PICOLINK TECHNOLOGY CO,.LTD.
鉅連通科技股份有限公司

無線胎壓監測器
Tire Pressure Monitoring System

A1-安裝指南 Instruction Manual

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1. Introduction

1-1 Scope of System Application

Tire pressure monitoring system-A1(TPMS A1) is a device installed on the rim and detect tire pressure and temperature in real-time then the detecting value will be transmitted to the receiver with RF wireless. The driver can read the condition of vehicle and reduce the rate of accident happening.

The device needs to be installed by qualified personnel in accordance with instruction manual to enjoy related warranty. The system is suitable for sedan tire (under 3.5 ton) and 60psi the maximum detectable pressure (420 Kpa). When the system displays a warning light and warning “beep“ sounds. When the system displays a warning light and beep to warn, The driver should immediately slow down, stop in a safe location and check the tire condition, and find a qualified tire maintenance station to repair.

1-2 Safety Notice

1. The kind of chemicals used in various types of sealants and tire filling might affect the operation of the TPMS sensor and TPMS receiver and can lead to shortened life of sensor valve.
2. Tire pressure monitoring system (TPMS) is auxiliary driving safety equipment, which cannot detect tire condition. The driver must still regularly check tire condition.
3. 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 signal. For example, choose the qualified socket extension
4. The driver has to get into good driving habits and regular maintenance of the vehicle’ s major systems. Then it will have a better performance

on average fuel consumption

5. Annual periodic inspection for the “sensor valve” is proposed, which should be replaced immediately if damaged, in order to avoid air leakage. The driver should immediately slow down, stop in a safe location and check the tire condition, and find a qualified tire maintenance station to repair.

1-3 Why TPMS? Why Picolink?

- Why TPMS?
  - ✓ Improve fuel economy up to 2-5%
  - ✓ lower the level of tire wear by 20~30%
  - ✓ Decrease the probability of flat tire
  - ✓ Maintenance cost saving
  - ✓ Mandatory equipment for new car-Seat belt, Third brake light and Tire pressure monitoring system

- Why Picolink?
  - ✓ Breaking through the limitation of material and distance then create the only TPMS with aluminum alloy frame.
  - ✓ Applying chipset made by best chip-maker in German – Infeneon and well-known Swiss batteries-Renata
  - ✓ Pressure endurance of external valve is up to 100 Psi
  - ✓ Easy instllation and quick operation

FCC Notices

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 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.

CAUTION:

Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.

RF exposure warning:

The equipment complies with FCC RF exposure limits set forth for an uncontrolled environment. The equipment must not be co-located or operating in conjunction with any other antenna or transmitter. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body. It could be removed.

2. A1 Tire Pressure Monitoring System Introduction

2-1 Product Specification

- A1-Receiver Specification

Operating voltage	DC 12V~24V
Storage Temperature	-40℃ ~ +85℃
Operating Temperature	-25℃ ~ +75℃
Transmission Interface	BT 4.0(Apple ios, Android)
Output	5V/1A
Weight	39 g
Dimension	D42.5 *H56.0 mm

- A1-Internal Sensor Specification

Battery Voltage	DC 3V	Weight	25 g ± 1 g
Operating Frequency	433.92 MHz	Dimension	L58*W29*H14 mm
Pressure Monitoring Range	0~80 psi± 1 psi	Storage Temperature	-40℃ ~ +85℃
Temperature Monitoring Range	-30℃ ~ +85℃ ± 4℃	Battery Life Time	5~7years

