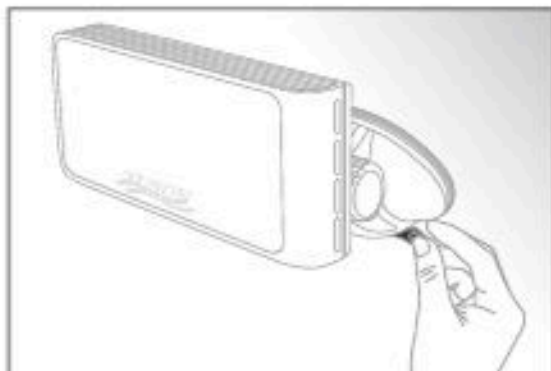
5. TPMS Receiver Installation

5.1 Receiver Appearance:



5.2 Installation Steps

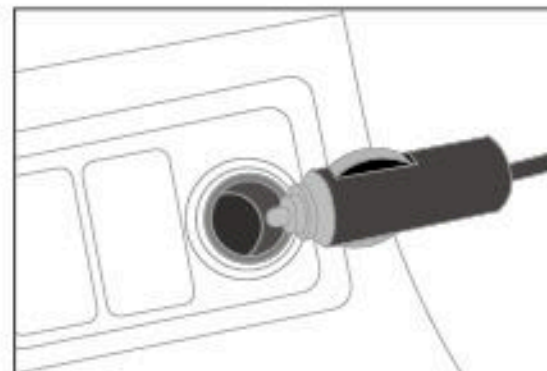
- 5.2.1. Combine the TPMS receiver with the suction cup holder, adjust to the proper angle and adsorb it on the windshield.
- 5.2.2. Insert the power cable into the bottom of the Receiver.
- 5.2.3. Insert the cigarette lighter side of the power cable into the cigarette lighter socket to supply power.



(Fig 1)



(Fig 2)



(Fig 3)

6 .TPMS Repeater Installation:

6.1 Repeater Appearance:



6.2 Installation Steps



- 6.2.1 Place the repeater inside the A-frame area of the trailer tongue, use the self-tapping screws to fasten the repeater. Please follow the "trailer side" sticker on the repeater for the fixation direction.
- 6.2.2 Mount the O-ring connectors on the repeater's power cables to the proper trailer battery terminals.
The RED power cable is to be connected securely to the POSITIVE (+) battery terminal.
The BLACK power cable is to be connected to the NEGATIVE (-) battery terminal.
- 6.2.3 Use the cable tie to fix the repeater power cable on the frame of the trailer tongue, avoid a loose repeater power cable by fastening the cable tightly to the A-frame.

7 .Driving Mode

When the receiver is turned on, it is in Driving Mode. The screen displays tire pressure, tire temperature and trailer battery voltage in sequence, the tire pressure, tire temperature and trailer battery voltage is updated on the monitor every 5 seconds.



7.1 Tire pressure Display: psi (Pressure units)

In the Driving Mode, the default value for tire pressure is set to 80 psi.



Press  to show the pressure value only. When it shows tire pressure on the display, press  again to back to rotation display mode.

7.2 Tire Temperature Display: °F (Temperature units)


In Driving Mode, the default value for tire temperature is set to 176 °F.

Press  to show the pressure value only. When it shows tire pressure on the display, press  again to back to rotation display mode.


7.3 Alarm Volume Adjustment

During the Driving Mode, press   to adjust the volume.

7.4 Mute Alarm

Press  to mute the alarm tone if driver wants alarm to be off. It will sound the alarm again if receiver power is reset, or another alarm occurs in this wheel, or if the alarm occurs in the other wheels.



7.5 Screen OFF

Hold  for 3 seconds to turn off the screen, the receiver is still working in the background.

7.6 Screen ON

Press any button to wake the LED display, the LED display will also light up when a tire alarm occurs.

