Tire Pressure Monitoring System

Specified for Toyota

Instruction Manual
TM528/SO

Contents

1. TPMS MAIN FEATURES - - - - - - - - - 01

2. PRODUCT FEATVRES - - - - - - - - - - 01

3. SYSTEM COMPONENTS - - - - - - - - 02

4. INSTALLATION - - - - - - - - - - - - - - 03

5. PRESSURE UNIT SETTING - - - - - - 03

6. MONITOR ALERTS - - - - - - - - - - - - 04

6-1. High Pressure Alert - - - - - - - - - - 04

6-2. Low Pressure Alert - - - - - - - - - - 04

6-3. High Temperature Alert - - - - - - - - 05

6-4. Fast Leakage Alert - - - - - - - - - - - 05

6-5. Sensor Low Battery Alert - - - - - - - 05

7. PARAMETER SETTING - - - - - - - - 06

8. PROGRAMMING SETUP - - - - - - - - 06

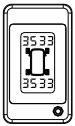
9. EXTERNAL SENSOR INSTALLATION - - - 07

10. TPMS MONITOR SPECIFICATIONS - - - 09

11. SENSOR SPECIFICATIONS - - - - - 09

12. CAUTIONS - - - - - - - - - - - - - - - 09

Product Picture



Monitor Display

SO Sensor

1. TPMS MAIN FEATURES

Reduce Driving Risks

It was reported that an astonishing 75% of all running tires in the USA are under-inflated and 70%of fatal traffic accidents were caused by tire blowouts. With a TPMS, drivers are warned of abnormal tire conditions before it becomes dangerous.

Improve Fuel Economy

Today's tire designs make visual inspection of deflated tires very difficult. Very often, a 30% under-inflated tire looks very much like a fully inflated one. A TPMS will make sure your tire pressure is at its proper level. A 9PSI drop in tire pressure will cause approximately 4% increase in fuel consumption.

Prolong Lifetime of Tires

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

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

2. PRODUCT FEATVRES

- Reliable and easy to install.
- Blue backlight.
- Fixed high/low pressure warnings.
- Fixed high temperature warnings.
- Visible and audible alerts.
- Selectable pressure units: PSI or BAR.
- Real time monitor tire pressure and temperature.
- Displays pressure or temperature of 4 tires simultaneously.

3. SYSTEM COMPONENTS

Receiver accessories

Monitor
(1 pc)

Power Cable
(1 pc)

Sensor accessories

SO Sensor

Opener Tool
(1pc)

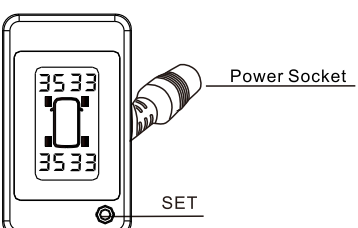
Hex Wrench
(1pc)

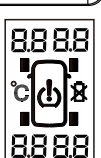
Hex Nut
(4pcs)

Ribber O-Ring
(4pcs)

Quantity of Sensor will be shipped in 4 pieces or specified by customer to add one more pieces for spare at extra cost.

MONITOR COMPONENTS AND ICONS



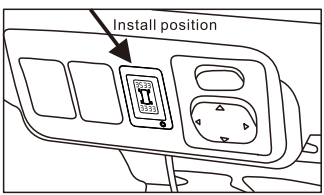


Pressure Default Unit : PSI
Temperature Default Unit : ℃

Icon	Description
	Tire Indicator
	Faulty Pressure
℃	High Temperature
	Sensor Low Battery Indicator

4. INSTALLATION

1. Open the car spare cabinet as the pictures below.
2. Connect the red wire of power cable with positive polarity of car power, while connect the black wire with negative polarity. Then plug the power cable into the monitor power socket.
3. Put the monitor back to the cabinet until it start to work.

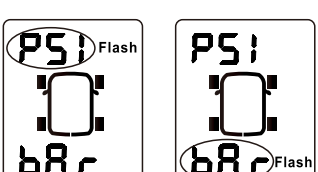


Drives do not need to stare at the monitor during driving, it will give visible and audible alerts when it detect abnormal pressure or temperature.

5. PRESSURE UNIT SETTING

There are two pressure units(psi & bar) supply for user to select, detail operation is as below:

1. In standby mode, press and hold the **SET** button for 6 seconds and release it after thesecond beep, the current pressure unit will flash.
2. Press the **SET** button once to select the another pressure unit.
3. Press the **SET** button for 3 seconds and release it after the beep to save the settings and exit to standby mode.
5. If no action is taken for 1 minute, the system will return to the standby mode without making any changes.