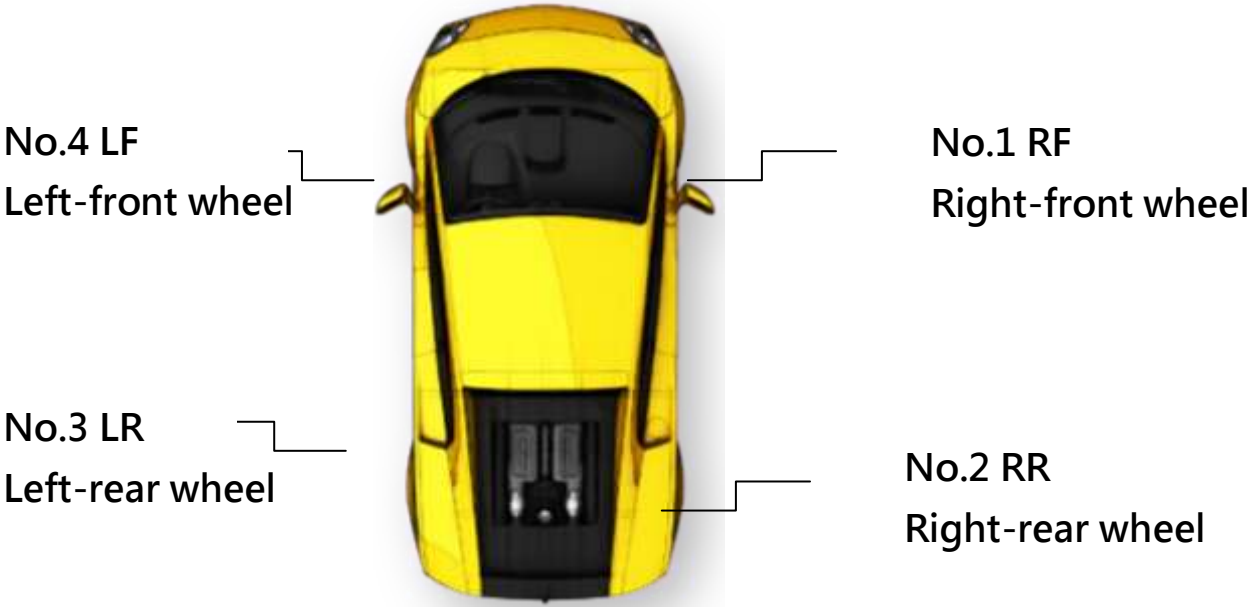
2-2 Accessories

Receiver		1	Valve stem		4
Instruction Manual		1	Nut		4
Sensor		4			

3. Installation Procedure

3-1 Sensor Installation

- No.4 = Left-front wheel (LF) No.1 = Right-front wheel (RF)
- No.3 = Left-rear wheel (LR) No.2 = Right-rear wheel (RR)



A. Dismount tire and valve from the wheel.

B. Start from NO.1 right-front wheel. Slide the valve stem through the valve hole of the rim. (Fig A.)

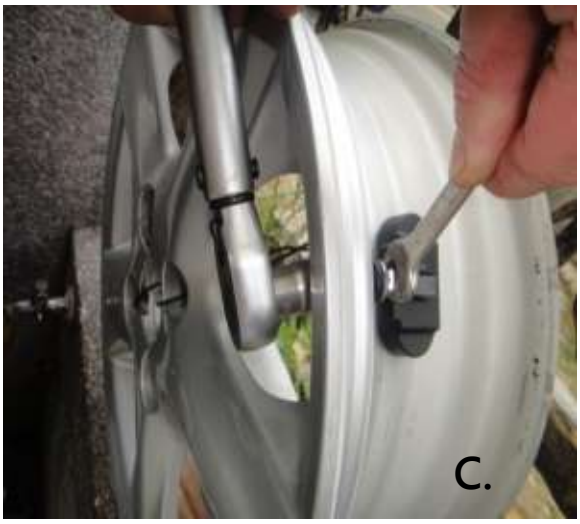
C. Adjust the angle and make the valve stem be vertical to rim surface. (FigB.)


A.

D. Put the washer from the outside rim and tighten the screw-nut with3.0 Nm with the help of torque wrench and hex wrench. (Fig C.)

E. Assemble the sensor with valve stem and hold the sensor body against the rim. Tighten the screw with2.2 Nm with the help of positioning pin. (Fig D.)


B.


C.


D.


D.

