TPMS WT110
Tire Pressure Monitoring System

User's Manual

Thank you for buying our automobile tire pressure monitoring system **WT110，WT110 including transmitter（WTTX001）and receiver (WTRX001)**

- This product can be used for light vehicle with tire pressure under 3.5Bar;
- For a safe and correct use of it, please read this manual first.

Packing List

Please make sure that your product includes all the following items:
In case of short of any item, please contact your distributor for consultation.

Transmitter（WTTX001）4		User Manual	1
Receiver **(WTRX001)**	1	Installation pin	1
Double-side Tape	2	Screw glue	1
Seal washer	4		

CONTENTS

FOREWORD

According to statistics, about 70% of all traffic accidents are caused by tire blowout, while the figure would be higher to 80%. The statistics of SAE shows that there are over 260000 accidents caused by tire blowout or leak, and about 75% tire fault is caused by low pressure or leak. US government requires developing TPMS product to reduce traffic accidents. NHTSA in US develop a project that truck, bus, car and SUV with gross weight less than 4500 Kg should be installed TPMS product to improve traffic safety.

It is because long time driving under abnormal tire pressure or temperature that rubbing abrasion of tire become rapid to cause tire blowout. The aim of TPMS is to notice the driver to keep tires in correct condition when driving. Just as the figures showed below, figure B and C result in stress centralization that it makes the tire shoulder be abraded rapidly if under low pressure condition while the centre part be abraded rapidly if under high pressure.
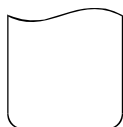
Three different inflation condition of tire
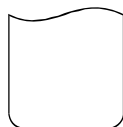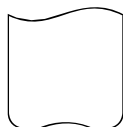
A. Normal   B. low pressure   C high pressure

INTRODUCTION

Our TPMS product uses reliable integrated circuit, according diffusible silicon sensing principle and RF communication principle, which makes the product perform well, easy to install and work stably. This type product is one of the most advanced TPMS products in the world.

- This product belongs to Pressure-Sensor Based TPMS. The sensor is installed in tire to measure the pressure and temperature. The tire is monitored all the time and when it is under abnormal condition our product can send alarm information to driver to tell the emergency of improper pressure or temperature.
- The driver can keep up on the tire condition and keep the tire in normal condition, thus the tire life can be extend.
- The driver can avoid increasing the braking distance and making the auto sideslip on wet road with this product
- Gas saving is another important benefit to customers if using this product.

This product makes you drive safely. If there's any abnormal, it can send the message immediately including the value of the pressure and temperature, which make you drive reliably.

This product can monitor the pressure and the temperature of each tire. It will warn the driver if any tire is abnormal.

a) Reading function: to check the information of each tire;

b) Set function: to set the standard value of pressure ,unit of pressure and temperature;

c) Warning function: Low pressure warning, high pressure warning, leakage warning, high temperature warning, low power of transmitter warning, no signal warning.

Receiver operation

1. Key introduction

Enter key: Read the information of each tire or confirm the settings.

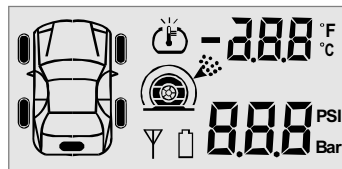UP key: select transmitter and increase.

DOWN key: Set and decrease.

UP key

DOWN key

Enter key

2. Power on

The LCD shows as the following figure when power on, which means the receiver is doing self checking and all LED on. The self checking will be finished in 3 seconds and the LCD will display the information if Key is on.
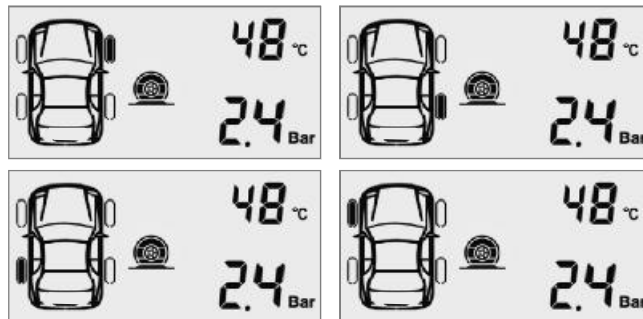
The LCD, LED, buzzer and keys will turn off if Key is off, but the receiver still monitors the tires, if some abnormal message is received, the information will be recorded and displayed on LCD when Key is on.