6. MONITOR ALERTS

The sensors send pressure and temperature readings to the monitor every 5 minutes. If any reading is out of the pressure and temperature ranges, you will notice 3 things:

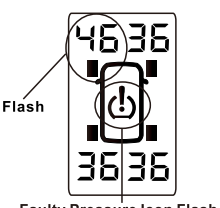
1. An audible alarm;
2. The red backlight will be lighted every 3 seconds;
3. The corresponding icons on the monitor will flash.

Press **SET** button to switch the alarm off. However, the red backlight will not be turned off until the correct pressure and temperature settings are restored to within range. The factory preset values are:

High Pressure:	46PSI
Low Pressure:	25PSI
High Temperature:	75℃

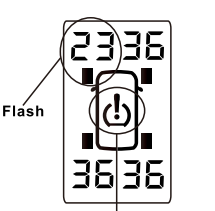
6-1. High Pressure Alert

When the sensor detects the high pressure in a tire, it will send an alert to the monitor immediately. The related tire icon, high pressure data and faulty pressure icon will flash. The audible alarm will be on and the flashing red backlight will be lighted every 3 seconds. Press the **SET** button to turn off the alarm. However, the flashing reading, icons and red backlight will continue until the problem is corrected.



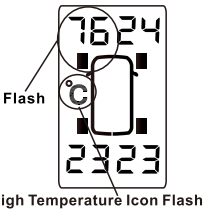
6-2. Low Pressure Alert

When the sensor detects the low pressure in a tire, it will send an alert to the monitor immediately. The related tire icon, low pressure data and faulty pressure icon will flash. The audible alarm will be on and the flashing red backlight will be lighted every 3 seconds. Press the **SET** button to turn off the alarm. However, the flashing reading, icons and red backlight will continue until the problem is corrected.



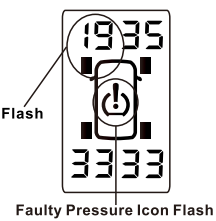
6-3. High Temperature Alert

When the sensor detects the high temperature in a tire, it will send an alert to the monitor immediately. The related tire icon, high temperature data and high temperature icon will flash. The audible alarm will be on and the flashing red backlight will be lighted every 3 seconds. Press the **SET** button to turn off the alarm. However, the flashing reading, icons and red backlight will continue until the problem is corrected.



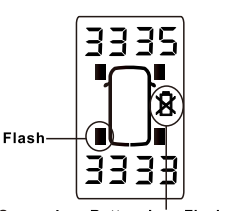
6-4. Fast Leakage Alert

When the sensor detects the abnormal leakage in a tire, it will send an alert to the monitor immediately. The related tire icon, pressure data and faulty pressure icon will flash. The audible alarm will be on and the flashing red backlight will be lighted every 3 seconds. Press the **SET** button to turn off the alarm. However, the flashing reading, icons and red backlight will continue until the problem is corrected.



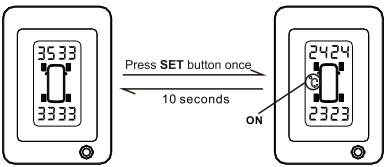
6-5. Sensor Low Battery Alert

When the sensor detects low battery level, it will send an alert to the monitor immediately. The related tire icon, sensor low battery icon will flash. The audible alarm will be on and the flashing red backlight will be lighted every 3 seconds. Press the **SET** button to turn off the alarm. However, the flashing tire icon and red backlight will continue until the sensor has been replaced with a new battery.



7. PARAMETER SETTING

In standby mode, the monitor displays 4 tires' pressure, and it will change to display the temperature by pressing the **SET** button once. It will return to display pressure in 10 seconds automatically.



8. PROGRAMMING SETUP

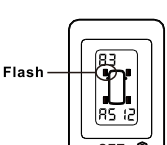
The factory has already coded 4 sensors to the monitor, and the sensors can be re-coded according to actual tires' position after exchanging the tires. There is Inflate Code Learning for re-code the sensors:

e.g.: The left rear tire and left front tire need to be exchanged. Before exchanging, the ID code of the sensors at left rear tire is "06d6AF" , and the ID code will be "FF FF FF" after it re-codes to left front tire, and the ID code of the left front tire will be "06d6AF".