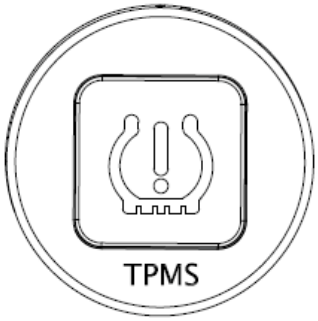
F. Install sensor 2, 3 and 4 in sequence by repeating step A. ~ E.

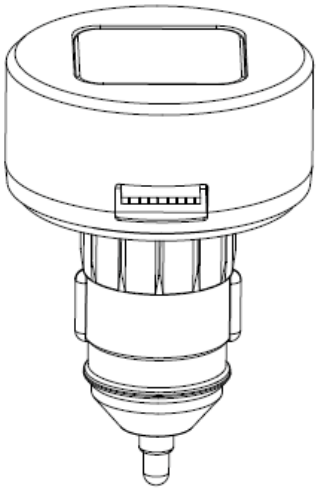
3-2 Receiver Installation

A. Plug the receiver into the cigarette lighter.
B. Open Picolink app and do the setting after the receiver lights up
C. Search “Picolink “on App store or Google Play.
D. Tap “Picolink TPMS” and download it.
E. After the download finished, turn on Bluetooth and choose “SerialSPP” device.

4. Operation Illustration

4-1 Indicator of Receiver Illustration





Indicator	Illustration
	TPMS warning icon

4-2 APP Interface Illustration

- Settings

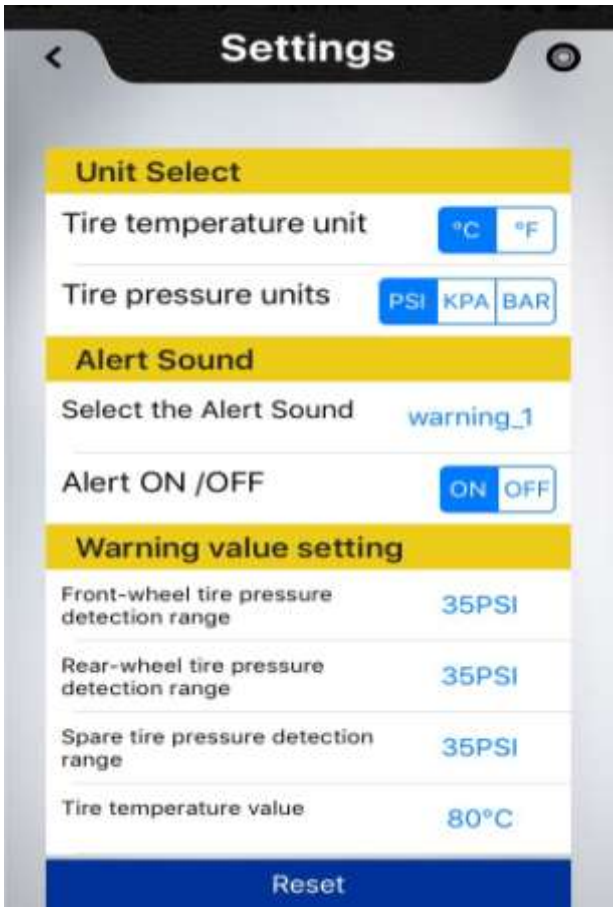
Item	Illustration
Tire Rotation	Tire Rotation Setup
Settings	Set unit and value
Q&A	Q&A
About	Information about product and development
Tire Status	Pressure ,temperature and battery