3. Message of each tire displays in turn

When Key is on and all tires are under normal condition, the message of each tire is displayed in turn every five seconds twice. Right front tire →right rear tire →left rear tire →left front tire. It will stay at right front tire if no warning message received. If there is a warning message and Key is on, the warning message is displayed, if there are 2 or more warning messages, warning messages are displayed in turn.

4. **Displaying in turn finished:**
   a) If some warning message is received, the warning message will be displayed
   b) Any key press will stop turn-by-turn displaying except UP key if there is warning message.

5. **Warnings**
   a) High pressure warning: the buzzer turns on for 6 beeps and red LED is on; the value of pressure and temperature, the tire icon of the warning transmitter are displayed and the icon of high pressure is flashing; the buzzer will stop buzzing if any key is down. The warning message of each tire will be displayed in turn if more than one tire is under abnormal condition.

   b) Leakage warning: the buzzer turns on for 6 beeps and yellow LED is on; the value of pressure and temperature, the tire icon of the warning transmitter are displayed and the icon of leaking is flashing; the buzzer will stop buzzing if any key is pressed. The warning message of each tire will be displayed in turn if more than one tire is under abnormal condition.
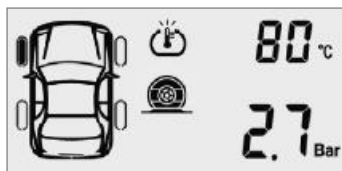
   c) Low pressure warning: the buzzer turns on for 6 beeps and red LED is on; the value of pressure and temperature, the tire icon of the warning transmitter are displayed and the icon of low pressure alarming is flashing; the buzzer will stop buzzing if any key is pressed. The warning message of each tire will be displayed in turn if more than one tire is under abnormal condition.

   d) High temperature warning: the buzzer turns on for 6 beeps and red LED is on; the value of pressure and temperature, the tire icon of the warning transmitter are displayed and the icon of high temperature alarming is flashing; the buzzer will stop buzzing if any key is pressed.

The warning message of each tire will be displayed in turn if more than one tire is under abnormal condition.

e) Low power of transmitter warning: the buzzer turns on for 6 beeps and yellow LED is on; the value of pressure and temperature, the tire icon of the warning transmitter are displayed and the icon of low power is flashing; the buzzer will stop buzzing if any key is pressed. The warning message of each tire will be displayed in turn if more than one tire is under abnormal condition.

f) No signal warning: the buzzer turns on for 2 beeps and yellow LED is on; the value of pressure and temperature, the tire icon of the warning transmitter are displayed and the icon of no signal is flashing; the buzzer will stop buzzing if any key is pressed. the

warning message of each tire will be displayed in turn if more than one tire is under abnormal condition
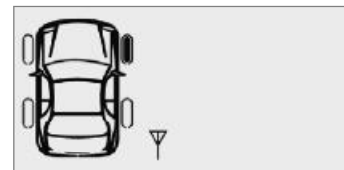
Note: Only if the well inflated tire icon is displayed with green LED on, it means no warning. The warning or warning messages are displayed in turn if there are more than one transmitter are under abnormal condition.


6. Manual reading
The warning message can be displayed automatically when any tire is under abnormal condition. Enter key will select the tire to display its information.

7. Set up a transmitter
Press the DOWN key for 3 seconds, "SET" will be displayed, then press the Enter key to enter next step. When "P-B" is displayed , press the UP key to make "L-C" displayed, then press Enter key to select right front tire and "F01" displayed. Select the tire to be set up