8 .Setting Mode

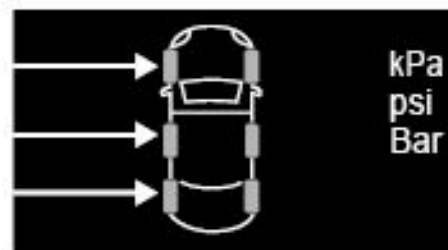
In Driving Mode, Hold  for 3 seconds for Setting Mode. Hold  for another 3 seconds to switch back to the Driving Mode.

(Press  to show the functions below; Press  to go back to the last step.)

1. Tire Pressure Unit Setting
2. Tire Temperature Unit Setting
3. Axle Number Setting
4. ID Learning
5. Tire Position Rotation Setting

8.1 Tire Pressure Unit Setting

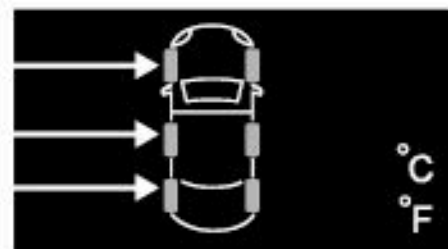
- 1.(LF – Driver Front, RF – Passenger Front)
- 2.(LR – Driver Middle, RR – Passenger Middle)
- 3.(TL – Driver Rear, TR – Passenger Rear)



- 8.1.1 The screen will show “kPa” “psi” and “Bar” by default.
- 8.1.2 Press **OK** then the units will blink, now press **▲▼** to select the desired unit, then press **OK** to confirm. You will have 60 seconds to make the changes; if no change is made within that period, the receiver will beep for a long tone to warn that the settings have not been completed.
- 8.1.3 Press **▲▼** to adjust the desired tire pressure value.
- 8.1.4 Press **OK** when the pressure is set to the desired value.
- 8.1.5 When you have completed the settings for all tires, you will hear three short beeps, indicating that the changes have been saved successfully.

8.2 Tire Temperature Unit Setting

- 1.(LF – Driver Front, RF – Passenger Front)
- 2.(LR – Driver Middle, RR – Passenger Middle)
- 3.(TL – Driver Rear, TR – Passenger Rear)



8.2.1. The screen will show “ °C ” and “ °F ” by default.

8.2.2. Press **OK** then the units will blink, now press **▲▼** to select desired unit, then press **OK** to confirm.

8.2.3. Press **▲▼** to adjust to the desired tire temperature value.

8.2.4. Press **OK** when the temperature is set to the desired value.

8.2.5. When you have completed the settings for all tires, you will hear three short beeps indicating that the changes have been saved successfully.

8.3 Axle Number Setting

8.3.1 The screen will show the default axle number.

8.3.2 Press **OK** and the numbers will start flashing.

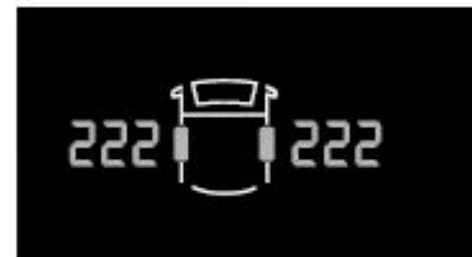
【6-Wheel】



【4-Wheel】



【2-Wheel】



8.3.3 Press ☒ ☐ to select the number of axles, and then press to confirm.

Pressing ☐ will increase one axle.

Pressing ☒ will decrease one axle.

8.3.4 Finally, press ☐ and the receiver will beep, indicating that the setting has been saved. The receiver will automatically go to the next step.

8.4 ID Learning

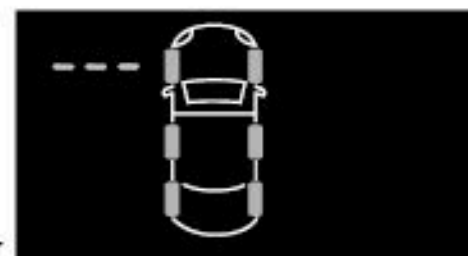
8.4.1 The screen will show “—” at the Left Front tire by default.