- Tire Status

- APP Background Them
  - Optional car icon and background color

5. System Settings

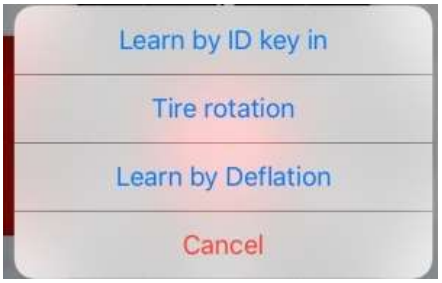
5-1 Default Value Adjustment



- Unit Select
  - Tire temperature: ℃, ℉
  - Tire pressure: Psi, Kpa , Bar
- Alert Sound
  - Turn on/off alert sound and select alert sound
- Warning Value Settings-Tire pressure
  - Tire pressure stander value for Front-wheel、rear-wheel tire and spare tire
  - Default stander value：35 Psi
    ※ 35Psi=240 Kpa=2.4 Bar
  - Detection value range is plus and minus 30% of setting value
  - Tire pressure adjustable value range: 27~50 Psi
    ※ Unit Kpa: 190~350 Kpa ; Unit Bar: 1.9~3.5 Bar
- Warning Value Settings-Tire temperature
  - Tire temperature warning value for all tires
  - Default warning value：80 ℃ ※ 80 ℃=176℉
  - Tire temperature adjustable value range for all tires: 60~99℃
    ※ Unit ℉: 140~210 ℉
- Please refer to the recommended pressure value which can find in your vehicle handbook or printed either in the sill of the driver door or on the inside of the fuel tank flap before you do the setting as follows
- Click the save button in the up-right corner to save the settings.

- Reset
  - Reset to factory default settings
  - It will remove monitoring settings for spare tire
  - Please refer to Chapter 5-2 Learn by ID key in or Learn by Deflation to recover the setting

5-2 Rotation Settings (Internal)



- After finish tire rotation or sensor changing, you can open Picolink TPMS APP and start to set up.
  - Choose the tire rotation button.
  - The screen will show 3 methods for tire rotation. Learn by ID key in, tire rotation and learn by deflation

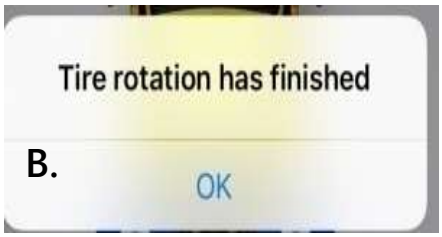
- Method 1- Learn by ID key in
  - Recommend this method when install new sensors.
  - Choose the sensor you want to change (Fig A.) and you will be asked to enter the new sensor ID (Fig B.).
  - Enter the new sensor ID then click confirm to finish the setting.
  - Click the save button in the up-right corner to save the settings.

A.

B.

- Method 2-Tire Rotation
  - Recommend this method after tire rotation.
  - Choose two tires you want to swap (Fig A.) then Fig B. will come out.
  - Click ok to finish the setting.
  - Click the save button in the up-right corner to save the settings.

A.



B.

- Method 3-Learn by Deflation
  - Recommend this method after tire rotation.
  - The system setting sequence will follow Right Front Tire→ Right Rear Tire→ Left Rear Tire→ Left Front Tire.

A.

B.

A. Right front tire setting
   - Inflate or deflate the tire pressure to make it change ±3psi within 4 seconds.
   - The setting is done when the right-rear tire setting window popup(Fig B.).
   - Tap the button The tire no needs learning , if the tire doesn’ t need to reset. The system will skip to next tire settings.

B. Right Rear Tire→ Left Rear Tire→ Left Front Tire setting
   - Repeat procedure A. to complete the next 3 tires setting. (Fig3~4)
   - If you have spare tire need to set up please follow the step C.
   - If you finish all settings then you can click the save button in the up-right corner to save the settings.

C. Spare Tire
   - The settings procedures are as same as the step A..

6. Warning Light Illustration

- When the receiver beeps and TPMS icon flashes the red light, you can open the app and check which situations as follows,

Problem	Warning Light &Cause
Abnormal tire pressure 	Alarm : The receiver flashes the red light and beeps to warn. The APP display pressure value in red. Cause : Actual pressure >Stander pressure*1.3 Actual pressure < Stander pressure *0.7 Example : If stander pressure is 35Psi, the system will alarm when actual pressure >46Psi or<25 Psi.
Excessive high tire temperature 	Alarm : The receiver flashes the red light and beeps to warn. The APP display temperature value in red. Cause : Actual temperature >Temperature warning value Example : 83℃>80℃(Default value)
Fast leak 	Alarm : The receiver flashes the red light and beeps to warn. The APP display which side of tires leak air in red. Cause : Tire pressure drops rapidly. (Tire drops over 3 Psi in 4 seconds.)