by UP key and make the new one send out RF signal, sensor's ID (like "E6 5A" -- on the ID card) will be displayed after the receiver received the information, then press Enter key to accept it with "---" displayed. After that, press UP key till "END" displayed and press Enter key to finish setting up.
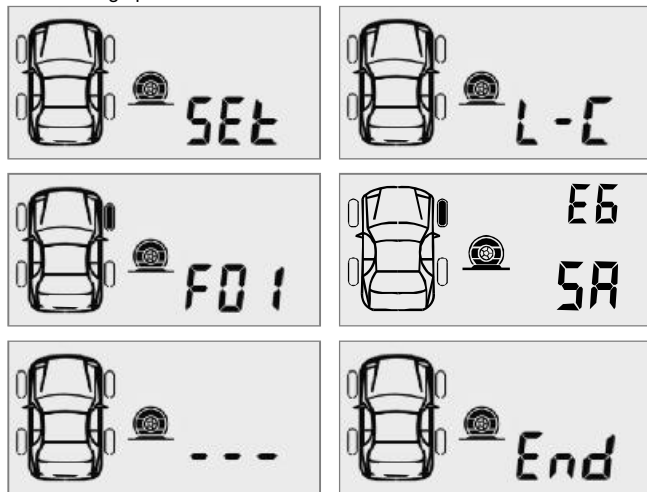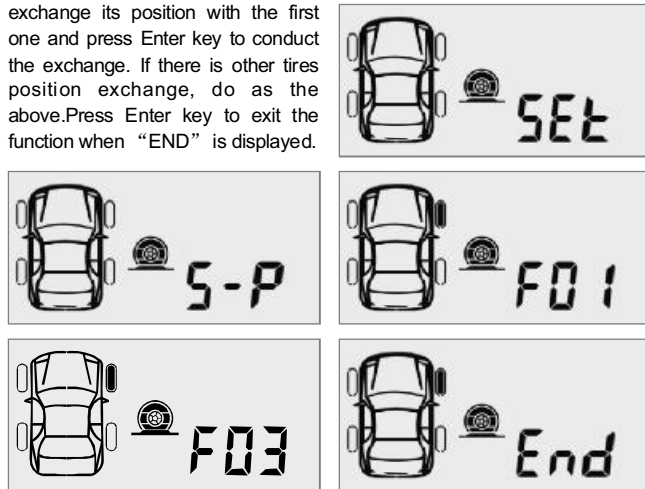

8. Exchange tires position

Press DOWN key for 3 seconds and "SET" will be displayed, then press Enter key and "P-B" be displayed. If "S-P" is displayed by pressing UP key, press Enter key with right front tire icon and "F01" displayed,

press UP key to select the tire (for example "F01") which will be exchanged the position, then press DOWN key to select the second tire (for example "F03") which will exchange its position with the first one and press Enter key to conduct the exchange. If there is other tires position exchange, do as the above.Press Enter key to exit the function when "END" is displayed.
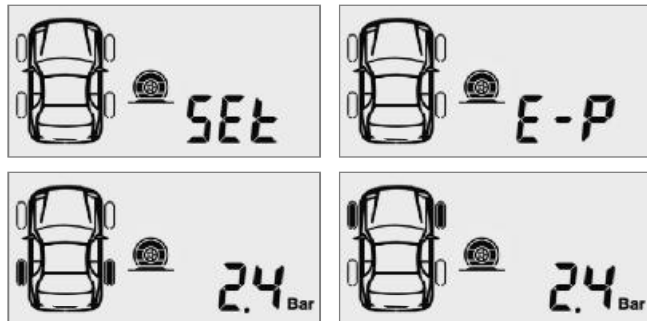

9. Standard pressure setting

The pre-set standard pressure is 2.4Bar. Keep on press DOWN key for 3 seconds to let "SET" be displayed, then press Enter to make 'P-B" be displayed. If "E-P" is displayed by pressing UP key, press Enter key with front tires icons and previous set value (like 2.4Bar) displayed, press UP key to make the figure increase while DOWN key decrease,

press Enter key to accept the value with rear tires icons displayed instead of front tires. To set the rear tires value as same as front tires.
Note: Standard tire pressure is the cold tire pressure recommended by manufacture the tire.
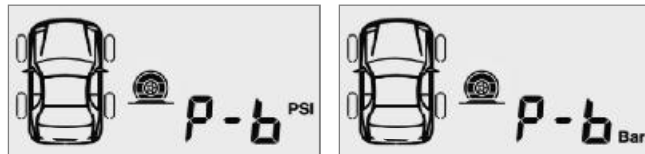