8.4.2 Press ☐ and the display “—” will start blinking, it is ready for ID learning. Each tire will have 120 seconds to complete the ID learning after the blinking starts. The receiver will emit a long beep and go back to the ID Learning Mode if it doesn't receive any signal from tire deflation within 120 seconds.

8.4.3 Deflate the corresponding tire, the receiver will beep when receiving the signal, the ID learn setting is finished when the screen shows the sensor's ID number.

8.4.4 Press ☒ for the next tire ID learning.

8.4.5 After completing the ID learning for all tires, press ☐.



8.5 Tire Position Rotation Setting









8.5.1 The tire position display will be shown.

- 8.5.2 Press **OK** to enter tire position rotation mode, digit 1 at the LF position will blink by default. Then press **▲ ▼** to select the original tire position which needs to be changed and then press **OK** again, and the digit at that selected position will turn green. If no change is made in this mode for 60 seconds, the receiver will beep to warn that setting has not been completed successfully.
- 8.5.3 Then press **▲ ▼** to select the new position to which you want to move the previously selected position, and press to confirm, the digit at the new position will also turn green.
- 8.5.4 The digits at both exchanged positions will remain displayed in green for 3 seconds to show which 2 tires are exchanged. Then the chosen digits will automatically turn back to red.
- 8.5.5 Then the screen shows the new positions, if you need to exchange more than one pair of tires, press **OK** to repeat the procedure.

9. Abnormal Warning And Symbol Illustration

When the TPMS sensor transmits an abnormal signal to the receiver, a warning symbol will be displayed and a continuous beep will be emitted as an alarm. The abnormal value is shown on the corresponding tire on the receiver.

1. **Warning of excessive high tire pressure** indicates tire pressure has been risen to 50% or more of the standard tire pressure value set by the user.
2. **Warning of excessive low tire pressure** indicates that the tire pressure has decreased by 20% or more of the standard tire pressure value set by the user.
3. **Warning of excessive tire temperature** indicates that the tire temperature has risen over the standard tire temperature value set by the user.
4. Climate change could be a factor for tire pressure change, please go to a service shop to do pressure adjustments, in order to avoid the occurrence of false alarms.

Alarm	Definition	Symbol	Alarm Sound
Low Pressure	$P \leq (0.8 \times \text{standard pressure valve})$ or $\leq 150 \text{ kPa}$, take the bigger value		Beep (per second)
High Pressure	$P \geq (1.5 \times \text{standard pressure value})$		Beep (per second)
High Temperature	$T \geq (\text{standard temperature value})$		Beep (per second)
TPMS System Alarm	No signal receiving at least 10 minutes. Not activated when vehicle is stopped.		None
TPMS Sensor Low Battery Power	Sensor battery is in low battery power status	Lo	Beep (per second)
Low Battery Power on the tow Vehicle (12V)	Battery voltage at the tow vehicle $\leq 11.5\text{V}$		None
Low Battery Power on the Trailer (12/24V)	Battery voltage at the trailer $\leq 11.5\text{V}$ or $\leq 23\text{V}$		None

10. Troubleshooting

Issue	probable causes	Solution
ID learn failed (TPMS alarm with a long beep in rapid deflation learning setting)	<ul style="list-style-type: none"> • Wireless signal interference • The deflated air amount is not enough 	<ul style="list-style-type: none"> • Remove receiver to other area. • Keep deflating the tires for 20~30 seconds
Pressure anomaly warning (TPMS alarm with short beeps)	<ul style="list-style-type: none"> • Low tire pressure 	<ul style="list-style-type: none"> • Please inflate the tires to the correct pressure to prevent an erroneous alarm
No signal received (Screen shows the pressure and the temperature as "—")	<ul style="list-style-type: none"> • Signal interference • Vehicle has stopped or moves too slowly • Sensor is damaged or low battery power 	<ul style="list-style-type: none"> • Move the tow vehicle away from the current area • Keep driving for a few minutes, make tires rotate to capture signals • Go to a qualified service shop for installation of a new sensor on your wheel



Tuson RV Brakes, LLC
From the Leader in Trailer Safety Technology