Problem	Warning Light &Cause
The sensor battery is low 	Alarm : The receiver flashes the red light and beeps to warn. The APP display which sensor’ s battery is out of power and the battery flashes constantly. Cause : The sensor battery is getting low.
No signal detected 	Alarm : The receiver flashes the red light and beeps to warn. The APP display which sensor lose the signal. Cause : The receiver detect no signal from sensors for over 5 minutes.

※If none of the problems above were displayed on the APP and the receiver continues to warn by lighting and sounding, please re-start the APP and confirm it again

7. Troubleshooting

1. Why does the app interface show “not connected “after plugging the receiver into cigarette lighter?
   The surrounding electromagnetic wave jams the transmission and connection of receiver then leads the receiver unable to work. Pull the receiver out and re –plug it into cigarette lighter and if still can’ t work after 10minutes,please contact with maintenance department.
2. How to know the stander tire pressure for my car?
   You’ ll find the manufacturer’ s optimum or recommended tire pressure for your car on a sticker in the door jam, or in your owner’ s manual. Some models even place the stickers on the trunk lid, in the console or on the fuel door.
3. Is that normal that tire pressure value is different when I measure it by traditional tire pressure gauge and TPMS separately?
   That’ s normal. The traditional tire pressure gauge needs to be adjusted frequently to keep measurement correct. As for TPMS, it’ s electronic detection making measurement precise and keeping the tolerance to stay in ±1psi.
4. How to reset the setting after the battery of sensor is changed?
   Please refer to chapter 5-2 “Rotation Settings”.
5. Is the sensor unable to work if batteries are dead?
   Yes. The driver could confirm which battery is getting low from “tire status” in the APP. For internal sensor user, you purchase the sensor from the manufacturer to replace and refer to chapter 5-2 “Rotation Settings” to set.
6. Dose the sensor need to be removed as doing tire rotation?
   No, it doesn’ t. Please refer to chapter 5-2 “Rotation Settings”.

7. Could I adjust pressure and temperature value on my own?
   The product has default settings, but it allow the driver to adjust depends on the trait of tire.
8. When dose TPMS start to monitor?
   TMPS will detect tire as engine is starting and car is moving.

8. Appendix

8-1 Warranty

Thank you for buying this product. From the date of purchase on we provide 1 year free warranty for the product, protecting the client’ s interests and Picolink product quality assurance. During the warranty period, under normal conditions of use, in the event of the emergence of the problem of a poor product, the company is willing to provide the bad product with repair service or have it replaced ,enabling you to get the guarantee and demonstrating the company’ s responsible attitude toward products. In the following cases, although the product is still within the warranty period, there will be no free warranty.

1. The damage caused by irresistible natural factors such as natural disasters changed, pests, and lighting…etc.
2. The damage caused by human factors like improper use, self-disassemble and not complies with the term of use.
3. The failure or functional failure caused by other products(equipment)other than machines
4. The damage caused by using other accessories which not produced by Picolink.
5. Necessary consumables replacement.

8-2 Disclaimer of Liability

The product is only to be used as per the precautionary warnings and provides users with convenient secondary safety equipment. Please follow the standard procedure or get to a qualified supplier or specialized tire repair center to install. If the vehicle’ s tires have been damaged or traffic accidents occur resulting from the user’ s improper driving behavior, the Company will not assume civil or criminal liability.

9. Technical Support

In the event of any questions and questions about warranty, you may contact with your local dealer or Picolink directly.

Other relevant latest information of Picolink product is available at our company website. http://www.picolink.com.tw

Warranty

PRODUCT TYPE	A1	LOT NO.	
PURCHASE DATE	(Y) / (M) / (D)		
DEALER STAMP			