10. Pressure unit setting
The pre-set pressure unit is "Bar". Press DOWN key for 3 seconds to let "SET" be displayed, then press Ener key to make 'P-B" be displayed. Press Enter key to enter the pressure unit menu. Press UP key to change between "Bar" and "PSI", press Enter key to accept your selection.
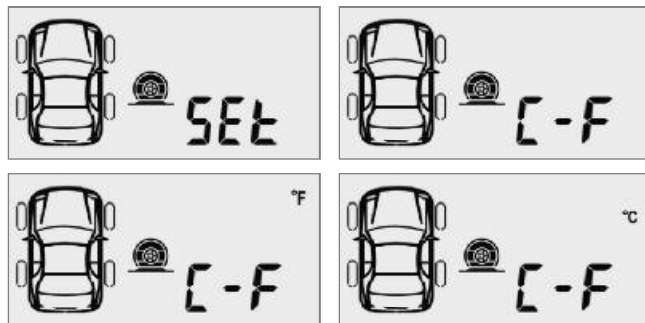
11. Temperature unit setting
The pre-set temperature unit is "℃". Press DOWN key for 3 seconds to let "SET" be displayed, then press Enter key to make "P-B" be displayed. If "C-F" is displayed by pressing UP key, press Enter key to enter the temperature unit setting menu. Press UP key to change between "℃" displayed. Press Enter key to confirm your selection.

INSTALLATION

Transmitter Installation
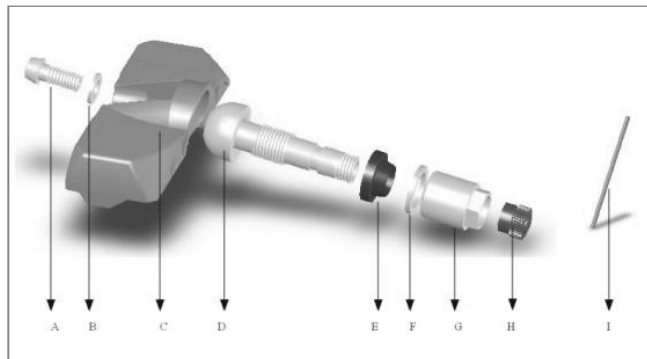
A：screw	F：metallic washer
B：metallic washer	G：collar nut
C：electronic unit	H：valve cap
D：valve	I：installation pin
E：rubber washer	

1) Take out of the product from the package, and the transmitter is a whole unit. It's needed to unscrew the valve cap (H) and the collar nut (G), take off the metallic washer (F), and loose the screw (A).

2) Put the electronic unit (C) and valve (D) through the valve hole of the hub. Then put the metallic washer (F) on the valve, tighten the collar nut (G). (Fig-1)

INSTALLATION

3) Put the installation pin (I) into the radial boring of the valve and tighten collar nut (4±0.5 Nm torque.) (Fig-2)

4) Press the electronic unit lightly into the deep well of the hub in order to let the electronic unit lie flat in the drop center. Apply the thread glue on screw (A) then tighten it the with 4±0.5 Nm torque.(Fig-3)

5) Now the electronic unit had tightly leaned against the valve. (Fig-4)

6) Tighten the valve cap and complete the installation. (Fig-5)

7) Install tire onto the wheel. Attention must be paid to ensure that the tire bead does not press against the wheel electronic unit! Inflate the tire and do the balance. Make sure there is no air leak.

8) Do the same thing as above to the other tires.

INSTALLATION

Receiver Installation

The receiver should be attached to the dash surface using double-side tape, where the driver can see it easily.
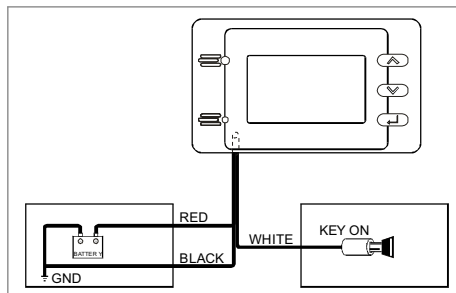

Correctly connect the cable:

Red wire：＋12V（connect to the electric cell）

White wire：ON

Black wire： GND

TECHNICAL SPECIFICATIONS

Warnings Table

SN	Warning type	Value threshold
01	High pressure warning	The pressure is higher than standard about 40%
02	Leakage warning	The pressure decrease over 0.2Bar in 20 seconds
03	Low pressure warning	The pressure is lower than standard about 25%
04	High temperature warning	The temperature of tire is over 80℃
05	Low power of transmitter warning	The power of any transmitter is less than 2.4V
06	No signal warning	Missing some transmitter messages over 20 minutes after "ON"