8-1. Inflate Code Learning

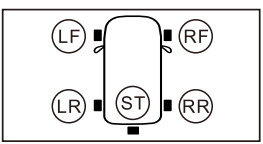
1. In standby mode, press and hold the **SET** button 3 seconds until the beep, a flashing tire icon is displayed together with the corresponding sensor ID code.
2. Press the **SET** button to select the tire position you want to re-programme.
3. Then inflate the tire, the sensor will send its ID code to the monitor automatically. A beep will be issued and the sensor ID will be displayed.
4. Press the **SET** button to select the other tire sensors and repeat the above operations.
5. When all sensors are coded, press and hold the **SET** button 3 seconds until the beep, it will store the tires ID code and return to standby mode.

Note:
If a sensor is coded twice onto the same monitor, the previous tire icon will be deleted automatically.



9. EXTERNAL SENSOR INSTALLATION

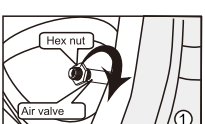
Factory has already set up the codes for all the sensors which are provided and matched with the monitor, and each sensor is marked with the corresponding tire position(LF,RF,LR,RR,ST; LF=Left Front Tire, RF=Right Front Tire, LR= Left Rear Tire, RR=Right RearTire, ST=Spare Tire), Please install each sensor in the correct tire position as per the right diagram .



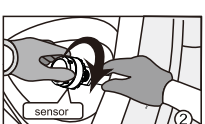
Note: In order that the monitor can receive the sensor data immediately,please make sure the monitor is power on before installing the sensor

9-1. Sensor Installation

Notice: please ensure to turn on the monitor firstly before install the sensor so that the monitor can receive the sensor data on time.



① Fix the hexagon nuts in tire valve.



② Fasten sensor to the tire air valve.

③ Use special wrench to tight hexagonal nuts in counter clockwise direction.

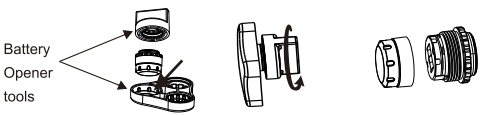
Tips:

1. Each senor are labeled with its wheel position and highly recommended to be used during installation.
2. If battery inside sensor has insufficient voltage will trigger battery low alarm.
3. After all sensor has been installed, please ensure no any air leakage over wheel surface and may use soapy water for testing if necessary.

9-2. Sensor battery replacement

When the sensor low battery icon“ ”shows on the monitor and corresponding tire icon is flashing, the sensor battery needs replacement. Using CR1632 battery cell which operates at -40℃ to +80℃ is recommended. You can buy replacement batteries from your local dealer.

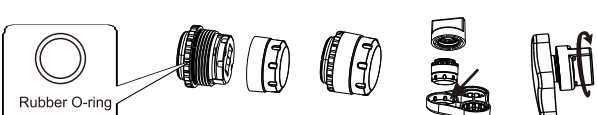
(1) Use fixture provided inside package and open the plastic enclosure in counter clockwise direction.



(2) Use the hex wrench provided to remove the cover from sensor.

(3) Replace new CR1632, (+) terminal upward.

(5) Open or fasten the sensor battery cover with special opener tools. Please check if the rubber O-ring is in good condition otherwise replace a new one.



10. SPECIFICATIONS

Operational Temperature	-20°C to 80°C
Storage Temperature	-30°C to 85°C
Charger Input Voltage	DC 8 to 30V
Transmission Frequency	433.92MHz
Size	33.9(L) x 23.4(W) x 59.2(H) mm
Weight	30.5g

11. SENSOR SPECIFICATIONS

	External Sensor
Operation Temperature	-40℃ ~ 80℃
Storage Temperature	-40℃ ~ 85℃
Pressure Range	0 ~ 116 psi (0 ~ 8bar)
Pressure Accuracy	±1.5 psi(±0.1 bar)
Temperature Accuracy	±3℃
Transmission Power	<10dBm
Transmission Frequency	433.92MHz
Battery life	≥2 years
Size	0.069 (Φ) x 0.056 (H) inch
Weight	9g

12. CAUTIONS

1. The monitor should be well fixed to avoid falling off during driving.
2. After the sensor installation, it is highly recommended to check for any air leakage.
3. This TPMS can effective monitors tire pressure and temperatures but cannot prevent traffic accidents, regular tire inspection and maintenance is still necessary.
4. 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 tires.

Information in this manual is subject to change without notice.