Unit conversion

Pressure unit conversion: 1kg/cm2= 0.98Bar= 14.2PSI = 98.0665kpa

Air pressure equals 1.03327 kg/cm2

Temperature unit conversion: C=5/9（F-32） F=9/5C+32

Note: C means Celsius; F means Fahrenheit

Technical Specifications

A) Receiver:

Power supply: DC 12V±3V

Working temperature: -40℃ ~ +85℃ （LCD：-20℃ ~ +70℃）

Iddle currency: <18mA

Working frequency: 433.92MHZ

B) Transmitter:

Power supply: DC2.1-3.6V

Working frequency: 433.92MHZ

Working temperature: -40℃ ~ +125℃
Pressure detecting range：0-3.5Bar
Pressure detecting accuracy：±0.1Bar（at 25℃）
Temperature detecting range：－40℃ ~ +125℃
Temperature detecting accuracy：±2℃（at 25℃）

SERVICE AND WARRANTY

Warranty Clause
Guarantee: In the period of warranty, our dealer and the service center can repair this product to correct the flaw of the material, design or workmanship in the reasonable time on business. The product can be changed if we think necessary.

Warranty Date
Guarantee period is 12 months counted from the purchase day.

How to get the warranty service
User must show
1. Product（part of influence）;
2. Invoice that name and date could be read clearly;
3. Warranty card.

Exception to Warranty:
1. Normal abrasion;

2. Change or Modify the product without any authorization;
3. Damage caused by wrong operations;
4. Repair without authority;
5. Other damage not because of design, technical, manufacturing and quality problem of the system.;
6. Under the extreme temperature and environment or influenced by corrosion and oxidation.
7. The non-renewable parts such as battery.

Important Statement
1. The data of tire pressure and temperatures displayed by our TPMS are just for warning, so the data itself cannot prevent the car from occurring accident.
2. Our TPMS is a safety system that monitors the conditions of tire pressure and temperature. When the condition is abnormal, our TPMS warns the driver to take precautions so as to prevent traffic accident. But it doesn't mean usual checking of the tire is no longer necessary. Drivers should follow the Car User Manual to take usual check of the tire condition. If the accident is caused by the abrasion, crack, break of the tire or perforation into the tire, our TPMS is not responsible for it.
3. This system complies with part 15 of FCC Rules. Operation must be subject to the following two conditions: (1) This system does not cause harmful interference, and (2) this system can operate normally in any interference received, including interference that

may cause undesired operation.

4. This system has been tested to comply with the limits for a Class B Digital Device, specified in the Article 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

5. This system complies with all European Electromagnetic Compatibility Regulations (95/54/EC and EN 300 220-1).

6. This system complies with National Regulations for auto electronic products, and meets the EMC requirements and the requirements made by Radio-Communication Administration for low-power consumption transmitters and receivers.

Legal obligation

The warranty clause must be explained under the law. If the law allows, for the product itself, we has the only responsibilities to exchange goods, supply the same goods, maintenance the goods or pay the cost for the same quantity of the product, for the service itself, we has the only responsibility to supply the service or pay the cost for the same service.

Attention:

1. Operation is not suggested during driving.

2. Once being warned, the driver should immediately slow down and stop the vehicle to have the vehicle checked and repaired. Only when tire pressure and temperature return to normal

condition, the vehicle can be allowed to drive on.

3. The warranty information and product features may be modified without notice.

Warning:

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,

(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 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.

Changes or modifications not expressly approved
by the party responsible for compliance could
void the user's authority to operate the equipment.

WARRANTY CARD

User Information	User Name		Telephone	
	Address			
	E-mail		Zip Code	
Product Information	Product Name		Product Model	
	Product Color		Product Number	
Dealer Information	Dealer Name		Telephone	
	Dealer Address			
	Sell Date		Invoice Date	
	Dealer Signature		Zip Code	

Warranty Card

WARRANTY CARD

Product Information	Product Name		Product Model	
	Product Colour		Product Number	
Dealer Information	Dealer Name		Telephone	
	Dealer Address			
	Sell Date		Invoice Number	
	Dealer Signature		Zip Code	
Installation Record	Installation Company		Installation Address	
	Installation Date		Installation Staff	

Warranty Card (ForCustomer)